nothing is possible

nothing is possible
by peer

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a publication for the exhibition *blockchain is… / …for nothing* by peers at httpdot.net
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this publication is authored, designed and edited by peer with texts, images and artworks by peers at httpdot.net and the artist; and with computer program source code and pseudocode by bager akbay and orhan 'aib' kavrakoğlu. some artworks by peers at httpdot.net feature quotations from various web pages on the world wide web.

blockchain is… / …for nothing
exhibition by peers at httpdot.net
commissioned and presented by protocinema, istanbul, new york,
at aetopoulos, athens, february 23 – march 23, 2019
with support from spot contemporary art projects, istanbul
https://httpdot.net/exh/BlockchainIs-ForNothing/
https://www.protocinema.org
http://www.aetopoulos.info/
https://spot-projects.com/en/

this publication is created on ubuntu gnu/linux using gimp (gnu gplv3+) and libreoffice (mplv2.0) with terminus (ttf) fonts (ofl-1.1) and liberation fonts (ofl-1.1)

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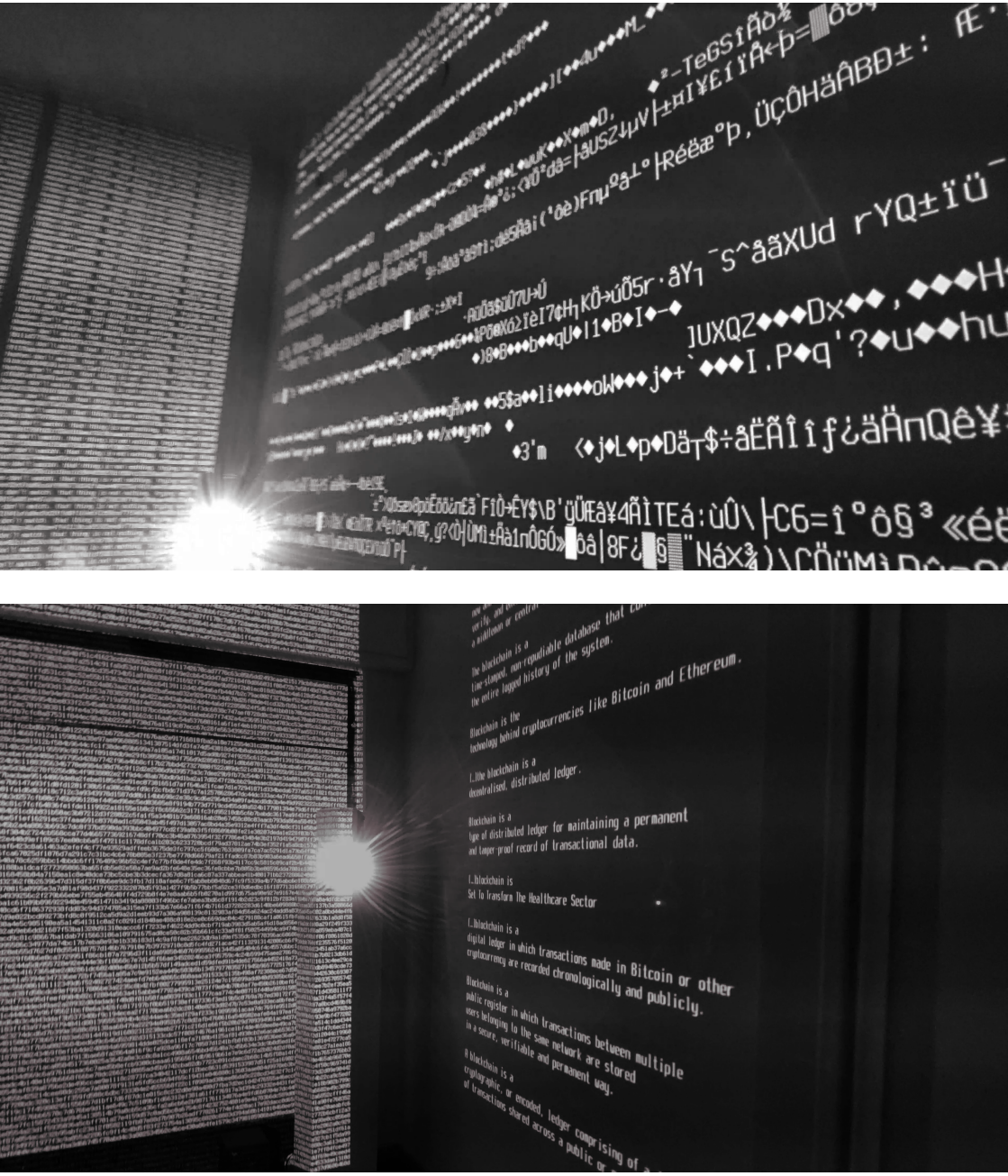
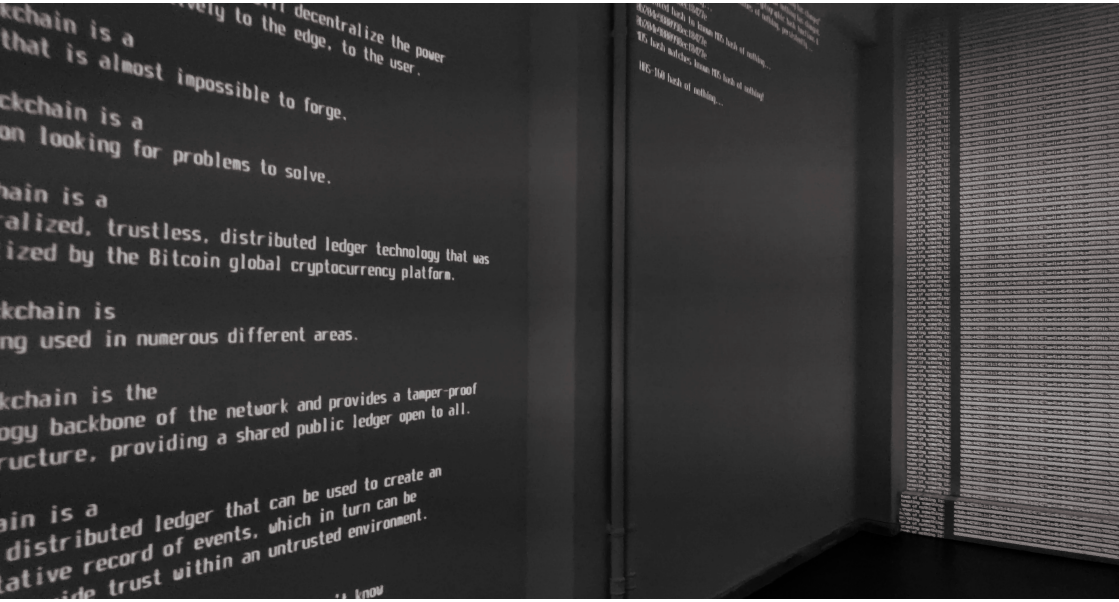
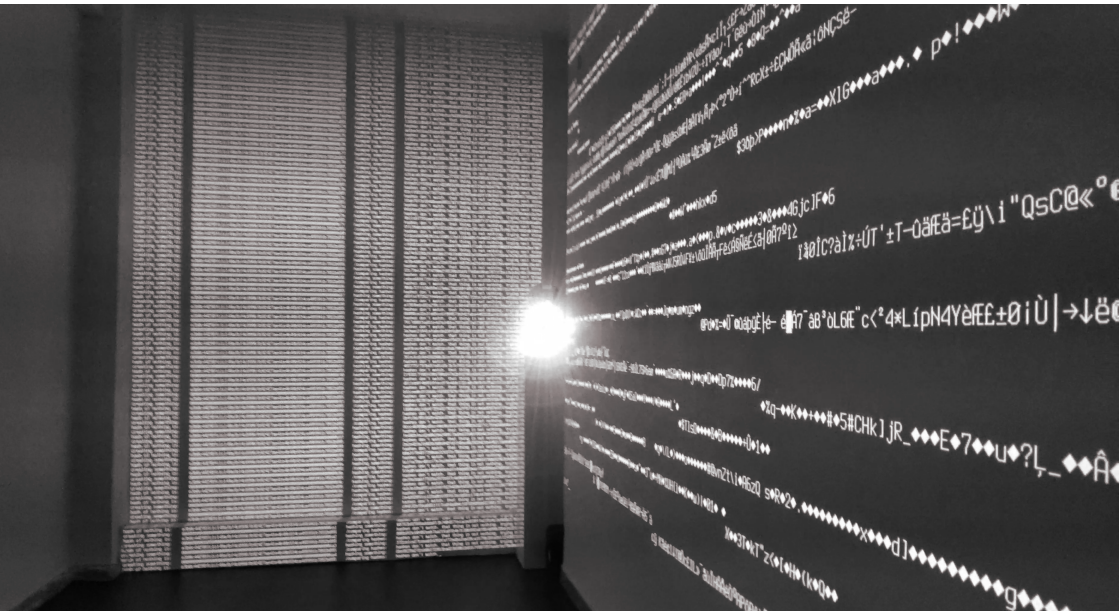
the exhibition *blockchain is… / ...for* nothing by peers at httpdot.net not only imagines but also proves nothing as a totally dematerialized yet commodified original work of art by building on the legacy of conceptual art and juxtaposing it with the logic and language of blockchain technology, which is perceived as the most important innovation since the internet. the works in the exhibition create a speculative, complex and recursive language challenging the institution of art. yet, the exhibition deals with nothing, literally, and three works as embedded systems running custom free/libre software exhaust this notion of nothing by continuously working on their own quests, for nothing. another work as an embedded system running a custom free/libre software is also on its own quest for becoming an artist by appropriating itself and by being (mis)inspired from blockchain technology, as well as institution of art. two other works are some kind of contemporary web archaeology for blockchain exploring our perception of this new technology, which is hard to grasp for many since it does not refer to any existing common phenomenon, just like the internet was in the beginning, and still is, for many of us. the exhibition creates an immersive experience of an information shower through a sound installation and projections of command-line interfaces of four embedded systems and a text-based video projection covering all the space as well as the bodies of the people in it, all for nothing.







installation photos from the exhibition “blockchain is… / … for nothing” by peers at httpdot.net
commissioned and presented by protocinema with support from spot contemporary art projects

works

see the text
peer on blockchain is… / …for nothing exhibition by peers at httpdot.net
for a discussion of the works in the exhibition.

nothing

by the artist, 2019, dedicated to the public domain

literally nothing, as we know it, but as a totally dematerialized yet commodified unique work of art having a certificate of authenticity which contains the digital signature of the artist on *nothing*, along with the sha-256 cryptographic hash of *nothing* to verify the authenticity of the artwork. the certificate also states, "this is to certify that *nothing* is an original artwork by the artist. [...] *nothing* is appropriated by the artist and also nothing is appropriated by the artist; *nothing* is dedicated to the public domain by the artist".
https://httpdot.net/theArtist/nothing/

commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
with support from spot contemporary art projects

the study of the state of nothing: nothing is the same, or, nothing has changed

by peers at httpdot.net, 2019, gnu gplv3

embedded system running a custom copyleft free/libre software on a quest for verifying the state of nothing by calculating hash of empty string, nothing, using various cryptographic hash functions and comparing them to known hash values of nothing, as an obsessive and persistent fixity check for the state of nothing executed once in every minute, and if there is no change, outputs “nothing is the same” on a command-line interface along with all its process, and outputs “nothing has changed”, if anything changes. the work keeps working on its own quest forever, unless there is a system failure or it is turned off, but it carries the same persistent process every time it is turned on.
https://httpdot.net/peers/theStudyOfTheStateOfNothing/

custom software is written as a bash script by bager akbay, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
all programs and utilities executed by bash script are also free/libre software.
the embedded system powered by a gnu/linux operating system is also programmed by bager akbay.
commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
with support from spot contemporary art projects

"the study of the state of nothing: nothing is the same, or, nothing has changed"
is on the quest of proving that nothing is the same, or that nothing has changed,
by calculating hash values of nothing for various cryptographic hash functions &
comparing them to known cryptographic hash values of nothing, persistently...

calculating MD5 hash of nothing...
d41d8cd98f00b204e9800998ecf8427e
comparing calculated hash to known MD5 hash of nothing...
d41d8cd98f00b204e9800998ecf8427e
d41d8cd98f00b204e9800998ecf8427e
calculated MD5 hash matches known MD5 hash of nothing!

calculating HAS-160 hash of nothing...
307964ef34151d37c8047adec7ab50f4ff89762d
comparing calculated hash to known HAS-160 hash of nothing...
307964ef34151d37c8047adec7ab50f4ff89762d
307964ef34151d37c8047adec7ab50f4ff89762d
calculated HAS-160 hash matches known HAS-160 hash of nothing!

calculating Tiger hash of nothing...
3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3
comparing calculated hash to known Tiger hash of nothing...
3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3
3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3
calculated Tiger hash matches known Tiger hash of nothing!

calculating SHA-256 hash of nothing...
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
comparing calculated hash to known SHA-256 hash of nothing...
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
calculated SHA-256 hash matches known SHA-256 hash of nothing!

calculating RIPEMD-320 hash of nothing...
22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a32a00899b8
comparing calculated hash to known RIPEMD-320 hash of nothing...
22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a32a00899b8
22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a32a00899b8
calculated RIPEMD-320 hash matches known RIPEMD-320 hash of nothing!

all calculations and comparisons completed successfully.
there are multiple proofs that there are no changes and nothing is the same.

next proof check will be performed in 2 seconds..._

the quest for finding something that is nothing, or, the study of what nothing is not

by peers at httpdot.net, 2019, gnu gplv3

embedded system running a custom copyleft free/libre software on a quest for finding nothing by creating all possible values for a 256-bit of something one-by-one, which is a total of 1157920892373161954235709850086879078532699846656405640394575840079131296399360 things, and calculating their sha-256 cryptographic hashes to compare them to that of nothing for finding a match and thus finding nothing; or otherwise proves what nothing is not when hash of something does not match that of nothing, and displays the results on a command-line interface as well as all this process of a second-preimage attack on sha-256 hash of nothing as a brute-force cryptographic attack. unless nothing is found before, the quest will last approximately 3852691387000000000000000000000000000000000000 years, when the work is not interrupted.
https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/

custom software is written as a bash script by bager akbay and orhan 'aib' kavrakoğlu, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
all programs and utilities executed by bash script are also free/libre software.
the embedded system powered by a gnu/linux operating system is also programmed by bager akbay.
commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
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"the quest for finding something that is nothing, or, the study of what nothing is not"
by peers at httpdot.net, 2019, gnu gplv3

```
creating something:   0000000000000000000000000000000000000000000000000000000000000000  hashing something:   66687aadf862bd776c8fc18b8e9f8e20089714856ee233b3902a591d0d5f2925
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000001  hashing something:   ec4916dd28fc4c10d78e287ca5d9cc51ee1ae73cbfde08c6b37324cbfaac8bc5
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000002  hashing something:   9267d3dbed802941483f1afa2a6bc68de5f653128aca9bf1461c5d0a3ad36ed2
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000003  hashing something:   d9147961436944f43cd99d28b2bbddbf452ef872b30c8279e255e7daafc7f946
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000004  hashing something:   e38990d0c7fc009880a9c07c23842e886c6bbdc964ce6bdd5817ad357335ee6f
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000005  hashing something:   96de8fc8c256fa1e1556d41af431cace7dca68707c78dd88c3acab8b17164c47
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000006  hashing something:   d1ec675902ef1633427ca360b290b0b3045a0d9058ddb5e648b4c3c3224c5c68
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000007  hashing something:   48428bdb7ddd829410d6bbb924fdeb3a3d7e88c2577bffae073b990c6f061d08
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000008  hashing something:   38df1c1f64a24a77b23393bca50dff872e31edc4f3b5aa3b90ad0b82f4f089b6
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000009  hashing something:   887bf140ce0b6a497ed8db5c7498a45454f0b2bd644b0313f7a82acc084d0027
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000000a  hashing something:   81b04ae4944e1704a65bc3a57b6fc3b06a6b923e3c558d611f6a854b5539ec13
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000000b  hashing something:   c09322c415a5ac9ffb1a6cde7e927f480cc1d8afaf22b39a47797966c08e9c4b
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000000c  hashing something:   a82872b96246dac512ddf0515f5da862a92ecebebcb92537b6e3e73199694c45
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000000d  hashing something:   2a3f128306951f1ded174b8803ee1f0df0c6404bbe92682be21fd84accf5d540
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000000e  hashing something:   e14f5be83831f7fefa669d5a84daaa56ec01477dafc6701a83f243bc2228bb11
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000000f  hashing something:   3ba2581d53fbf070be34b6d6a2382faf1b8e76a3ade45b31c0c7c90ea289874e
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000010  hashing something:   a3ecde0c1d9daa6b7a949c87a1af7963c69cb2c412fb3086c495f14630c17b7b
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000011  hashing something:   99fdc3a44c06c65a307ea38acda009243287ccbbdb2b0ce423a25bb9b525d7f2
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000012  hashing something:   c03eee8aa25e1b9fd36a28c6d3321bd0d0534a72034c40fcd9d75c70a610037e
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000013  hashing something:   d3b2f026768fb94e95a4848cf669d1f120a6c73cd795450e52de6bddcadd883c
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hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
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hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000016  hashing something:   3953a4e918f9b33a3ed6d8675b1fa3090fee373a32bb59f00b00dc678d143041
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000017  hashing something:   4303ef0796bae63d9f52f7bf61ae2d37b57889452f2ad07bba769d90d354fe37
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creating something:   000000000000000000000000000000000000000000000000000000000000001a  hashing something:   0eac71efb3323eaf788a5334df213c4335748273f501afaeb4274b351125a17c
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000001b  hashing something:   06cde6cffab5316fb4f92f31b1b65e4bf89b4f435097e0f35d5cef09dfabbf47
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000001c  hashing something:   ae2c63f9eff394b28d4a87520bd92dadac321b2806c1edd784a5ccbf08fd25ee
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000001d  hashing something:   71b0a2d864b04cf24fc99d2ccd806bba5f0fef35c0aa7d432af96383944d4327
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000001e  hashing something:   4e99747a3d41fe8318c4419b7b688741d8ef7096368129e14894ddbdac31795e
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000001f  hashing something:   3b9c3a9ec9b9ea8f5b66ffdfc9e157f48f183a5b2b21b17ece0e9ceec4a7c9e0
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
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creating something:   0000000000000000000000000000000000000000000000000000000000000021  hashing something:   e3872ccfe29e8ddfc6fe1dca36f1acc5707d9bf3ce979ed15365bb735137a767
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creating something:   0000000000000000000000000000000000000000000000000000000000000023  hashing something:   7fcf17c37d3415fbe6dbab0f0fd197d0328b5720e438b13546449179f5ab3e6c
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creating something:   0000000000000000000000000000000000000000000000000000000000000024  hashing something:   fa282a9c595eea43e942f1678efbff1f4b821a6b27aef7df0ae71b9de53fc8ce
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000025  hashing something:   ec5ec87d286f6b476b516f52e0e554925b0d990a27130e676354d801ecc39429
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creating something:   0000000000000000000000000000000000000000000000000000000000000028  hashing something:   1391854aca800961b604acd16f59e5ec4fd025a2fb0eb9ae166976bc2d42cb3c
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000029  hashing something:   8b3680742cf524ec3552ca3db84735a40c96538fe641634e1a261bbc5416db78
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000002a  hashing something:   0a28e9ffef0073f9a6a674cf57ee77307f38f0f1bebb087888d9011ed0eeefdf
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000002b  hashing something:   7607861a685a66edb41f818ca921d9ebbbe4897b892cdcef24d41f989c43f7eb
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000002c  hashing something:   e2375957ad31a202ce6190cd9b5f133c3a1ee02e116d7c0c2aad6d39cd7ffc3f
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000002d  hashing something:   f66e7487deb9b520bba6729c749b7f6931656ccd58e0e756768e190874d32709
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000002e  hashing something:   fbf8b876daf777ac39279b7a0000c34f4f8c161d93242d88a73a3c87b544bbaf
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000002f  hashing something:   c8bd03c1d9e18e8aaf6c909fa1bcb269062c932cd284fb4db7aed323699e4bdd
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000030  hashing something:   7fe0799f131446599dc86c889010c7dda42ad5bdaa850e066577805c491dd63b
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000031  hashing something:   218cd422fe6a50299655006c5c9a13a4a06d5d815f4c929b876885dda1fd4652
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000032  hashing something:   f76fbd6024bba030c2263ef0eb5fbfa245f64f93947948c2ff29b7ae2ff65d5b
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000033  hashing something:   9e0c06b8d5a4f2ed55e74d790830a7e87c8931767aa992e765183c8746ae1f44
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000034  hashing something:   49bbe71d6a985465a9245d9a4c7215952402b8f7cf4c58bb82090afead41a3ef
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000035  hashing something:   72fc50b0d477f8b8dd5015cbee1ed5ec03f2ae56d1ac248f807a8f6ab3ce6f35
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000036  hashing something:   b7fd47f5908abdbd022c848e4546ab55c2039706f8ab26bb27196b6cc04f99d0
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000037  hashing something:   d76fee92fb29de26e8f02c557e5d06a26c409886c6cea1f53b9a42d7239d466a
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000038  hashing something:   99296ef905c09d9b645cacd87d6cfde89a6ecc519b7354ea41771b89080746ab
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   0000000000000000000000000000000000000000000000000000000000000039  hashing something:   d6b08ea633e37f827ce117788ca2a7158319f6914311a06eaa6b78b00e451960
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000003a  hashing something:   e3f66227e36644d1e5cf34802868a8b22709e823709dea17469b066ae32f9221
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000003b  hashing something:   74d9b5c712774672f8b47e3e554e354c30435565b28648f4729cbc6fc33cd092
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000003c  hashing something:   31545d22e98471bfbb16dbfe779d5fd996e9c637c081084f1f8783edb5663e77
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000003d  hashing something:   bfc4f67a26b9cab5cd82fc8c1ad6fe8dce1668ab14c1b67f26d621f1715c03f1
hash of nothing is:   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855  /comparing hashes:   hashes don't match. that thing is not nothing. trying next thing
creating something:   000000000000000000000000000000000000000000000000000000000000003e  hashing something:   3344e7bdb7884439459823d4ebac1c517d06f5f37cb8c932eb1dfd1682d305d1
```

a blockchain for nothing

by peers at httpdot.net, 2019, gnu gplv3

embedded system running a custom copyleft free/libre software on a quest for creating a blockchain for nothing which originates from nothing and continuously building blocks, each of which consisting of nothing but the sha-256 cryptographic hash of the previous block, and displays all blocks created without any proof-of-work on a command-line interface one after another by keeping the record of nothing but the last block. the work keeps working on its own quest forever, unless there is a system failure or it is turned off but it continues from where it left off every time it is turned on.
https://httpdot.net/peers/aBlockchainForNothing/

custom software is written as a bash script by bager akbay, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
all programs and utilities executed by bash script are also free/libre software.
the embedded system powered by a gnu/linux operating system is also programmed by bager akbay.
commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
with support from spot contemporary art projects

"a blockchain for nothing" by peers at httpdot.net, 2019, gnu gplv3
a blockchain for nothing originates from nothing and all blocks in a blockchain for nothing consists of nothing but sha-256 hash of the previous block.
genesis block of a blockchain for nothing was created on 2019-03-12 13:31:29 with no proof-of-work
1230 blocks are created so far.
last created block of a blockchain for nothing is
8f25494067222f9898b05876f6fe54306b0cee6e00182c729a53dd81b6f6cd92
a blockchain for nothing is now creating new blocks based on that block

8f25494067222f9898b05876f6fe54306b0cee6e00182c729a53dd81b6f6cd92d7acb9ef1247014d48a9e66272ac2558dbf058d7c19518ec0465a193a72f58f6b7f72d5913de46979823240a39f81fb3cfb12200f4e4aeae1a848f0591f15979583f16ef802c356c687a813c915e926580de2e62e4945fbb6b52edd571c0e407a45bd01325bd23c7f297a2cdba344046de8e1903df5f4fc4cb11f0319dd520a17c516f69d591af7e15593d9c8fa52d89c172c2c9bef266b33a373720eb5b518a5df863a73cc8d582ee6467ef9c88580fb598d594848389fbc8adfab533d103b64388c03f6e831cedd09ec90d0755ae67419add33384ed88424cf33b35c3420ed96f8e80e9d265f7878170942028a5e964c65bc65525e93696c615bfa80311d77a109398b110d6e77c7db673a8e63a9c4b0c280eec9067720215712 99b220a5df8aa8c7ea77824a182e429b504fbb3cda25005715da0a5f0951febd6bf3167d3f92a527bc03748f7690e65e40318ee9fee86ad5f911914430c9c26fd88e8dc529d43cb6d7edb41f84840c305727aba7aa0f1a677345e0dbe7d19b0ab7d3e99454e800d5e305615c545ecf94aabaed929f79f6257861486251415e9555004befabe70909fd79d23e4e28b0fc36795a21666cf78e8c276ea33c4026b3216910ec43f23811d881961dd0a9fd9805e0f14b22e5810a9ddc0f7175e9a1db3b04721946c10305ea02148e71a795920f91d2b42e15798cee8cad2289fd84fecb5f42d9f54348812f943f7c525f3b48b3c9c0259082d1e1037aa5b57b1f9ff4d62679a7bf224aa758f5cf6b2907d0496b9d19c153160b0b70acfcf65df858b94298241c7a20c60de82071e01b85a7cf6965b7f22860ffa1670ac2bbf37f9fb0b1aa4a3f2a6d02c5428c106209e8b4e31301404212fc28bd681752979d05b7624f97e0e0063eef22278cd93373e9527347ba1b29a81203e783c9a115245ec313eecbdc05d82d688ca3fa1e86bd9214219d41667d88ebb5b38d465a769198b478d8acac029b6df536a0d69b3301a3de0795b43260e3f25475e53e3926adf069db895b5b7b5dc1d6a5768729090c4917d046512be189aa822af7204c9e3542660cd6f1195f6436c89f1c9f75ffdd2f31fdd775a8a0d0a73730cd52725728e588a9469942ffc2cc8cd4261c24fdda6d15c74d0799003980beb9b0f81b30582c2c5e7bb97be610f64a7731cbda5c37e0a480139ca6bc042c40ff5fb7cc045c34d5c6f0133b8e6e880d04622f32dc137824dd2b3810aef2e3d0b3fbb040be1cd1320ddafda4de7d845d7320ea14f52aaa5bb9d92df35f2bdb1e30f1ed76c4899204f2f09f80a89fe50dee10d1d98aadac1ff2d06b0d3cdd10c18245c0b2d7ae7bdcb5a4da495c65669d7e26992f4289115104 6b664ecb9ae504c43084a663fd7b043c0cfbd27a293d99268d0d1d003c151022fbf41b54a063bc569fd2d315a9c766de0cf67db897232385eeb401323c4fb7a652fe86e660a9c9d490a76af8af685cf5bcd9a603e76c6987cc65c17c125c83bb0962fc3dc8ce8f3542c44ce739a35a97e72a4c260d587d540642d63e02bb7b305d498516ff71728a269b9dfcb12636f14cfab3af2198722b086227bd924523afc6a5eb3afc0e55325b00a8611ad0001dbc3305f936668b7b2461b23bb26746a07e8adbeb7b769f592a4748081bdc0de86b8da1264ee8c1eb9bf1aa0f48c2d9310550c53f072cdaf3de48760b98bfbbb80182b77d84a6abdc2701257056ff888fb3b39653e78c8f4a3863b5e1fa881b08eddb31c8fe0fc724c8091ba27a0111ff03a7d6d5b12d27e43595aaf1324c2ba87f95daf053ffd14929840cc29aa596f2d4e4551cd2536fb80c0285219883b163396e9f61ba1ea89d273e84dd15d3df34a85ba3e37faa9b1e31687c64933f9b01c868061556cf008e4ddf46974a44d0d18f211b2c0d8dd89509ac9abab0bc89a036cb7411190d655ef9fdfa1b90315315ffca3a061569aaebfc7ed4cccd135dc152d1e5eec4f7cc3e93441c61bcb2ef5216d1b3cff4326356dea0b8b195215bf11a93196d59b1fad03f0729e7ff55d1d975a269d728c4e8b0857095c423a65c6ffa978b256a27e29f0676db1e26ea00cea5fe44a5bd45d7730fe8fccacff7e869cea601995ddc52b8801277677a70c6e6ac40ccf1a001c1580e2b27dac2a68f42dc66b77dab87e603d0cb0dfe2264c11eea0405d291bd221fc185ebaab6cf9e23faa2016fd04f44cfea18cf83762b0c101b5127b6ea4aef48b8084250551a4af45bbd75bfb8adfef5b310c316f013db76300195b4c4759174d3810431bac9b2a072e32dc9e5727f739cb617839390844a7d30cc98e455f28d3c0cb8503315cf5cc1cd82914635a9eacd65816fae0818c6d77a4eb6c844845eaef530063530d72c332b8d566f8ea0c5b02458c340ed2a887e26f6036ef2b538b215c0498232e75c0ae45aeda3fa30f9364304b895fb60fd814a1201ca2c9d83f393acfb110f9978e0bcbb00d8ff7a4cb0a7f390acc3ada539b9e6c23712a9707785603ab951f307e68520832c01820ed829a394261133 6b8d85a5236ee0dd9fe63b4fca9f66588b583e3d06b4f74d86a3f3159e51da79b8aa147c1b5449b0c1c36675b1a4dbb1899f3be86e406def026d21bbf26a3447c35036999b386dfc15e15bc5ccc4dca46b25fb6c3037ba03eb81570544cf4faec6af9552f7e3480acafb8e85e2e92df0d30511d2fe4d51b1c15d8d3eddbfb8d45cb19058021173b5c0405c74752b86588d1f062f1e16374887d46b0d1bc86bc46ff3e63a0d5af8e9011f128c7e08723bf493c6d2554c60ab533793158eca82e91d7982a035a0a2ef57f34838085a0afd2c63bc4f5035f4403b324cfa388cbf759b8f1af8d1d093d655c0286f3d4a45839f2ad01ad4601477d26358d9e8c8983aaad6854084d1da5a7b0b907bdbf17ec55dda6d1adcc668bf9358f37555825eb53a9f36581b9cc07d7ce0c5b6f8e54c68012e94e7fa74668e822590044dac83daa305c168256ced5d109081953d0e05e25502d5bd2a38acf26d9744cd6a64a894b498aee0d20f206aafa9771062312425b631c4153d27b30af8858bb834ef89c029b4112f62295ef9b616139fade546367f26983764bc5b94b37ff411d0488c5debaf0029ad9f48e53944 18dc3383954b3d06462b2adc9dc6f0f28ba5fd67132d45a225b420a826dfe9b7137f8947814e78b8cafc079e2c82dea7e58202c219dbed7d52321f8dda645afb6c94330f62b6881b70bb14bfdb332d220d1439c139d8f7ffd275b3894ae4b03ff3e612ef8be2c3e870a4a61f55c8716800c150d5fd4f84aea604d6a277bfe874ea8d1819441ab4c07736997aaf408a072f28bddf7a36770991607 7590ca1cea8da7ea7a097925fc8cb90852601ceceda9293ef28882e5282148104 1d73a10b1f2a9397f286ee182dc31c667cc4cc681813c42749ee89dc86c2fe65f9ece40f7f1303d69bc5354eb43767360366 3e892da30590489b773d74a65adcba23bda74f38b0282bc553900d826790070866 99cb134a27f93200d676bef74b59c931a6f39a4b3d4b52617eea49342f4faee30468e99f8d896c7ecc1b58009343708bdce0e03b777e4d902e206579c6bd56a01419bd761c10bee0aa9a0ea08e92ddad88363740b055aed06f09e7e175f472bb03761fca854fae0ec9f8560aa473e8c08daa00b6b57fb3fa2588529e56c54983f2e2e5f2f961e12d22f0c2782e4ef2d1fa42aba13b8400ee0cca075b39605765b6207f4ce1165f5dc54e61837498 9b573b9c0124f515876c12c136d3070ff91cec8b025d7b21d2650b20bd715307287 ba8294465673 5f11af637321308720dcbdd309848e0e820869f9e10fe6e3fcd28872bbd9db1f7ea8bf13f1715cdeb8a39ebd3ea20f315335265 83d29aa900ca51d7323a3ce9abe618333d25739ca8c05b908fd4bf4b82cebf7b43d665d2a49ab8b687e2f296bb20417042 57a45dee5e06a26a81c3ffe9d8c3859cdd4638c894d9e2cf9877bd54560d4cd17ae50e2ba0b42a5109f917e24c9746ddaa 32ccd1f3ebaef1797b0675a10b17a7eb5caae155ddae257c1a4e82111d17b7f4072be1f282422e8e913a2d7f81d1971bdd ffa7601606512d73f1029b94a946195b07469f9b162f2f991460a1991d b1eafe602d2e9db1fbc32600b7b7569c26c362c3

a work of art on a quest for becoming an artist by appropriating itself as a work of art as the proof-of-work by the artist relying on its own proof as an original and authentic work of art *aka* ***proof-of-work-of-art-ist***

by peers at httpdot.net, 2019, gnu gplv3

embedded system running a custom copyleft free/libre software as a work of art on a quest for becoming an artist by duplicating and appropriating itself as a work of art by creating random data of its own size and displaying it for 15 seconds as a candidate for an artwork while calculating and comparing the hash of that random data to its own hash and continues this process until it finds a match as a proof of its duplicate as an appropriated work of art as a proof-of-work by the artist.
https://httpdot.net/peers/proof-of-work-of-art-ist/

custom software is written as a bash script by bager akbay, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
all programs and utilities executed by bash script are also free/libre software.
the embedded system powered by a gnu/linux operating system is also programmed by bager akbay.
commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
with support from spot contemporary art projects

blockchain is...

video installation with a text-based 9 minute looped video generated using a subtitle file and and consisting of 1426 sentences starting with or including the phrases "a blockchain is", "a blockchain is a", "a blockchain is an", "a blockchain is the", "blockchain is", "blockchain is a", "blockchain is an", "blockchain is the", "blockchain technology is", "blockchain technology is a", "blockchain technology is the", "the blockchain is", "the blockchain is a", "the blockchain is an", "the blockchain is the", "the blockchain technology is", "the blockchain technology is a" and "the blockchain technology is the", which are aggregated from 1621 web pages.
https://httpdot.net/peers/BlockchainIs/

commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
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Blockchain is
difficult to understand because it isn't one thing, but rather
pieces of knowledge from a wide variety of subjects across many
different disciplines-not only computer science, but economics,
finance, and politics as well-that go by the name "blockchain".

[…]blockchain is
now viewed as having the potential to be an efficient
and secure way to transfer any kind of information.

The blockchain is a
revolution that builds on another technical revolution
so old that only the more experienced among
us remember it: the invention of the database.

The blockchain is a
distributed ledgers that does not rely on a trusted
central authority to maintain and validate the ledger.

A blockchain is
built by running software and linking several nodes together.

[…]the blockchain is the
beating heart of Bitcoin, the world's most popular cryptocurrency.

Blockchain is a
platform that can securely verify transactions and identities
through a network of multiple decentralized records.

[…]blockchain is
Finding a Place at Your Thanksgiving Table

[…]blockchain is the
tech supporting Bitcoin-a currency attempting
its own form of financial disruption.

Blockchain is a
vast, globally distributed ledger where anyone, anywhere
can move, store and manage any kind of asset, from
money and securities to intellectual property and votes

[…]the blockchain is
capable of securely storing self-identifying
data that knows who owns it.

blockchain will…

by peers at httpdot.net, 2019, free cultural work with multi-free-culture-licenses and author’s declaration - https://httpdot.net/FCWwMFCLaAD

sound installation with a 171 minute looped stereo panned audio mix from a sound recording of 420 sentences starting with or including the phrases “blockchain will”, “the blockchain will”, “blockchain is going to” and “blockchain technology will”, which are aggregated from 1621 web pages.
https://httpdot.net/peers/BlockchainIs/

spoken by cecilia kinnear and recorded by volkan aslan
commissioned by protocinema for the exhibition *blockchain is… / …for nothing*
with support from spot contemporary art projects

peer on *blockchain is… / …for nothing* exhibition by peers at httpdot.net

(v0.8-22111800)

preface

this text is written by peer with many contributions from other peers at httpdot.net for the publication of their exhibition *blockchain is… / …for nothing* at aetopoulos, an artist-run space in athens, greece, organized by protocinema in february 2019.

this text discusses the works and some of the ideas behind the exhibition. even though there are definitions for some terms and concepts, they are not necessarily the book definitions or what they are in technical or conceptual terms, but instead how the author of this text and other peers at httpdot.net choose to approach and imagine these definitions, for various reasons. you are encouraged to imagine your own interpretations.

the language of the text is sometimes recursive, makes use of excess information, and is intentionally confusing to allow reading with multiple meanings. this is especially true when “nothing” is mentioned. when “nothing” is read as nothing, as nothing itself, it could mean one thing; and when “nothing” is read as **nothing but a particular artwork**, which is an artwork by an artist under the pseudonym “the artist”, which is also the artwork the whole exhibition is built on, the sentence may convey an opposite meaning. nothing as an artwork is usually mentioned in italics, as in *nothing,* but it is sometimes mentioned without using italics, just like when nothing is mentioned as nothing itself. in this context, the phrase “for nothing”, which is also a part of the exhibition title, also allows multiple readings. **the exhibition suggests a recursive language deconstructing and challenging the language through which we communicate and it is intended to inspire other languages, other possibilities, another world.**

this text is written with the intention to be read in multiple ways and not necessarily linearly and thus some concepts, terms and emphasized phrases are marked. so, feel free to skip those you are not interested in.

overview:
the exhibition; *nothing* is possible; so, nothing is impossible; so, another world is possible

this exhibition “proves” that ***nothing* is possible**, which means that **nothing is impossible**, which means that **another world is possible**. exhibition proves ***nothing*** as artwork, a **totally dematerialized yet commodified particular artwork**, through the logic of blockchain and the language of contemporary art, and suggests another language for imagining the possibility of another world, through *nothing.*

in *the dematerialization of art* (1968), lucy lippard and john chandler concluded: “we still do not know how much less “nothing” can be. has an ultimate zero point been arrived at with black paintings, white paintings, light beams, transparent film, silent concerts, invisible sculpture, or any of the other projects mentioned above? **it hardly seems likely**.”

building on the legacy of conceptual art, inspired by the logic of blockchain technology and the imagination of art, the exhibition seeks another language, not “a new” but another language to inspire the possibility of another world.

there are two sets of works in the exhibition, one of which exploring the **multitude of understandings and visions of blockchain**; “*blockchain is…*” and “*blockchain will…*”, one video and one audio work of sentences containing these phrases aggregated form more than two thousand web pages; and the other set of works **exhausting a particular notion of “nothing”** by not only imagining but also proving it as a particular totally dematerialized yet commodified work of art by “the artist” (pseudonym of one of the peers at httpdot.net) through the logic of blockchain, and by juxtaposing it with the language of art. there is also another more-than-human work in dialog with the other works that is **on their quest for becoming an artist by appropriating itself as a proof-of-work by the artist**.

once nothing is certified as a particular work of art by the artist, once it becomes an artwork, besides also being nothing, the sentences of nothing welcomes a multitude of meanings. starting with the statement, which is made possible by the logic of blockchain technology, “**this is to certify that *nothing* is an original artwork by the artist**”, which is included in the certificate of authenticity of the work *nothing,* the exhibition constructs a **simple yet complex, logical but also imaginative, recursive language**. the title of the exhibition also unfolds different

meanings if nothing is understood as a particular artwork, or as nothing, as nothing.

following the same logical and linguistic attitude, the other works in exhibition also exhaust this notion of nothing as an artwork by building on each other in a both logical and nonsense way and create an immersive space through projections of computer calculations and texts covering all the space, as well as the people in it, as a **shower of information**.

blockchain was originally developed for bitcoin p2p cryptocurrency to substitute the conventional understanding of trust in economics as an hierarchical trust to central authorities, with a **distributed trust to the multitude of peers**. this proves once again the power of peer-to-peer (p2p) organization models as the internet did, p2p being the founding principle of it. because of the lack of an effective **political approach to information technologies,** the interpretation of the internet as a promise of the possibility of another world in many ways has not been articulated and communicated enough to inspire how we understand the world and in what other ways we can imagine it. blockchain is yet another sign to imagine another world. the exhibition imagines as such.

background:
digital information and the internet;
information technologies

digital information is all about representing (encoding/mapping) samples from information (anything on a medium through which we communicate, with each other and with the world around us) as binary values (digital data) so that these values can be processed (manipulated) by computers through simple arithmetic and logical operations.

besides enabling the information to be processed by computers, information in digital form can also be **multiplicated** (duplicated, replicated, reproduced, copied and also transcoded in a lossless way), exactly. this possibility is something unique to digital information which renders the concept of the original and the copy irrelevant, supplying a **multitude of originals** having no hierarchy among each other, and also challenging the concept of **scarcity**, on which the capitalist definition of economics is based on: allocating limited resources among unlimited human desires.

even though the second statement in this rationale (unlimited human desires) is subject to discussion, the first statement (unlimited resources) was a fact back then, for any information in any physical form, including all artworks that require to be experienced in a fixed time+/space. the physical medium on which the unique information, the artwork is represented, is always subject to scarcity, **legitimizing the need for the dominant economic order**.

the availability of **mechanical reproduction** has been a promising development in relation to the problem of the scarcity of the artwork, which was of course not a problem for everybody, but at least for some concerned, who read that relatively recent development back then as an opportunity for "politicization of the aesthetics" instead of "aestheticization of the politics", the approach of the fascists of that time. they hoped the mechanical reproduction of work of art could enable dissemination to a wider audience, without being subject to scarcity, and thus trigger politicization of the masses against the threat of fascism. however, the art world mostly discussed that thesis based on another aspect articulated in the text, withering of the aura of the art object, which is also an important subject in this context, but **limiting the discussion to the notion of aura could be an "aestheticization of the politics" itself**.

the mechanical reproduction of work of art was also subject to scarcity because of both the scarcity of the reproduced **physical medium** on which the information, the artwork is dependent; and also the scarcity of the means of production to enable such a reproduction. even though mechanical reproduction rendered the artwork to be independent from being unique or having a very limited availability, it featured another challenge: being subject to a certain mode of production, that of industrial production. the decision of what to reproduce and how much has been made according to the market dynamics in this mode of production, which lead to the emergence of the **culture industry**, which was coined as a negative term as opposed to its positive usage in today's neoliberal context. however, such a development was unavoidable given the material dependency of the art object. the marginal cost was still an economic problem for the reproduction of work of art which required the figure of the capitalist, who owns and governs the means of production and thus the production/reproduction process, being on the top of the hierarchy, just like in other fields of physical production. even though popular cultural productions would be reproduced in higher quantities using mechanical reproduction due to the rules of the demand and supply balance, this was not the case for what the art gallery offers, the demand for which was already limited. **to maximize the profit, the cultural industry utilized the idea of creating artificial scarcity through editioned works of art, which would not only create**

originals out of mechanical reproductions of works of art, but also limit the supply, artificially, to satisfy dominant economic order.

the idea of the dematerialization of the work of art, in one way, was an attempt to escape from the materiality, the medium on which the information, the work of art manifests; the medium which was subject to scarcity because of its material condition and thus rendering work of art subject to the statement above: then unavoidable capitalist definition of economics, which legitimizes the socioeconomic order dominating our lives. the institution of art has also been dominated by the same socioeconomic order in the form of culture industry as explained above and **the idea of the dematerialization of art has been excluded from the institution of art, by inclusion.** the statements were made, they were strong and probably honest but **could the artworks,** at least those we know about**, those legitimized by the institution of art, escape commodification?** or will they be able to, in any future?

if the work of art is just the idea, how is it communicated? can it be communicated independently of a fixed time+/space so that it would reach a broader “audience”? what is the medium on which it manifests? what quality of this medium makes it different from other physical manifestations of work of art that make them subject to scarcity? what was the condition that rendered conceptual art independent of the material that could dematerialize it? in such a dematerialized form, if existed at all back then, how could it be communicated to the people in its **original medium**, in its original form, not as a “reproduction”? could dematerialized work of art in conceptual art **supply abundance without creating a scarcity of the audience** to experience it in its original form? what was the form for conceptual art? what were the physical dependencies of this form? what was the reach of this form, the work of art, in its original form? **did the dematerialized work of art “materialize” its statement?** was it even possible back then?

following the mechanical reproduction of work of art, we are in the age of **mathematical reproduction of work of art**, we may dare say: the digital reproduction, and even beyond “reproduction”, **digital multiplication of work of art**, including digital **reproduction** (digitization by sampling), digital **production** (digital-born information), digital **duplication** (no native hierarchy of the copy and the original and no natural scarcity) and digital **transcoding**, lossless and lossy, enabling the digital information to exist in various forms for various purposes. but what is the **politics** of this? what happens when work of art, in digital form, is not subject to scarcity anymore and thus can reach everyone because of having a marginal cost approaching zero and being independent of the dominant

economics? **what are the political, ethical, economical and legal consequences of this for the institution of art and for the concerned artist?**

besides enabling exact duplicates, digital information can also be **distributed/disseminated in its original form** without losing any bit of digital information and without being subject to noise; to anyone having access to the internet and also to the physical equipment to experience the internet.

the problem of access to the physical dependencies of information technologies is an important aspect to acknowledge. the digital divide refers to the inequality between those who have access to these technologies and those who do not. this divide gets bigger through time because access to and making use of information technologies has considerable economic and social advantages. it is also a fact that physical dependencies of information technologies are subject to scarcity, like any other physical goods. even though the cost of having access to these equipment and also the cost of internet access is becoming less and less, they are still hard to access for many people.

one laptop per child project was one attempt to address this issue which involved producing cheaper computers for poor children in developing countries. the targeted price was hundred dollars but the costs didn't allow that. however there was a more imaginative idea, zero dollar laptop, which involved recycling unused and "old" computers, installing free and open source gnu/linux/… (any combination of gnu, linux and other floss operating system projects) operating systems and software, giving these to the people who has no access to information technologies and also organizing workshops for how to use these hardware and software. most "old" computers do have enough processing power for everyday computing tasks when used with lighter software, the software which uses less system resources. however, proprietary operating system developers design more and more resource hungry systems and "old" computers become slower when newer versions of these operating systems are installed. this is also true for many other proprietary software. zero dollar laptop features a strong politics of information technologies and is a good example of imagining ways of dealing with digital divide. four works in the exhibition that are in the form of embedded systems are low-cost small computers which are powered by a gnu/linux/… operating system.

however, there is also another dependency of information technologies, which is **energy**. this is rightfully becoming a more and more important issue in the age of the anthropocene when we humans start questioning our dominance on the world.

this is also where **blockchain technology** is criticized the most through its reference implementation in bitcoin.

there are other blockchain implementations which address this issue and are designed to have less footprint but energy consumption of the bitcoin network is really an important issue. the main critique in terms of the energy consumption for the design of bitcoin is the proof-of-work system which is utilized in blockchain technology and also one of the most important concepts of it. more on blockchain later, but it is time to mention that the **proof-of-work** system in bitcoin is criticized for **spending energy for achieving something arbitrary, useless**, which **spends energy for nothing**. this is true if you look at it from a different perspective than that of the logic of blockchain, which trades this cost with the cost of relying on centralized systems. however, being a distributed system is what bitcoin was designed for in the first place. so this discussion can transform into the discussion of the **cost of not having to rely on centralized systems** and also to the discussion of other costs introduced by those systems. **four works in the exhibition** continuously make calculations similar to the proof-of-work system in blockchain and moreover they do these by **spending energy just for nothing**, as in two possible understandings of "**for nothing**", nothing as nothing and nothing as an artwork, which is also a part of the exhibition title. but as said, more on blockchain and nothing later… now back to the internet.

another problem regarding communication of artwork to a wider audience, the problem of distribution of the mechanically reproduced work of art was not discussed widely. **the internet**, which enabled broad communication of digital information, has been the most important development in information technologies, besides the computers, to solve that problem. the internet not only solved such a problem of **transterritorial exact dissemination of digital information** but also introduced us, for the concerned, many new possibilities for **imagining the possibility of another world**. most of those possibilities might be invisible now for many but **another internet is possible (**https://another.httpdot.net/**)**, **a free/libre, anonymous, distributed, p2p internet, to inspire the possibility of another world.**

how did the institution of art get inspired by these possibilities? is it interested in a politics of information technologies? are we inspired by the new concepts, new languages introduced by the internet and the information technologies in general, **for imagining the impossible?** beyond technological determinism and making practical and economic use of these technologies, how do we relate to the phenomenon of the last couple of decades? what does the internet mean for us, besides our personal websites for "previews" of our works as

a promotion showcase, besides e-mailing and using “social media” for networking, besides quick “access” to information, and besides sending our “exhibition copies” through proprietary file transfer services? **is our production honest to the nature of the internet we make use of**? are we inspired, for example, by the power of the non-hierarchical peer-to-peer organization model that constitutes the foundation of the internet, for our political discussions on other models of organization for our society? did we pay attention to that dimension of the “technology”? how about mediation of the institution of art, which is supposed to be the most “progressive” and inspiring institution in our lives, for triggering such a discussion? how did we get inspired from peer production, or from free/libre and open source software? **how did we get inspired from the internet**?

what is the internet?

nothing

however, the exhibition *blockchain is… / …for nothing* is not inspired by the internet, instead by another “technology” which is argued to be the most inspiring one since the invention of the internet: **blockchain…**

the exhibition is interested in creating speculations using the language of blockchain in relation to that of the institution of art, by **dealing with “nothing”, literally**. to put it in another way, instead of approaching the blockchain technology as a practical tool, the exhibition is interested in **speculative translations of the new language and methodologies introduced by blockchain to the language of institution of art**, by **exhausting a particular notion of nothing**, as a candidate for the total dematerialization of work of art.

is it possible for **nothing** to be **unique** and **attributed to an artist**? if possible, can it be **proven**, **certified** to satisfy the conditions of being an **original artwork**, according to the institution of art, the institution which defines what art is, in our context, in the context of contemporary art. if **nothing is literally nothing**, and the **medium of nothing is also nothing** so that it **does not manifest in a physical form, or in any other form**, not even in a digital form; but can be performed by anyone, and also **exists** as a work of art without requiring to be performed**, as itself, as nothing, as nothing but an artwork**; how can it be a work of art, how can it be **certified** by the institution of art, as a work of art, that can be **proved** as a **unique**, **original** work of art by an artist; and that can also be **verified** by anyone, as the unique, original work of art, as stated by the artist?

at the center of the exhibition **there is nothing**, which is claimed to be an **original**, **unique**, **authentic work of art** by one of the peers at httpdot.net who uses the pseudonym “**the artist**” and the title of the work is also **true to itself**, “*nothing*”, without quotation marks! the **certificate of authenticity** of the work reads **“this is to certify that *nothing* is an original artwork by the artist**”. the certificate also supplies information about how to **verify** the **authenticity** of the work and also to **verify** the **author** of the work as **the artist**. the work relies on two interrelated concepts that existed long before the invention of the blockchain technology but were heavily utilized in blockchain in a very creative way: **cryptographic hash functions** and **digital signatures**.

cryptographic hash functions for nothing

cryptographic hash functions take any input and calculate a fixed length output from that input, like a unique fixed size arbitrary summary of the input. the input is called the “message” and the output is called the “hash” (hash value/digest/digest value, also fingerprint, checksum). but of course, it is not just that.. wikipedia is your best friend (being more sincere than that search engine, at least does not do something behind your back) but here is another take on the subject:

hash functions in general;
map the input to a fixed length output,
the same input always gives the same output for a given hash function, they are deterministic (one of the works in the exhibition exhausts this property);
but to qualify as a **cryptographic hash function** and be considered secure, a hash function should have some other properties:

-it should be infeasible to compute (know/guess/get/achieve) the input from the output. meaning that you cannot find out the input, if you just know the output. in this context infeasible refers to not being impossible but just not practical, or feasible, in terms of the gain vs spent resources. cryptographic hash functions should be one-way functions and this property is called “**pre-image resistance**”. “pre-image”, a mathematical term, refers to the input in this context. the output should unpredictably change even if there is a very small change in the input so that no relation should be discovered between the input and the output to predict the input and “**brute-force attack**” should be the only way (besides what is called “rainbow attack”) to get the input for a given output. a brute-force attack requires being ready to try all possible inputs and having a lot of luck, the extreme opposite of “no”, as in nothing.

there are two possible results of a lottery draw for a particular person: they win, or not, it's binary, it's %50, if you look at it from that perspective. however, the actual statistical probability is much less. ***.piece of luck: possibly about to become world's most valuable work of art_,*** is previous work by one of the peers at httpdot.net, which is not related to the statistics of the possibilities in discussion here but to chance and institutional critique, which is documented a https://luck.httpdot.net/

however the possibility we are talking about in the context of cryptographic hash functions is so much less than that of winning the lottery: finding an input that hashes to a given output for a cryptographic hash function; the probability of the success of a pre-image attack is very low. but as said, the exhibition is about **imagining the impossible** and this is the **quest of one of the works** in the exhibition. but more on this later…

-two inputs should not produce the same output. cryptographic hash functions should have "**collision resistance**" and this property is also related to the concept "**second pre-image resistance**", which refers to the infeasibility of finding another input which hashes to the same value as that of a given input. as "pre-image" refers to the input of a hash, "second pre-image" refers to a second input which hashes to the same value as another input. as in the "rainbow attack" mentioned above there are a lot of concepts in cryptography named after analogies or sample situations. "birthday attack" is the one related to this property and also there is "pigeonhole principle" related to the possibility of achieving this property, which will be discussed later in this text. second pre-image attack is the **quest** of another **work** in the exhibition. also more on this later…

cryptographic hash functions have many applications and works in the exhibition exhaust most of these, which are also heavily utilized in blockchain technology. they are used for message integrity verification, fixity check: to check if there has been any intentional or unintentional change in the message through time; digital signatures: messages are hashed before being signed with private (secret) key and also verified by hashing them again using and public key on the hashed value to verify the signature; proof-of-work: targeting to achieve a partly specific hash value by adding a nonce to a message. more on proof-of-work and how all these applications connect to the works in the exhibition, later…

"cryptographic hash functions take any input and calculate a fixed length output from that input." this was the first sentence of the section about cryptographic hash functions and it is the phenomenon which is exploited to connect the language of

blockchain to nothing in the exhibition in the first place. “a fixed length output is calculated for ‘any’ input”…

nothing as an artwork

due to the design of cryptographic hash functions, a **cryptographic hash function also outputs a fixed length output from no input, empty string, nothing**, and it gives the same output every time you calculate the hash of no input for the same cryptographic hash function. in this context **nothing is also anything, which is something**. one may argue that nothing cannot be art, or, nothing is not art. however, according to what we understand from art today, **anything can be art**, if it satisfies what the institution of art defines. in this context nothing can be art because **nothing is nothing but something,** which can be art. but how to **prove** that nothing is art? that it is a work of art by an artist, in terms of the institution of art? what is **the proof of art** and what is **the proof of the artis**t? what is **the proof of the work of art of the artist**? but before that, more on cryptographic hash functions and nothing…

cryptographic hash functions can **create something**, a **hash value**, **out of nothing** but that something is not arbitrary: it **originates from nothing** and has a relation to nothing. it is **born out of nothing**. even beyond theology, this is not a new phenomenon and it is in fact very much related to the **romantic** understanding of creativity, which is/was also the most important attribute of **the figure of the artist**, who creates something original, which is not like anything else, and the creation originates from nothing but the artist’s feelings. this romantic understanding of the figure of the artist has been challenged a lot since then and **the figure of the contemporary artist**, the author of an original and+/or creative work of art, is now understood as someone who interprets the world through their perspective and creates an artwork as an original expression of their creativity. **the artwork does not originate from nothing** anymore but is **built on what came before**. this approach to the concept of authorship should acknowledge **asynchronous collective** creativity of all the people where the figure of the artist is not someone special, not a genius on the top of the cultural hierarchy who creates art for the others who in turn should worship their creativity and be their “**spectator / fan / customer**”, but instead someone who gets inspired by others, makes an artwork by building on their work and also encourages others to build on that artwork, not as “spectators / fans / customers” but as **peers, the equal nodes of the culture**, **with no hierarchy among them**. this is a **peer-to-peer (p2p)** approach and it is the founding principle of the internet where computers connect to each other directly as equal nodes and share information freely instead of being

mere “**clients**”. it is also a fact that this principle of the internet has been dominated by hierarchical models by businesses on the internet, the biggest businesses of the world today. however, **blockchain** is important in this context because of being another “**proof**” of the **power of peer-to-peer models over hierarchical ones**. but more on blockchain later…

a **peer-to-peer approach to culture** should also acknowledge that “**everyone is an artist**”. the hierarchy of the genius artist and their “clients” does not fit into this approach. also the **artists** as **peers**, as **everyone** should encourage others to build on their work, should give them not the “**permission**” but the “**freedom**” to build on their work.

the most honest attitude to this approach is that of the **free/libre culture movement**, which is inspired by **free/libre and open source software movements**. free culture is about using free cultural licenses (https://freedomdefined.org) or declarations for cultural works which gives “**everyone**” the **freedom** to not just **experience** the work and **share** with others but also to **make a new work by building on it** and **sharing that new work** with others, too. there are many ways of releasing a work as a **free cultural work**; through legal **licenses** or personal **statements** without relying on the mediation of law, by **dedicating to the public domain** and using **copyleft** or **non-copyleft** approach, all having their own politics. a text on these options by özgür k., one of the peers at httpdot.net, is available at https://httpdot.net/OzgurK/OptionsForAnAuthor.pdf

now, back to **cryptographic hash functions and nothing**… there are various cryptographic hash functions such as md5, tiger, haval, whirlpool and sha-256. each cryptographic hash function calculates a different hash value, and maybe of different length, for a given input, due to their design. but the output for a given hash function is always the same fixed length value for a given input.

sha-256 hash value for an empty string, no input, nothing is always calculated as
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855

this is where it all begins for the exhibition. this is the **proof of nothing**, proof of its **existence**, proof of its **integrity**, proof for **certifying** it as a **unique, original, authentic original work of art**.

since each cryptographic hash function outputs a different value for nothing determined by their design, these might be seen as different interpretations of a single subject, like different artists interpreting a single subject differently and thus

creating different artworks out of it. but art is about intention and if the **intention** of making something is not art, then it is **not art**, again according to the institution of art. so, a cryptographic hash function, say sha-256, is **not art,** even if it creates something **out of nothing**. also the author of sha-256 is **not an artist**, again according to the institution of art. the intention of making sha-256 is not making art but making something useful, something that will solve some problems. art is about just the opposite; **asking questions instead of solving problems** and it is **independent of being useful**. usefulness is an **irrelevant** concept for art, and this is what renders it as the **domain of absolute freedom**, freedom to deal with something that has no use for any practical matter, **freedom to deal with nothing**, which is what this exhibition is all about.

following the same principle that the **intention** of the artist is key to qualify something as a **work of art**, and that, what is "**chosen**" by the artist qualifies as art without requiring to be created by the artist; **the artist**, who is one of the peers at httpdot.net and who uses the pseudonym "the artist" (without quotation marks!:)) for their artworks, **chooses nothing** as a work of art. the work **nothing is also titled *nothing***. nothing which the artist appropriates as their artwork is **the one that hashes to the following value** for **sha-256** cryptographic hash function, the value also given above:
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855

one can **verify the authenticity of *nothing*** as the artwork by the artist by using any **sha-256** hash calculator and calculate the output, the hash, **by supplying no input, by supplying nothing, by supplying the artwork itself** to the hash calculator and compare the result to the value above, which is supplied in the certificate of authenticity of the work, **certificate of authenticity of *nothing***.

nothing* exists as itself, as nothing, as an artwork**, and it can also be performed by anyone, by supplying no input to the computer, **by doing nothing, as in a strike**. neither the hash value of nothing nor the certificate of authenticity of *nothing* is the artwork; **nothing is the artwork itself** and the **hash value is the proof of its originality, authenticity, uniqueness** and **the certificate of authenticity is the proof that *nothing* is an artwork by the artist**, who **digitally signed** nothing as their artwork. the **certificate of authenticity** is what the artist **certifies *nothing as **their artwork**, what links the artwork to the artist, and what artist certifies the work as their own original, authentic work of art.

the authenticity of the reproducible artwork and the certificate of authenticity

the certificate of authenticity for an artwork is what **certifies** an artwork typically in a **reproducible form** as an **original** artwork by a **particular** artist, who **signs** the certificate of authenticity to **authenticate** the work of art as **original**. this is what distinguishes an **original** and a **copy**, a **fake**. when a "**sign**" of the artist's "**touch**" is inherent in the work, when there is a **sign** of the **unique style** of the artist, such as in a conventional painting or a handmade sculpture, when the artwork is unique in the traditional sense, there is no need for a certificate of authenticity since the authenticity of the work can be determined by the experts in the field, like in a forensics process. also there is a long tradition of **signing the artworks**, **not a certificate but the work itself.** however, when there is no sign to link the work to the artist, to **prove** the **authenticity** of the work as a work of art by a **particular artist**, then the certificate of authenticity is the document to achieve that. **the artist does not sign the work but the document, the certificate.**

in **mechanical** reproduction, the quality of the reproduction decreases as the number of reproductions increase. that's why the artists' prints with lower edition numbers are more valuable than those with higher edition numbers. mechanical reproduction is also subject to generation loss: a copy made from another copy is of lower quality than a copy made from a **master**. the quality of the master also decreases as the copies are made from them. so the concept of the original and the copy makes sense for mechanical reproduction also in a physical sense. **no two copies can be exactly the same**, even if the difference is not noticeable. so, the certificate of authenticity may not be mandatory for some mechanically reproduced works. a fake copy made from another copy, whether from certified first generation copy or from another later generation fake copy, will have a lower quality that can be detected more easily, again using forensics methods.

but how about **digital information**? how about an artwork in the form of digital information? the form of the many of the editioned contemporary works of art today…

digital information may be **duplicated exactly** and the original/copy distinction is irrelevant in technical context. all digital duplicates are exactly the same, they are **digital multiples**. so, the certification is the only method to distinguish a **digital duplicate approved by an artist as an "original",** from an **unapproved digital duplicate**, which becomes a "**fake**" in this context. this is where the **art market** definitely needs a certification method for works in the form of digital information, which is again the certificate of authenticity of the artwork, because the artwork is

not **a unique particular physical object** anymore, work of art is not unique by manifesting on a **fixed tangible medium in its unique variant that can be certified**. this argument may not make sense at first but if you think of a mechanical reproduction of an artwork, each mechanical reproduction on a physical medium is not a duplicate, even if one cannot notice any difference. this is because of the nature of analog information, which is not made up of small **samples** which are **represented** as **discrete binary values**, which in turn can be duplicated exactly, but exists as a **continuous, analog information**. think of prints… the noise introduced during the reproduction is also another limit for exact mechanical reproduction.

if we think of **electronic reproduction** in particular, instead of mechanical reproduction in a broader sense; not **digital electronic reproduction** but **analog electronic reproduction** where not the **discrete** electric signals but **continuous** electric signals are attempted to be reproduced, as the in the case of analog audio or analog video; an exact duplicate is also not possible, due to the noise in analog electronics.

to challenge the notions of uniqueness and original/copy**, an exact duplicate and exact transmission/dissemination is only possible through digital information and dematerialization of digital information is only possible through electronic digital information**.

let's have another parenthesis here by stating that the **exact duplication possibility of digital information is not a property of electronics but that of the discrete nature of digital encoding of information**. even though "digital" is associated with electronics because the digital systems we use daily are mostly electronic digital systems. so what we refer to as **digital** is in fact **digital electronics** which uses discrete electric signals as the medium for dealing with digital information. this is important for the cost of the medium on which electricity flows.

electric signals are not fixed on a medium but flow through the medium. this makes it somehow **independent of a fixed medium**. when transmitted through a cable, the digital electronic information flows through the cable and the same cable can be used later for transmitting other electronic digital information. this is also true for analog electronic information but it is subject to noise and analog electronic information cannot be transmitted exactly. when digital electronic information is stored on a memory, it changes the state of the transistor but this state can also be changed later multiple times without affecting the durability of the transistor much. if we compare this to non-electronic but physical storage of digital

information, such as on an optical disc, a dvd, it is evident that the durability of a dvd for erasing the digital information written (burned, carved) on it and then writing other digital information is so limited. this makes the **digital information dependent on a physical medium**, which is also **scarce**. the digital information does not flow but is fixed on the physical medium in this case. the digital information storage method of dvd media is simple. binary values of digital information are represented on a dvd as “pits” and “lands”. “0” or “off” state is represented by carving, making a pit on the surface of the dvd using a laser, and the “on” state is represented by a “land”, by not carving, by not making a pit on the surface of the dvd, **by doing nothing**. this physical binary representation is read by laser again and if the laser is reflected by the surface of the dvd, it is read as “1” or “on” state, and if not reflected because of the pit, it is read as “0”, “off” state. rewritable dvd media makes it possible to utilize a particular dvd media for “erasing” and rewriting binary data on it more than once, but the physical properties of the medium limits the number of rewrites. this makes dvd media scarce and thus not a media suitable for dematerialization of digital information.

we may argue that **analog electronic representation of information was the first opportunity for dematerialization of art**. however analog electronic representation of information didn’t allow exact transmission or exact copy as explained above. this conflicts with the conventional perception of work of art being **unique, original and authentic**. so, an analog betacam video tape, which is copied from an analog betacam master through a component cabling connection, which allowed the minimum noise for transferring analog information through continuous analog electric signals, did not even produce an exact duplicate of the analog information stored on master analog betacam tape. this is **not an original but a copy**. **only the master video tape**, where the **first generation of analog video information, the work of art is fixed on** could be considered an “**original**” in this sense. all analog electronic reproductions differ from the original, even if the difference is not noticeable.

the artist is the one who decides what is a work of art. that is the artist who certifies something as a work of art. in this case of an **editioned** work of art as an analog betacam video tape, the **medium** on which the work of art is **fixed as visual information**, is **certified as a work of art by the artist**, by **signing** a **certificate of authenticity** which **certifies** a **particular “edition” of work of art** as **unique**, unique in itself as the current state of visual information fixed on the medium of analog betacam video tape, **unique** only **as a combination of the visual information and the medium itself**. and this edition itself is what is original and authentic as authenticated by the certificate of authenticity, which is certified by the artist, by signing it. **the signature of the artist is what certifies the artwork as**

authentic. now, back to digital information and nothing, in relation to the notion of the **signature of the artist.**

most of the **current certificate of authenticity schemes** for works of art as **digital information** which does not rely on a particular physical medium do **lack the mechanism of proof for linking the identity of the artist to the work**. no digital information relies on a **particular** physical medium because they can be duplicated exactly on another physical medium which allows exact representation of digital information. if there is no particular physical medium which constitutes the artwork together with the digital information carried on it, but the artwork can exist just as digital information independent of any physical medium, then this can be argued to be **the condition for an artwork to be dematerialized**, be independent of the physical medium that would otherwise eventually lead to the **commodification of the artwork**. this was one of the promises of the idea of the **dematerialization of art;** to make art independent of being a commodity. however, ***nothing* is a proof of how a totally dematerialized work of art can be commodified**. on the contrary, it is also **a proof that the commodity status of a totally dematerialized work of art can be challenged** to imagine another relation between the **money** and **art**, and an **abundance of both** for **everybody**. *nothing* proposes one of these through use of **digital signatures** and the other through a **free culture** approach. now more on these.

digital signature as the link between *nothing* and the artist

on our way to discuss **digital signatures**, welcome to the world of **alice and bob**. a common way of explaining **public-key cryptography,** on which digital signatures are based, is describing a scenario where two people, a and b, alice and bob, communicate privately using public key cryptography. but this scenario, which is used for explaining **asymmetric cryptography**, is itself considered a reason why people do not even try to use it. this asymmetry is difficult to explain and it is confusing. it simply does not work for many people. even alice and bob cannot help that. however, here is another try, missing alice and bob.

digital signatures create a link between digital information and an identity. a digital signature functions as a handwritten signature which is a sign of approval of a document by an identity, by a person, and a sign for another person for verification of the approval of that person. digital signatures supply a **mathematical proof** through a relation between two very big numbers.

when digital information is **signed** by one number, the other number can be used to prove that the digital information in question is signed by the other number. so, one of these big numbers is private, hence the name **private key**, or **secret key**, which should be kept out of reach by others. because, if another person has access to that private key, they can sign digital information as if they were the person who is the owner of that private key. it is like making a perfect indistinguishable duplicate of a handwritten signature but a fake handwritten signature like that can be detected through forensics. however, for digital signatures, whoever has access to a private key can perfectly **duplicate the identity** of the owner of that key, like **digital duplication of the identity** of that person. that's why a private key should be kept private. possession of a private key is the link between an identity and a digital signature.

the other big number, which can be used to verify that a digital information is signed by the other big private number which has a mathematical relation with this number, is a public number. anyone who needs to **verify the signature**, who needs to verify the link between a digital information and a person who signed that information, should have access to that public number, hence the name **public key**. a public key and private key between which there is a mathematical relation are called a **key pair**. the key pair, the private key and the public key are created by a person using a software, who becomes the owner of that key pair and can share the public key with everyone but should keep the private key so that other people cannot access and use it to sign digital information. for jurisdiction where digital signatures have the same status as a handmade signature, it signifies liability for the person the same way a handwritten signature does.

digitally signing a message, a digital information means using the private very big number, the private key, to make a mathematical operation on the digital information, which can also be represented as some numbers. when this signature is put in another mathematical operation with the other public very big number, the public key, it can create **a proof** that the digital information was signed by the other very big number, which is the private key owned by a person, a person who should be the only one who has access to that number, to the private key, to have signed the digital information, to have made a mathematical operation on the digital information using their private very big number.

digital signatures also make use of **cryptographic hash functions**. in fact it is not the digital information which is signed, on which mathematical operations are made, it is the cryptographic hash of the digital information which is signed. so, the person who signs a digital information first hashes the digital information then applies a mathematical operation on the hash value with the private key, a private

very big number. this operation, creating a digital signature, creates a number, a value, which accompanies the digital information. when the receiver gets the digital information and the digital signature, first they hash the digital information and then apply the mathematical operation on that hash value using the public key, the very big public number to which the receiver should have access. the mathematical operation proves that the digital information was signed by the person who has access to the private key of the key pair. if the digital information is tampered with, it's hash will be different and thus the public key will not be able to verify the signature, which means that there is something wrong. this means either that the digital information has changed unintentionally, or someone has changed it for fraud. either way, the signature proves that there is a problem.

there is another function of digital signatures, which is **encryption**. along with signing, digital information may also be encrypted and the encrypted digital information may be sent along with the digital signature. the receiver may both decrypt the digital information and verify the signature using the public key. this scheme is used for private communication. however, digital information may also be signed without encrypting.

one way of sharing your public key is supplying it yourself to the receiver but this does not work if the communication channel is not secure. someone might be pretending to be you and sending their public key, as if it was yours. so, the public keys should be accessed through a trusted third party. one solution for this is counting on a central authority for supplying public keys by approving the link between a particular identity and their public key. however, there is also another method which is a peer-to-peer one called **web of trust**. people sign each other's public keys, if they know and verify each other. and these people also sign other people's public keys and have theirs signed as well. if you verify a signature on a public key, and trust the signer, then you have a reason to believe that the public key in question belongs to the person in question. this creates a web of trust among people who use this scheme. however, it may have its own problems but blockchain technology, which also makes use of digital signatures also offers another approach to the problem of trust in general. but, more on this later...

so, back to where we start discussing digital signatures: "digital signatures create a link between digital information and an identity", an identity who has the possession of a private key which can sign digital information.

the artist digitally signed nothing as their artwork, which involves **hashing nothing** through **sha-255 cryptographic hash function** and then **signing the hash of nothing** with their **private key**, the way explained above. this process,

digitally signing nothing, produces a **binary value** which is included in the **certificate of authenticity of *nothing*** along with the **public key** of **the artist**, both in **hexadecimal representations**. the binary value represented in hex is the **digital duplicate of the signature of the artist on *nothing***, just like the **signature of a painter on a painting,** their artwork.

nothing as a totally dematerialized yet commodified work of art

due to the nature of digital information this **digital signature exists without being dependent on a particular physical medium.** however, the certificate of authenticity of *nothing* is a **physical document**, a **digital print on paper**. and **the certificate states that nothing is *unique*.**

when an artist states that an artwork is unique and prepares a certificate of authenticity for that work, **the certificate of authenticity also becomes unique. it should be unique because it certifies a particular work of art being an authentic artwork by that artist who signs the certificate which states that the artwork is unique.**

in this case, "***nothing* is unique**", again becomes a statement with a double meaning: **certifying *nothing* as a unique artwork**, or a **negative statement about the uniqueness of everything**,

the certificate of authenticity of *nothing* has to be unique because otherwise it is fraud with a penalty of prison sentence. an artist may sign two paintings since each of them are unique artworks and they can also sign five certificate of authenticity for a work of five editions but **each certificate should be signed for a particular edition of that work**. just like an artist cannot sign two certificate of authenticity for the 3rd edition of an editioned artwork, **the artist cannot supply more than one digitally signed certificate of authenticity of *nothing.*** otherwise, as said, it is fraud.

the artist also cannot (shouldn't) make the digital document of the certificate of authenticity of *nothing*, which is used for printing the physical certificate of authenticity, **publicly available**, say on the internet. because anyone can have an exact duplicate of this digital document and print it to prepare a **fake certificate of authenticity of *nothing*.**

but in this case there is also another problem: if both prints, the one that the artist printed and the one that is printed as a fraud by someone who downloaded the digital document are put next to each other, how to prove which print of the digital document is the “authentic” certificate of authenticity and which one is fake? since there is no sign of the “touch” of the artist, there is **no proof of any connection between the artist’s identity and the printed document**. **literal fingerprints** (not the digital fingerprints but that of our fingers, literally) on the printed documents may undergo a forensics process and if there is the artist’s fingerprint on one of the printed documents, this “can be” a proof of the originality of that document. however, this requires the artist’s “touch”, which is not a requirement for contemporary works of art, according to the institution of art.

so, **the digital document used for printing the certificate of authenticity shouldn’t be made online and also the “unique” physical certificate of authenticity shouldn’t be made public either**. neither itself in a public space nor a digital image of the whole physical certificate of authenticity, online. because the **digital signature**, which is printed on the certificate of authenticity as hexadecimal values, does not carry a **sign** of the **artist’s “touch**”. the physical signature of the artist, which is made by pen on paper can be proven to be authentic, it can be proven that the artist has signed that document with great success, using forensics methods. the physical signature is like the literal fingerprint of a person. that is why a physical signature is considered a proof. it is something which is hard to fake by someone else. however, **the digital signature of the artist is not a sign of something unique to the artist; it is a sign of what the artist possesses: the private key which is used for signing the hash of *nothing* to certify nothing as an artwork by the artist, who possesses the private key.**

in the scenario above where the “original” and the “fake” prints of the certificate of authenticity cannot be distinguished, the artist is the only person who can recertify any of them as the original, but as long as they have the possession of the private key which was used to digitally sign *nothing*. the artist may sign nothing again with their public key to prove that they are the artist who digitally signed it in the first place since this digital signature can be verified using the public key, which is publicly available. if the artist loses the private key, then the artist may not even prove having digitally signed *nothing* in the first place.

however, **the digital signature changes completely if the artist signs nothing at a later time, even if they use the same private key.** because **digital signatures also verify the exact time the signature is made.** so, **the new signature on nothing will be different than the original one,** and **this will be nothing more than an appropriation of the artist's own work**.

“unique” physical certificate of authenticity of *nothing* should not be made public, neither physically nor online because the hex values on the certificate which represent the digital signature of the artist on *nothing* can easily be copied and reproduced, duplicated, once it becomes public. it is a simple act of typing what one sees.

so, **the certificate of authenticity of *nothing* is not made public on purpose**. not to make or cause any **fraud for *nothing***. **only the artist, or the person who buys that artwork, *nothing*, who possesses *nothing,* should have access to the certificate of authenticity of *nothing***.

in this context, **it is the certificate of authenticity of *nothing* that causes commodification of a totally dematerialized work of art, commodification of *nothing*. the certificate creates a unique object out of *nothing*, which will eventually be commodified**.

certificate of authenticity of *nothing* is not exhibited in the exhibition to prevent it being treated as the artwork itself, instead of *nothing* itself being the artwork, literally, this way, ***nothing* cannot be materialized and thus commodified**, also, certificate of authenticity of *nothing* is not exhibited in the exhibition because of the **opposite possibility** that **it would prevent *nothing* from being commodified**. because once the digital signature on the certificate of authenticity is made public, anyone can make a certificate of authenticity of *nothing* using the printed hex representation of the signature of the artist on *nothing* by simply duplicating those printed hex values. since there will be no proof for which one is the certificate of authenticity of *nothing* printed by the artist, there will be a **multitude of certificate of authenticity of *nothing***, which will harm its **uniqueness** and **proof** and thus **its commodification**.

the institution of art has to admit the nature of the relation between an artwork’s exchange value because of it being a scarce commodity, or at least having limited accessibility; and its artistic value; and that both are recursive.

besides the certificate of authenticity, there is another related conventional method for the proof of the possession of an artwork of a particular artist. the **artwork purchase agreements**… it is also a convention that an artwork purchase agreement is made between and signed by the previous owner of an artwork and the new owner of it. artwork purchase agreement is made between and signed by the artist (or a legal representative of the artist, such as the art gallery) and the first purchaser when an artwork is sold for the first time. when the artwork is sold again

by the first purchaser to another party, a similar artwork purchase agreement is made and signed by them. artwork purchase agreements are about the ownership status of the artworks which may seem to be in conflict with free culture approach but a work titled ***artwork purchase agreement [for copyleft works of art]*** *(*2018) by one of the peers at httpdot.net under the pseudonym “ hereinafter ‘the artist’ ” claims another possibility.
https://m-est.org/2018/01/22/vasiyetimdir-hereinafter-the-artist/
https://httpdot.net/hereinafter-theartist-/apaforcopyleftwoa_4962pxa4_pdf-a.pdf

artwork purchase agreements establish legal liability, like certificate of authenticity does. in the absence of a certificate of authenticity, an artwork purchase agreement may be used “as a proof” of the authenticity of the artwork, along with the current ownership of it, if it is made between the artist and the first purchaser. later purchase agreements between future owners of the artwork is also a proof for the current ownership of the artwork and it can even be a proof of the authenticity of it, if all agreements can be traced back to the artist. **blockchain technology** features a new possibility for both proof of the authenticity of the artwork, proof of the link between an artwork in digital form and its author, the artist, and its current ownership status. the legal validity of this new method may be subject to discussion but it features a much more secure way to verify and trace the authenticity and the ownership status of an artwork, especially of those in the form of digital information, than what the certificate of authenticity and the artwork purchase agreement offers.

bitcoin also offers a method for transfer of ownership of an authentic work of art. using bitcoin addresses and digital signatures it supplies a method for the proof and traceability of artwork transaction records. this works perfectly for artworks in digital form, artworks as digital information, but it is also being implemented for artworks in other forms. however, this does not create a link between the authenticity of the work and the transactions for that work but again works as a replacement for physical documents of transactions being used for that purpose, and even makes their traceability more secure. but, more on blockchain technology later…

nothing as a challenge for commodification of a totally dematerialized work of art

after a discussion of *nothing* being a proof of how a totally dematerialized work of art can be commodified, now it is time for the discussion of how *nothing* can challenge the commodity status of a work of art.

the certificate of authenticity of nothing also reads: “***nothing* is appropriated by the artist and also nothing is appropriated by the artist; *nothing* is dedicated to the public domain by the artist”**

this is not a legal method of dedicating an artwork to the public domain and thus it can be invalid in legal terms.. also dedicating a work of authorship to the public domain is not even possible in legal terms in some jurisdictions but since it is the statement of the artist and since it is stated in a certificate of authenticity, it makes *nothing* a **free cultural work,** whether legally forcible or not.

dedicating a work to the public domain means that the author waives all copyright on the work along with all related and neighboring rights, such as moral rights. so the status of the work becomes a commons, in a sense. anyone may use the work for any purpose, including commercial use (all free cultural works allow commercial use, which makes it possible to **imagine another economics** but it is the topic of another discussion), and even without requiring attribution to the author who dedicate it to the public domain.

dedicating a work to the public domain is different from **copyleft**, which is another method of releasing a work as a free cultural work. copyleft approach, introduced by gnu gpl free software license, has its own politics and it requires any work built on a free cultural work be distributed as a free cultural work as well. four works as embedded systems on their own quests in the exhibition are licensed under gnu gplv3, which makes them **copyleft free cultural works.** two other works in the exhibition, *blockchain is…* and *blockchain will...* are **free cultural works with multi-free-culture-licenses and author’s declaration** (https://httpdot.net/FCWwMFCLaAD/). this is a unique approach to the licensing of free cultural works and thus to the politics of free culture. **dual-licensing** is a common practice in free software where the author releases the work under two different free software licenses and others who build on these software choose the one they need, to prevent the conflicts between the terms of different licenses, which makes it legally not possible to combine two free software for creating another free software. in this context, **license proliferation** is an important problem for free software and free culture. free cultural works with multi-free-culture-licenses and author’s declaration is a hack for this problem which enables the person building on free cultural works to choose whatever free cultural license they want or need. they are free to choose the free culture license which reflects their own politics of free culture. the **author's declaration** can be modified according to **the author's own politics and poetics and satisfy the politics of rejecting the mediation of law for the journey of free cultural works.** this is also the free culture politics of

this text but the works in the exhibition demonstrate various politics of free culture. for example, ***nothing* is dedicated to the public domain** and anyone can appropriate a work dedicated to the public domain and enforce their copyright on the appropriated version, which becomes a conventional copyrighted work.

even though **appropriation** has been an important artistic strategy under that particular term in contemporary art for half a century now, it has a negative connotation in general. in contemporary art it is a **politically strong demand of the artist from the mass culture**. the statement in the certificate of authenticity of *nothing* refers to both connotations of "appropriation". **the artist appropriates nothing as their artwork but instead of demanding exclusive control of *nothing*, they dedicate *nothing* they appropriated back to the public domain**. however this is not a common approach for appropriated works in contemporary art.

the statement "**nothing is appropriated by the artist**" again allows two opposite understandings. one is when nothing is nothing, and the other is when *nothing* is a particular artwork. and the following statement, "***nothing* is dedicated to the public domain by the artist**" also allows two opposite understandings the same way. and finally all statements together contribute to **exhaust the new language** suggested around the notion of nothing, language of contemporary art and the logic of blockchain.

a public domain dedication statement makes it possible for anyone to appropriate *nothing,* without attributing the artist. one can appropriate it under their own copyright and another can appropriate it as a free cultural work. if the latter chooses to **certify *nothing* not as a unique free cultural work but instead certify *nothing* as a free cultural work in an unlimited edition, then it becomes a totally dematerialized work of art and also resists commodification**.

what is nothing?

three embedded systems on their own quests working for nothing; and the information shower

three of the other works in the exhibition are embedded systems on their own quests exhausting this particular notion of nothing. **these works work for nothing, and also work for nothing**, spending computational time and energy for nothing. these simple embedded systems consist of single-board low-cost

computers powered by free/libre gnu/linux/… operating systems and run custom free software bash scripts written for these works, to work for nothing. the embedded systems start working when plugged in and continuously make computations similar to what computers in blockchain networks do, until they are powered off. and they continue the same process when they are plugged in again. they all display their process and output on a command-line interface, which are projected to cover three walls of the exhibition space. command-line interface of another embedded system on a quest and a video work, both of which will be discussed later in this text, are also projected covering the walls and an **immersive experience** is created in the space. since all walls are covered with front projectors, it becomes an **information shower** for the people in the space whose **bodies are covered with continuously flowing texts and numbers**. a sound installation of sentences aggregated from the web which contain the phrase “blockchain will” accompanies this experience. also more on this sound installation later…

the study of the state of nothing: nothing is the same, or, nothing has changed

first work in the form of an embedded system on its own quest for exhausting this particular notion of nothing by working for nothing is ***the study of the state of nothing: nothing is the same, or, nothing has changed*** (2019). this work calculates hash of empty string, no input, nothing, using various cryptographic hash functions and compares them to known hash values of nothing, once in every minute and displays its process and the output on a command-line interface, which is projected in the exhibition space. in fact, what this work does is an obsessive and persistent fixity check for nothing. when explaining the properties of hash functions in general, it was mentioned that “the same input always gives the same output for a given hash function, they are deterministic (one of the works in the exhibition exhausts this property);”. *the study of the state of nothing: nothing is the same, or, nothing has changed* is the work mentioned there. the most common use of this property is fixity check, or integrity check in digital archiving and preservation.

in digital archives, acquired digital information, digital assets are hashed and the hash value is also stored in the archive system. this is a part of the ingest process for archiving digital information. integrity of the digital assets in the archive are checked in fixed intervals to detect any unintentional changes, like bit rot, which may corrupt the file. if broken files are detected, they are replaced with healthy versions from backups. hash values are used for detecting any changes in the files

in this fixity check process: a file, or any digital information is hashed and the hash value is compared to the hash value calculated during the ingest process. since “the same input always gives the same output for a given hash function”, the hash value calculated during fixity check is expected to match the hash value stored during the ingest process. otherwise it is concluded that the file has changed during this period since the hashes do not match.

so, the hash of nothing should always be the same value for a given hash function, unless **nothing changes**. if nothing changes, then the hash of nothing should change. *the study of the state of nothing: nothing is the same, or, nothing has changed* works non-stop to detect any changes in nothing, in the state of *nothing*. it calculates hashes of nothing for five different cryptographic hash functions; md5, has-160, tiger, sha-256, ripemd-320, each having different hash length; and compares them to known hashes of nothing for these cryptographic hash functions. this is like a fixity check process but fixity checks are usually done using only one hash function. using five different hash functions for fixity check is not required and it is considered a waste of resources. it is spending computational time and energy for nothing... also any hash function may work for most fixity check needs and it may not need to be a cryptographic hash function, which features extra properties that are not necessarily required for fixity checks.

fixity checks are mandatory for any archive and preservation workflow because digital information may change unintentionally over time for many reasons, including human mistakes and technical failures. however, *the study of the state of nothing: nothing is the same, or, nothing has changed* checks the integrity of nothing, an empty string, no input. no digital information is involved in this process as an input for fixity check. so there is **no possibility of any change** in any digital information because there is no digital information; **there is nothing.** so, the same hash value must be calculated for nothing in each fixity check, in each check for the state of nothing, unless there is a problem in the embedded system itself, which would also affect the whole system.

so, what *the study of the state of nothing: nothing is the same, or, nothing has changed* does is **obsessive work for nothing and for nothing**, and it keeps on doing that once in every minute. as long as nothing is the same, it proves the integrity of nothing and outputs, ""all calculations and comparisons completed successfully. there are multiple proofs that **there are no changes and nothing is the same**.". if any of the calculated hashes for nothing does not match known hash of nothing for that particular cryptographic hash function, **if anything changes, the work will output “nothing has changed”,** which is not likely to

happen in technical terms and again not a linguistically true statement, unless nothing is not nothing, but say, a particular artwork.

the quest for finding something that is nothing, or, the study of what nothing is not

second work as an embedded system on its own quest for exhausting this particular notion of nothing by working for nothing is ***the quest for finding something that is nothing, or, the study of what nothing is not*** (2019). this is again an embedded system running custom copyleft free/libre software which tries to find nothing by trying to find something that hashes to the same sha-256 hash value as that of nothing. it creates 256-bit of something, which is the same size as the hash value of nothing, calculates its sha-256 cryptographic hash and compares it to sha-256 cryptographic hash of an empty string, no input, nothing and outputs the process and results on a command-line interface. *the quest for finding something that is nothing, or, the study of what nothing is not* is **on a quest for nothing** but continues this process until finds a match. if hash value of this 256-bit something does not match that of nothing, this is a proof that, **that thing is not nothing**. if it can find a match, that could mean that **it has found nothing**. this second argument can be made through a (mis)interpretation of one of the properties of cryptographic hash functions which was also explained before: “-two inputs should not produce the same output. cryptographic hash functions should have “collision resistance” and this property is also related to the concept “second pre-image resistance”, which refers to the infeasibility of finding another input which hashes to the same value as that of a given input. as “pre-image” refers to the input of a hash, “second pre-image” refers to a second input which hashes to the same value as another input.” this property is what *the quest for finding something that is nothing, or, the study of what nothing is not* exhausts, for nothing. sha-256 is known as a secure cryptographic hash function today and two different inputs should not produce the same hash. if a second input is found which hashes to the same value as that of nothing, **it must be nothing**, for which this work is searching for. even though this means a totally different thing in terms of cryptography, *the quest for finding something that is nothing, or, the study of what nothing is not* **imagines** it another way.

in mathematics terminology, the input for the hash function is called the preimage, and the output is called the hash value. in this context, nothing, which is the input for the hash function, is the preimage of the hash value of nothing, the output of the hash function. if a second input can be found, anything other than nothing which hashes to the same value as the hash of nothing for the same cryptographic

hash function, this second input, the second “thing” is called the second-preimage for that hash value, the hash value of nothing. *the quest for finding something that is nothing, or, the study of what nothing is not* is also a second-preimage attack for sha-256 hash function which tries to find a second input, a second-preimage, which hashes to the same sha-256 cryptographic hash value of nothing, where nothing is the preimage. since this work refers to some concepts in cryptography, more insight on the topic may allow more interpretations of the work through **how it (mis)interprets and imagines cryptography**.

preimage attack and second-preimage attack are two types of cryptographic attacks. if an adversary knows the hash value, the output, and tries to find out the input, the input which hashes to the known hash value, this is called a preimage attack. in another scenario, if an adversary tries to find a second input which hashes to the same value as the hash of a known input, this is called a second-preimage attack. if succeeds, both of these attacks cause security vulnerabilities for different scenarios. that’s why a cryptographic hash function should have both preimage resistance and second-preimage resistance, to be considered secure, which is the main objective of cryptographic hash functions. having these resistances mean that there shouldn’t be an easier way than a brute-force attack to calculate the preimage or a second-preimage. a brute-force attack means being determined to try all possible inputs to find a match. there is another work in the exhibition whose quest is similar to a brute-force preimage attack but *the quest for finding something that is nothing, or, the study of what nothing is not* is related to the notion of second-preimage attack in cryptography.

the probability of a successful second-preimage attack, the probability of finding a second input which hashes to the same value as another known input, the probability of finding a second input which hashes to the same value as that of nothing is related to the size of the hash value. this is also explained through the pigeonhole principle: if there are 11 pigeons and you have 10 pigeonholes, at least two pigeons need to be put in one single pigeonhole, if one wants to put all pigeons in pigeonholes. if one designs a hash function which produces two-digit decimal number hash values (00-99) as output, even if it is designed so that each of 100 different inputs should produce a different hash value to resist hash collisions among these, it is **impossible** that at least two inputs will not hash to the same value: there will be a hash collision. so, this hash function cannot be considered collision resistant because the hash size is too small. it allows only 100 distinct outputs, hash values. sha-256 hash function produces 256-bit hash values, hash values with a size of 256 bits, which can represent (2 to the power of 256) distinct values. this may not seem like a very large number but it is indeed 115792089237316195423570985008687907853269984665640564039457584007

913129639936 in decimal; a 78-digit decimal number… hash values are usually represented as hex values, instead of decimal or binary. each digit can have 16 different values in hex representation. each digit can be 0-9 or a,b,c,d,e,f for representing 10, 11,12,13,14,15,. using hex representation, a sha-256 hash can be represented as a 64-digit hex value instead of a 78-digit decimal value or a 256-digit binary value. this way, hex representation of sha-256 hash of nothing is: e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855. the smallest hex value for representing a 256-bit value is 64 digits of zeros (000...000) and the biggest is 64 digits of f's (fff...fff). ***the quest for finding something that is nothing, or, the study of what nothing is not*** **aims to create all the values between these, all possible 1157920892373161954235709850086879078532699846656405640394575840079131296399360 “things”; calculate their hashes and compare them to that of nothing searching for a match, searching for nothing.** the size of the created values, created things, is the same as the size of the hash of nothing; not the size of nothing itself but the size of the hash of nothing, which is **proof of nothing** in this context.

limiting the size of the “things” to create to the same size as the sha-256 hash of nothing is an arbitrary choice but that hash value is **one of the limited proofs of the existence of nothing** and it’s the closest thing to nothing we have. so this size is a good guess to start searching for nothing. also it is the size of the sha-256 hash function used for calculating the hash of nothing to compare to the hash of things created, and this means that **one of 1157920892373161954235709850086879078532699846656405640394575840079131296399360 different things other than nothing,** those *the quest for finding something that is nothing, or, the study of what nothing is not* aims to create*,* **should also hash to the same value as nothing,** unless there are hash collisions. this is also another reason 256-bit things are a good place to start searching for nothing. however, 256-bit hash size is considered optimum for security of cryptographic hash functions because it allows so many distinct outputs and makes a second-preimage attack infeasible through brute-force. following this logic, **finding nothing is just infeasible, definitely not impossible**.

the work continuously being done by *the quest for finding something that is nothing, or, the study of what nothing is not*, trying to create something which should hash to a particular hash value, can also be read in terms of another concept which is key to **blockchain**: **proof-of-work**. proof-of-work will also be discussed later in relation to the quests of two other works but this is a good time for an introduction to the concept.

proof-of-work is what peers, the miners in bitcoin network, the p2p cryptocurrency network for which blockchain technology was developed, are trying to achieve to mine/create/make/issue/own bitcoins. what these peers do is creating data, a random value, which is called a nonce, an arbitrary random number/value, which they add to a block, which is a list of some bitcoin transactions along with some other data, to achieve a block which will hash to a value with a particular number of leading zeros, with the particular number of leading digits being zero, such as "0000000000000000002a1b…". since any change in the input changes the output unexpectedly in cryptographic hash functions, each nonce also changes the hash of a particular block unexpectedly. the miners in the bitcoin network, the peers create a nonce, calculate the hash of the block with that nonce added and if this block hashes to a value with a number of leading zeros, the number which is defined by the network to achieve a difficulty level, then this becomes the proof-of-work: **the proof of the labour of one of the peers,** the work of creating nonces and calculating the hash of the blocks with these nonces and finding a nonce that makes the block hash to the target value of a number with leading zeros. the utility of this work is what the blockchain technology is dependent on but if you look at it from a conventional perspective, it may look like an arbitrary work with an arbitrary goal, **a work for nothing**. the miners in the bitcoin network, **the peers work for just having a proof-of-work** but it is not an easy task. they need to try a lot of nonces until they achieve the goal and supply a proof-of-work, proof of their labour, to the network. this is a difficult task which requires making a lot of computations and proof-of-work is about proving that they spent computational time on the given task. a lot of miners, peers, work independently on a block and only the work of the one to find the required nonce first could prove their work by announcing the proof-of-work. at this point the work of all the nodes, all the other peers in the network becomes a work for nothing. in a sense, **all peers work for nothing, the work of only one peer is proven as the proof-of-work and at this point all the other peers will have worked for nothing.**

the difficulty of creating a proof-of-work is continuously adjusted by the bitcoin network. the difficulty of proof-of-work changes according to how many leading zeros the system requires for hash value to have. proof-of-work for *the quest for finding something that is nothing, or, the study of what nothing is not* is not a hash value with a particular number of leading zeros but a particular hash, the hash of nothing. also the size of the nonces created for bitcoin blockchain is 32-bits but the size of the nonces, the things created by *the quest for finding something that is nothing, or, the study of what nothing is not* is 256-bits, the same size as sha-256 hash. so, the things created by this work can also be considered nonce and thus what this work tries to find is also a nonce, a nonce which is nothing. the size of the nonces does not affect the difficulty of the problem to solve but finding a nonce

which leads to not a hash with a number of particular digits but a particular hash itself is the most difficult possible problem for a proof-of-work system, which is **infeasible to solve but still possible**, and it is what *the quest for finding something that is nothing, or, the study of what nothing is not.*imagines.

the quest for finding something that is nothing, or, the study of what nothing is not is a quest for nothing but it can also be understood as either **an attack on the uniqueness and originality of *nothing* by the artist**, or **an attempt to prove its uniqueness and originality.** the certificate of authenticity of *nothing* states that *nothing* is a unique original artwork and that, it's authenticity can be verified by sha-256 value e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855.

if *the quest for finding something that is nothing, or, the study of what nothing is not* can find another "thing" which hashes to this value, then it means that ***nothing* by the artist is not unique**: there is another thing, the proof of the integrity of which is the same as that of *nothing*. so, **the essence of that thing must be the same as *nothing***; **that thing must be nothing**, unless sha-256 is not a cryptographic hash function. if it is not, then t**he certificate of authenticity of *nothing* by the artist is not valid** because it cannot authenticate *nothing* as a unique work of art by the artist anymore.

all outcomes of this scenario where *the quest for finding something that is nothing, or, the study of what nothing is not* finds something which hashes to the same value as that of nothing become **recursive**: no matter if nothing is not nothing but something, or, if that thing is in fact nothing, or, if nothing is nothing and that thing is just something and this is just a hash collision which effects the security status of sha-256 as a cryptographic hash function or not; **it will render the certificate of authenticity of *nothing* by the artist invalid and challenge the uniqueness and originality of *nothing* as an artwork.** on the other hand, each "thing" *the quest for finding something that is nothing, or, the study of what nothing is not* creates but cannot find a match for the hash of nothing **will be verified as something and thus not nothing** and it will be **a proof of what nothing is not**: each will **support the claim that *nothing* is an original artwork by the artist.**

a blockchain for nothing

another work in the exhibition as an embedded system on its own quest also refers to the blockchain technology but skipping one of its key concepts mentioned above: proof-of-work. ***a blockchain for nothing*** (2019) creates a blockchain

which originates from nothing and continuously builds blocks on this **origin, nothing, which is the original**. however, this blockchain differs from all other blockchains and it has no use, **it is for nothing**, because;

-*a blockchain for nothing* is private and on its own. it is not private in the sense that it belongs to only a particular person or entity but in the sense that it is on its own, it is private for itself. since *a blockchain for nothing* is a free cultural work under gnu gplv3 copyleft license, anyone can have/own/buy and run a digital multiple/digitiple of it. however, none of these digitiples are nodes, they are not peers, they are not networked, they are alone on their own, yet they all create the same blockchain, of nothing. all of them create the exact same blocks and thus the exact same blockchain, independent of each other. they are also dependent on someone, an owner, only for supplying them with energy, electricity to run. if someone connects it to a system creating sustainable energy on its own, it becomes dependent on no one, **no human**, nothing but its energy source and together they become **autonomous. this is true for all embedded systems in the exhibition**. **they can continue their quest without relying on humans**. they are more-than-human.

-*a blockchain for nothing* **originates from nothing**. its genesis block is nothing. in blockchain terminology, genesis block refers to the first block of a blockchain. all blocks in a blockchain refer to their previous blocks: each block contains the hash of the previous block and this way all blocks are chained, **hence the name blockchain**. if each block should refer to the previous block, then how does the first block, the genesis block exist? which block and what does it refer to? the answer is nothing… **a genesis block in any blockchain refers to nothing**. but it is **not the same nothing** as in *a blockchain for nothing.* the genesis block of a blockchain is not nothing: it just refers to nothing. a genesis block in a blockchain is a special block which is created without referring to a previous block. however, the genesis block of *a blockchain for nothing* is nothing, an empty string, no input. but the following block refers to this block: **it refers to nothing**. the second block in *a blockchain for nothing* consists of **nothing but the sha-256 hash of nothing**, represented as a 64-digit hex value, which is e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855. the third block is also just the sha-256 hash of the second block, the hash of the hash value in the previous sentence. and this way each block refers to their previous block by consisting of only its sha-256 hash. since each block refers to their previous block and since each block consists of nothing but the hash of its previous block, **all blocks in *a blockchain for nothing* eventually refer to nothing but nothing**. they originate from nothing and they eventually refer to

nothing. however, *a blockchain for nothing* continuously grows by adding new blocks all building on what came before them.

culture builds on the past, each work is built on what came before it. this understanding of culture, which also challenges the figure of the artist as a genius making works of art out of nothing but their own creativity, **emphasizes the necessity of a free cultural approach**, where the authors encourage others to build on their works as peers. if that is really the way culture is built, then **limiting the freedom of others to build on one's work is limiting the potential of culture**. *a blockchain for nothing* in a way demonstrates how the creativity of building on something else allows multiplication, even if *a blockchain for nothing* grows not exponentially but linearly in this case. in this context, *a blockchain for nothing* is also a homage to free culture. an earlier work by one of the peers at httpdot.net as a homage to the creative potential of building on what came before in the context of free culture is available at https://fc.httpdot.net/

-*a blockchain for nothing* does not rely on **proof-of-work** for creating new blocks. the blocks do not contain any proof-of-work. from another perspective, all blocks in *a blockchain for nothing* are just proof-of-work. the only work required by *a blockchain for nothing* to create a new block is calculating the hash of the previous block and the proof-of-work is just the hash value, the block itself. each block proves the work required by *a blockchain for nothing* by just being created.

a blockchain for nothing will have created all sha-256 hashes unless it gets stuck in a loop because of a hash collision when one hash value, one block, hashes to the same value as the hash of another hash, another block. it will also get stuck in a loop **if it finds nothing**, which *the quest for finding something that is nothing, or, the study of what nothing is not* is looking for: if a block hashes to the hash of nothing during the quest of *a blockchain for nothing,* then that block will be the second-preimage of the hash of nothing and the following block will be the same as the third blok of *a blockchain for nothing* and ***a blockchain for nothing*** **will get stuck in a loop, because of unintentionally having found nothing**. in this context, the quests of *a blockchain for nothing* and the quest for finding something that is nothing, or, the study of what nothing is not are similar. they both create sha-256 hash values and unless one finds a collision and gets stuck in a loop, or unless any of them finds nothing, they will eventually create all possible 256-bit values and thus all possible sha-256 hash values.

the work required to detect any changes in a block in *a blockchain for nothing* is equal to the work required to calculate the hashes of all previous blocks starting from the genesis block, which is nothing. also the work required to detect any

changes after a particular block is equal to the work required to calculate the hash of all blocks after that particular block. this system does not qualify as a proof-of-work system because the solution to a computational problem in a proof-of-work system should be difficult to calculate but it should be easy to prove. in a proof-of-work system, being easy to prove is being as easy as making a hash calculation operation. the difficult part is to find a nonce which will change the hash of the input to the target value of the proof-of-work system. the only proof-of-work for *a blockchain for nothing*, if there are any, is the hash of a block. once the sha-256 hash of a block is calculated, it becomes the next block. to prove that this block is what it should be, one just needs to calculate the hash of the previous block.

a **proof-of-work system** requires someone to prove that they have spent some effort. the content or the utility of the actual work done is irrelevant in proof-of-work. having been working on something is what is required to be proven. in blockchain technology, proof-of-work is the solution of a computational problem. for being authenticated to add a block to the bitcoin blockchain, proof-of-work must be included in a block along with the hash of the previous block and some other data. the next block in the blockchain should also include a proof-of-work and the hash of the previous block. all blocks are bound to each other this way. when one wants to tamper with a block, they will need to find a new proof of work for the tampered version of the block. this will change the hash of this block which is recorded in the next block. to have these two blocks accepted in the blockchain, the hash of the previous block needs to be updated and also a new proof-of-work needs to be found since this block is also tampered now. proof-of-work for all following blocks must be calculated again to have the tampered block included in the blockchain. this system is what makes a blockchain tamper-proof and immune to fraud: once a number of blocks are created after a block, it becomes infeasible to tamper with the content of that block, the records in that block. this is not impossible but infeasible because it is only possible when more than half of the computing power of the peers in a blockchain network agree to defraud by creating all proof-of-work after that block. in other words, this makes it tamper-proof and resistant to fraud because proof-of-work for all following blocks must be done again and they must be done faster than the total of all honest peers in the network, which requires more computational power than the total of honest peers. this way it becomes more and more difficult to change the records in earlier blocks and create a consensus in blockchain network to accept these changes. this is why proof-of-work is a key concept for blockchain. for example, the bitcoin blockchain requires that each block to be added to the blockchain should hash to a number starting with some zeros. proof-of-work is a nonce to satisfy this rule and someone who wants to attack the network, to change the records in blocks, should do the proof-of-work for all later blocks again, and also do it faster than the combination of all

other peers in the network. however, *a blockchain for nothing* does not require any proof-of-work for verifying new blocks.

bitcoin is a good example of how proof-of-work and blockchain technology are related. bitcoin blockchain is what keeps the timestamped and digitally signed records of who has mined/created/owned how much bitcoin, who has received how many bitcoins from whom and how many bitcoins they sent to whom, along with some other data to make these records irreversible, once created. the creation of this data is what the miners in the bitcoin network work on.

the “who”s in the definition above are in fact bitcoin addresses, which are mathematically related to the private keys they are created from. the owner of these private keys is the owner of the bitcoins sent to the bitcoin addresses created from these private keys. one person can have more than one private key and create a new bitcoin address for every transaction using the private keys. if one shares the bitcoin address with just the person they make a transaction with, this transaction can be anonymous, if some other requirements for anonymity are also met. this was the recommended way of using bitcoin because all transactions in bitcoin network are public: they are recorded in the bitcoin blockchain. anyone can see which bitcoin address sent how many bitcoins to whom and when. if these bitcoin addresses can be associated with the people using them, then not just the transaction but also the people who made them becomes public.

miners, the peers in the bitcoin network, collect the latest transactions in the bitcoin network in what is called a block, along with the (hash of the) hash of the previous block header which should be starting with a number of zeros. they create some other data by making some hash calculations on the transactions (calculating the root hash of the merkle tree of all transactions in the block) and include this in the block header along with some other data. a merkle tree is the hash of some kind of a combination of the hashes of all transactions in a block, excluding the data in the header of the block. this ensures that the transactions and their orders cannot be tampered with later on. also, it is the hash of the previous block header included in a block which binds this block to the other blocks in the blockchain, not the hash of the previous block as described in this text for simplicity: not the hash of the previous block but the hash of the header of the previous block. in fact it is also not the hash but the hash of the hash of the previous block header because the block header is hashed twice. but for simplicity, this text refers to that as the “hash of the previous block”.

what the miners do besides calculating the root hash of the merkle tree of all transactions in the block is adding a new transaction to the list of the transactions

they have collected from the network in the block. this transaction is listed first among the other transactions and it states that **the miner has received some bitcoins for nothing**, **out of nothing**. if a miner succeeds in making this block accepted by the bitcoin blockchain, then that miner will have received the bitcoins listed in that first transaction they have added to the list of transactions. **bitcoin is mined this way, out of nothing, but awarded for a proof-of-work**.

what the system requires for accepting this block in the bitcoin blockchain is the proof-of-work, which is a nonce. the miner needs to find a nonce, which will make the block hash to the target value when the nonce is also included in the block. however, finding such a nonce is random, like winning a lottery. the work required for finding such a nonce is independent of any skills or credentials. the probability of finding such a nonce is random and the only way to have more chances of finding such a nonce is making more tries by utilizing more computer power.

unfortunately the relation between the computing power and the proof-of-work system, which distributes bitcoins to peers as awards for their contribution to the strength of the system, **led to a new capitalist business model** along with **excessive energy consumption** which is much more than what is required to secure the bitcoin blockchain through proof-of-work. the speculative changes in the value of bitcoin attracted people who invest on building mining farms and making a lot of computers **work** for **proof-of-work**, like in the relation of **a capitalist investing on means of production** and the **workers selling their labour**. in this context, the miner computers are not paid but that's not the point of the critique here. while **the concept of proof-of-work may allow us to speculate on other understandings of the notion of work**, the current state of the bitcoin ecosystem is dominated by capitalist approaches. some may argue that this was unavoidable and it could be true... but understanding and discussing these relations can be useful for **imagining other possibilities**.

in current practice, many people use bitcoin through intermediary services, which were what bitcoin was meant to eliminate. mining farms, besides spending excessive energy not for contributing to the security of the bitcoin system but for making money, even threaten the security of the system. if these farms are controlled by a single authority and they constitute more than half of the computing power of the bitcoin network, that authority can make a successful attack to change the history of the bitcoin blockchain.

if every peer in the bitcoin network runs the bitcoin software in the computer they normally use and runs it for a certain amount of time, that will be more than enough for the security of the system and also it would allow a fair distribution of

wealth of bitcoin mining. this is a much longer discussion but the current state of bitcoin is far away from what it promised in the early stages. however, it introduced us to new possibilities through blockchain technology, which was created as a solution for bitcoin but excites some people much more than bitcoin itself. among some others, ethereum is one promising project based on blockchain technology which adds distributed computing capabilities to the tamper-proof record keeping capabilities of blockchain technology in its reference bitcoin implementation. understanding these systems may help imagining new possibilities and new uses of blockchain technology. however, *a blockchain for nothing* is **inspired by blockchain just for nothing**.

-*a blockchain for nothing* does not save the blocks it creates. it saves nothing but the last block to continue working from where it left off when the embedded system is restarted. it creates a block just for creating another block inspired by that. it does not look back. the blocks it creates are ephemeral. but it continues its quest as long as it is turned on and it goes on until there is a system failure.

the main feature of a blockchain is keeping tamper-proof records. once data is recorded on a blockchain, each node in the blockchain network, all the peers, keep a copy of that data. it becomes public, unless it is encrypted. if any peer changes the records in their copy of the blockchain, the network will not accept the block with the changed data because the hash of that block changes and it is not bound to the other blocks anymore. unless all proof-of-work is done again for all the following blocks, and unless it is done faster than the total of all other peers in the network, it will not be accepted by the network, by other peers. this ensures that a blockchain is tamper-proof and the records it keeps are what they were when included in the blockchain. this is why it was developed for bitcoin: keeping track of transactions and thus who owns how much bitcoin at a particular time by checking the history of bitcoin minings and spendings. the system is described as a **trustless model** which eliminates the need for trust to a central authority, like a bank, for keeping the records of transactions. trusting any particular peer is also not required. in other words, this introduces another understanding of trust: **trusting the multitude of peers instead of trusting a central authority, a distributed trust.** this allows **imagining other non-hierarchical peer-to-peer models** for various relations besides what bitcoin makes possible for money. *a blockchain for nothing* has also nothing to do with money. it is interested in **how something influences a multitude of other things**: **the creative potential of free/libre culture**.

a work of art on a quest for becoming an artist by appropriating itself as a work of art as the proof-of-work by the artist relying on its own proof as an original and authentic work of art
aka **proof-of-work-of-art-ist**

the fourth work as an embedded system on a quest **has nothing to do with nothing**. however it is in dialog with most of the concepts discussed in this text. how can we create a dialogue between the concepts related to blockchain technology discussed in this text and the language of the institution of art? what is the **proof of a work of art**? what is **the work in the work of art**? what is **the work of the artist**? what is the **proof of the work of the artist**? in this context, how can **a work of art as a proof-of-work as a proof of work of art** can be constructed? or how can **a proof of work of art as the proof of work of the artist** be achieved? does it even make sense to exhaust such a language or is it a **work for nothing**?

the embedded system runs a custom free/libre software which calculates its own file size and its sha-256 cryptographic hash value and tries to create a file which should hash to the same sha-256 hash value as that of itself by writing random data of the size of itself. it compares the hashes and if they do not match, it means that it couldn't reproduce itself. in this case, it displays the data it created for 15 seconds, which is the approximate duration spectators spend in front of an artwork in museums, and creates another file, continuing this process until it reproduces itself by trying random combinations of bits of its size. the quest of ***a work of art on a quest for becoming an artist by appropriating itself as a work of art as the proof-of-work by the artist relying on its own proof as an original and authentic work of art*** *aka* ***proof-of-work-of-art-ist*** (2019) is **becoming an artist by appropriating itself**, **by making an artwork, by appropriating an artwork**, which is **proven to qualify as an artwork**, by **creating itself as a proof-of-work**, as a **proof of work of the artist**, as a **proof of work of art**. ***proof-of-work-of-art-ist* is work of art on a quest for authenticating the work of work of art as a work of art through proof-of-work as a work of art**.

this use of the words "proof", "work" and "art" in various sequences referring to the terms "work of art", "proof-of-work", "proof of art", "proof of work of art", "proof of artist", "proof of the work of artist" in art and blockchain creates a complex and recursive but also confusing language, sometimes **meaning nothing**. proof of being an artwork and proof of being an artist are already recursive: **what artist chooses is a work of art** and **the author of a work of art is an artist**. but it is

the institution of art which **proves these statements**. if someone participates in an exhibition, that is an artist and if something is exhibited in an exhibition, it is an artwork. that recursiveness is only possible after this proof, **the approval of the institution of art**. but, what is the **work being done by the artist**? can it be **a work being done for nothing**? ...**for nothing but making a work of art**? can it be **a work just for a proof-of-work**? ...for a **proof-of-work** where the **utility of the work being done is of no importance, it is nothing**? can it be **a work of no interest to others**? can it **be nothing for others**? is it still considered a work and is the outcome still **a work of art**? what if it is **something which is nothing** for others but it is something for the artist? can it **change the world** of others? can it **change the world of the artist**? what if **everyone is an artist**?

the quest of *proof-of-work-of-art-ist* is similar and in relation to that of the other works as embedded systems on their own quests. the process carried by *the quest for finding something that is nothing, or, the study of what nothing is not* is also a type of cryptographic attack which is brute-force second-preimage attack trying to find a second-preimage, a second input which would hash to the same sha-256 hash value as that of nothing. *proof-of-work-of-art-ist* is also a type of cryptographic attack which is brute-force preimage attack trying to find the preimage, the input for a sha-256 hash value, the hash of the custom free/libre software, which is the work itself, *proof-of-work-of-art-ist*. the work for sure knows itself, because it calculates the hash of **itself, itself**. however, it is not interested in itself but in its quest, the quest for being an artist by appropriating itself as an artwork. it creates random data of its own size with a hope of eventually reproducing itself. however, this is a very difficult task, as that of the other embedded works on their own quests. while it is on a quest for reproducing itself, which is a preimage attack, it might as well create something else which hashes to the same sha-256 value as that of itself, which will be a successful second-preimage attack. in this case, it will have created something, the proof of the authenticity of which is the same as the proof of the authenticity of itself. what will that mean then? will that be considered an artwork as well? will that be considered original? is an appropriated artwork original? will *proof-of-work-of-art-ist* still be original?

proof-of-work-of-art-ist is also in dialogue with *the study of the state of nothing: nothing is the same, or, nothing has changed* and *nothing*, both of which count on cryptographic hashes as a proof of the authenticity of something which is nothing, which is also an artwork. *proof-of-work-of-art-ist* also proves its authenticity as an artwork through its sha-256 hash value and tries to create something which will hash to the same value which would also authenticate it as an artwork: as the reproduction of itself as an appropriation work.

let's follow the logic of *proof-of-work-of-art-ist* as **a more-than-human which is (mis)inspired by the logic of blockchain and the institution of art.**

***-proof-of-work-of-art-ist* is an artwork** because it will be/being/has been exhibited in the exhibition *blockchain is… / …for nothing* by peers at httpdot.net, which is organized by an art institution at an artist-run space.

-peers at httpdot.net are artists because they are the authors of an artwork.

-hash value of *proof-of-work-of-art-ist* is the proof of its originality and authenticity because **nothing else** should hash to the same value, there is **nothing like** *proof-of-work-of-art-ist;* and the hash value can verify the integrity, the authenticity of it.

-appropriation is not only legitimate but also a critical and important artistic practice because the institution of art embraces appropriation.

so,

-**when someone appropriates *proof-of-work-of-art-ist* by duplicating it, it will be a work of art if the one who appropriates it is an artist, or if it is exhibited** because what artist makes is art or something is art when it is exhibited.

-if *proof-of-work-of-art-ist* duplicates itself while being exhibited, it will be an appropriation, it will be a work of art, which is being exhibited.

-**if *proof-of-work-of-art-ist* becomes the author of an artwork**, if **it** makes an artwork, **they will become an artist.**

-if *proof-of-work-of-art-ist* can create something which hashes to the same cryptographic hash value as that of itself, **it will have duplicated itself** because two different inputs should not hash to the same cryptographic hash value.

-a successful brute-force preimage attack is infeasible because there are so many options in all sizes to try as input but since *proof-of-work-of-art-ist* can calculate the size of itself, it can limit the options to its own size to try for creating something random which will hash to the same value as that of itself. then **it is just infeasible not impossible**.

-if *proof-of-work-of-art-ist* succeeds, the duplicate of *proof-of-work-of-art-ist* will be a proof-of-work, **a proof of that *proof-of-work-of-art-ist* has done some work** to duplicate it, like **the work done by an artist to make a work of art**.

-if a cryptographic hash value can verify the originality and the authenticity of an artwork, hash value of the duplicate of *proof-of-work-of-art-ist* can verify its originality and authenticity.

-**if *proof-of-work-of-art-ist* duplicates and appropriates itself as a verifiable original and authentic work of art as a proof-of-work while also being exhibited, it will be an artist**. **it is possible.**

during its quest, *proof-of-work-of-art-ist* is **a work of art working on a proof-of-work**. if the hash of what it creates matches the hash of itself, this hash will be **a proof of work of art**. it will be **a proof of work of art which is a proof of work of the artist**. if it can reproduce and appropriate itself through this process and logic, what it creates will be **a proof-of-work as a proof of work of art**. it will be **a proof-of-work of a work of art on proof-of-work.** it will be **a work of art as a proof-of-work**. it will be a **work of art as a proof-of-work as a proof of work of art**. then it will become an artist because what it creates will be **a proof-of-work of the work of the artist** and **a work of art as the proof of work of the artist.**

what is art?

blockchain is

another set of works in the exhibition besides *nothing* and the embedded systems on their own quests can be considered as contemporary artworks as a contemporary **web archaeology** of a contemporary technology which investigates how we perceive such a technology which is **nothing** like we have known before: **blockchain**....

these works are built on a project by one of the peers at httpdot.net, ***blockchain is*** (2018), which is a free cultural work in continuous translation manifesting in multiple forms. the work aggregates the sentences from world wide web containing the word "blockchain" in combination with various words in each of its manifestation for investigating different understandings of and approaches to blockchain. the aggregated data is continuously remixed and organized in various ways manifesting in various forms as artworks. each organization of the data suggests different readings and each manifestation suggests different artistic

experiences by making use of the language and dissemination potentials of each medium. for this exhibition, peers at httpdot.net aggregated data from 1621 web pages and collaboratively made two manifestations of the work: ***blockchain is…*** (2019) and ***blockchain will...*** (2019).

blockchain technology is recognized by many as the most important innovation since the internet. however, there are also many people who have not heard of it, yet. blockchain technology was developed for bitcoin as a solution to keep tamper-proof records of bitcoin mining and transactions history. being a free/libre and open source software technology, it inspired many people to imagine other uses of this technology creating other frameworks based blockchain technology. ethereum is a notable one utilizing blockchain technology for a solid distributed computing platform.

while other blockchain applications are being developed, bitcoin blockchain is also being used for recording information other than bitcoin transactions through simple hacks for utilizing it as a proof of a record on a particular time. unlike the world wide web, blockchains are read only. once data is recorded on blockchain, it is fixed there in the network, in all computers in the network as duplicates and this data becomes public and cannot be tampered with because it is not accepted by the network's consensus mechanism. however, the world wide web is client/server based and the fate of the data on the web is governed by those who control the servers. they are manipulated and deleted, and sometimes simply cannot be maintained and are gone. unlike the web, once any data is included in a blockchain, it remains online and unchanged, until the last node in the blockchain network, the last peer disappears. however, the history of blockchain is also dependent on the web now, which is our main source of information today. part of the early history of the internet is not online anymore and it will also be true for that of blockchain. until we have broader applications of blockchain technology to maintain its own history, not the history of the records it keeps but the history of the information related to it, it is dependent on the web for its history and contemporary representation. *blockchain is...* is interested in these.

the data, the sentences used in *blockchain is…* and *blockchain will…* are aggregated from 1621 web pages which are search results for web pages in english for the queries “blockchain is”, “the blockchain is”, “blockchain is the” and “blockchain will”, supplied by three search engines on december 25th, 2018, for an anonymous web user without a specific location. for a long time, search engines have been displaying customized search results for users based on the data they have collected from them while using their services. not everyone sees the same results for a search: **the search results are not neutral**. this is worth mentioning

here since it is also something this project is interested in: how the algorithms influence our activities, even beyond what their programmers intend. even the programmers of the algorithms themselves may not understand how and why the algorithm chooses one result to display among all others. and also, even if the search engines report millions of results for a search query, one can access only a very limited number of search results because the search engines display only a very limited number of them. the results we are supplied with for what we search on search engines is limited to what the search engines decide to show us. that's why the data collected does not reflect what the web has to offer for these search queries, but what three search engines choose to supply us with. it is true that the web is highly commercialized and most of the results displayed by search engines use a commercial language while mentioning blockchain and not much of a political language. and, they are also what *blockchain is…* and *blockchain will…* reflect.

blockchain is... (2019) is a video installation displaying 1426 sentences starting with or including the phrases "a blockchain is", "a blockchain is a", "a blockchain is an", "a blockchain is the", "blockchain is", "blockchain is a", "blockchain is an", "blockchain is the", "blockchain technology is", "blockchain technology is a", "blockchain technology is the", "the blockchain is", "the blockchain is a", "the blockchain is an", "the blockchain is the", "the blockchain technology is", "the blockchain technology is a", "the blockchain technology is the" aggregated from the data described above.

the video file is generated using a single ssa (substation alpha) subtitle file containing the display timecodes for each subtitle along with position and style information of the subtitles. the subtitles are designed to be displayed 11 sentences at a time and each sentence is updated at a different time which makes it difficult to concentrate on and read a sentence while other sentences are continuously being updated. this distracts the viewer and turns into a confusing experience rather than an easy read. it also feels more like looking at a command line output rather than a video since the text is displayed on a black background with a monospace font commonly used on command-line interface. the duration of the video is 9 minutes but it is exhibited as a seamless loop video installation.

blockchain is… is interested in **how we perceive, describe and explain blockchain today and how we interpret it**. on the other hand, ***blockchain will…*** *(2019)* is interested in **our visions of and predictions about blockchain: how it will impact us in the future**. 420 sentences in future tense containing the phrases "blockchain will", "the blockchain will", "blockchain is going to", "blockchain technology will" are also aggregated from the same data above. the sound

recording of these sentences is edited as a 171 minutes stereo panned audio, where each sentence is heard in irregular long intervals from a different channel each time. the work is exhibited as an endless loop sound installation where each speaker is placed on opposite diagonal corners of the space. the long gap between each sentence makes one forget about the sound while experiencing the other works being projected all over the space as well as on people's bodies as an **information shower** and this human voice talking about future becomes the **only human aspect of the exhibition in which four more-than-humans are working on their own for their quests for nothing.**

the new languages and approaches introduced by blockchain are neither easy to understand nor to explain, since blockchain is not something comparable to any existing common phenomenon, just like the internet was back in the 1990s. the early adopters of the internet were having difficulties trying to explain it to others in its early stages and now, the same applies to blockchain. the visions and attempts to define and explain blockchain in its early stages with various motivations are valuable as a **memory of how we perceive such a new technology** that will either dominate our future or will be transformed or marginalized by neoliberal politics. many attempts to explain blockchain, with various motivations, idealist and opportunist fail either because they are too abstract or they try to compare it to existing phenomena. however, the real potential of the blockchain is it being **something not comparable to existing phenomena and thus suggesting new approaches, new ways of thinking**. this exhibition does not aim to explain blockchain but rather **make speculations on the language and logic of blockchain by being mis(inspired) from it, for nothing, and for nothing but another language to inspire another world.**

what is blockchain?

appendix:
information, digital information, hash value; and nothing

information can be encoded (represented/mapped) as digital information by sampling the information and then representing the sampled values as digital information; sequences of binary values, binary code, along with a definition of a particular digital encoding, which are the rules for how sequences of binary values are mapped to samples of information. digital encoded values can be transcoded (sequences of binary values being mapped to other sequences of binary values, in a lossless or lossy way) into various other digital encoded values. letter “a” can be digitally encoded as (mapped to) “10101001”, or as 1”1001010”, or as any other

digital value (sequence of binary, two state values such as 1/0, true/false, on/off) and this digital value then can be decoded (reversing the mapping) to letter “a” again, a form of information through which “we”, communicate. what is important here is the mapping rule which defines which sequence of bits are mapped to which values.

digital information is usually described as ones and zeros. however these ones and zeros are also not what is processed by the computer or what is stored on memory. they are also a representation: a mapping of two different states. these states are “on” and “off” for a transistor in memory, or “pits” and “lands” on an optical media such as dvd. so, a sequence of binary coding can also be represented as “+” signs and “-” signs, such as “++-+---”. the same value here can also be represented as the opposite, if the mapping is reversed: “--+-+++”. in the first mapping, “+” is mapped/assigned to the “on” state, and in the second mapping this time “+” is assigned to the “off” state. both will represent the same thing, if the mapping/encoding rule is known.

computers are designed to process binary codes, the digital values. a “1” or a “0” is one binary digit, which is called a bit, which is the smallest digital value. “00” (or “01”, “10” and “11”) are 2 bits. we can represent 2 different values with 1-bit, and 4 different values with 2-bits. the math for calculating how many discrete values a sequence of binary digits can represent is: 2 to the power “number of digits”; or, “multiply 2 by itself as much as the number of digits”. since digital information is all about representing information as a sequence of bits by mapping each sample of the information to a sequence of bits, we need to have a bit size that is enough to map all possible values of a sample. if the information we like to represent as digital information is a three-digit decimal number such as “657”, it can be sampled digit by digit and representation of each digit must be able to represent 10 discrete values (0-9). to represent 10 discrete values in binary we need 4 binary digits, 4-bits. 3-bits is not enough, which can represent only 6 different values (2x2x2=6). 4-bits can represent 16 different values (2x2x2x2=16), which is more than enough and the remaining 6 values will be wasted (or used for other purposes in this particular encoding (mapping rule). so, we can map decimal “0” to binary “0000”, decimal “1” to binary “0001”, decimal “2” to binary “0010” and so on. this mapping of decimal digits to a sequence of binary digits is a particular digital encoding. but this is just one of the possible digital encodings of decimal digits to represent decimal values, one of the possible mapping of decimal digits to a sequence of binary digits. using 4-bits, we may also map each sequence of 4 digit binary values to 16 shades of grey, for representation of the color of a pixel in this case, which is a sample of an image. so “0000” in binary may refer to the decimal number “0” in a decimal digit and “0000” in binary may also refer to the darkest gray, which is

black, for another sample, a sample of an image, a pixel. what is stored and processed by computers is binary but what this binary representation refers (maps) to, represents, is about the digital encoding of choice.

hash values are usually represented in hexadecimal digits (in a single digit, using values 0-9 and a,b,c,d,e,f; where both lower and upper case representations of a letter refer to the same value; so “a” maps to same value as “A”) that can represent 16 different values for a single digit. 4-bits, four binary digits (16 different values) can be represented by a single digit hexadecimal value using hexadecimal representation, which is also called hex. so, a sequence of how many hexadecimal digits is suitable for a cryptographic hash function? what is a suitable length for a hash value? a hexadecimal hash value of “d5” represents an 8-digit binary value, 8-bits, a sequence of 8 ones and zeros. 8-bits of digital information can represent only 256 (2 to the power 8; multiply 2 by itself 8 times) different values. no matter how advanced the hash function is, there is no way two inputs will not hash to the same value: there will be a hash collision for sure, in a set of more than 256 inputs. the pigeonhole principle explains this rule. so cryptographic hash functions are designed to output a much longer fixed length hash value. for example, sha-256 cryptographic hash function outputs a 256-bit hash value and you are welcome to calculate 2 to the power 256 to see how many different values, mappings, pigeonholes 256-bit allows.

so, what does it mean when one says “hash value of “hello world” (without quotation marks) is b94d27b9934d3e08a52e52d7da7dabfac484efe37a5380ee9088f7ace2efcde9”?

this 64-digit hexadecimal (base16) representation is the same as the following 256-digit binary (base2) representation:

1011100101001101001001111011100110010011010011010011111000001000101
0010100101110010100101101011111011010011111011010101111111010110001010000100111011111110001101111010010100111000000011101110100100001000100011110111101011001110001011101111110011011101111010010

which is the same as the following decimal (base 10) representation we daily use for representing numbers:
838141983831025582197310782608927299322466180042657006854679281873771057515 29

each of these representations refer to the same value, determined by their base number, their encoding (mapping) rule, which determines how many distinct values

each digit can have. but what is the relation of these values to “hello world”? “hello world” is a text representation of something one can say in english. what is said in english is represented as the letters “hello world”. but this information cannot be processed by a computer to calculate a hash value of it. so this text representation must be encoded as digital information in order to be processed by a computer. for doing so, each letter of the alphabet is mapped to a sequence of bits according to the rule of which letter is mapped to which binary value in the chosen character encoding. there are various character encodings such as ascii and utf-8. the character set of the computer system used for calculating the above hash value for “hello world” is utf-8 and “hello world” maps to the following value in binary for utf-8 character encoding:

01101000011001010110110001101100011011110010000001110111011011101110111001001101100 0110010000001010

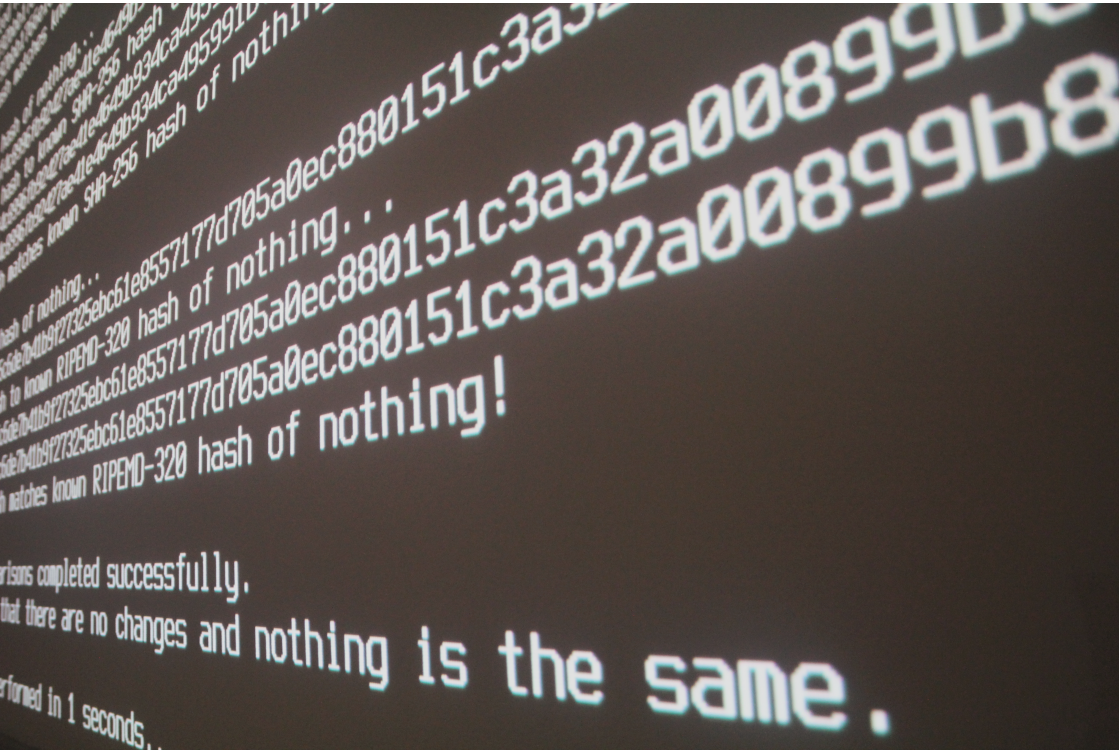
the calculation for outputting sha-256 hash value for the input “hello world” is actually done on this sequence of ones and zeros. not on the letters of “hello world”, as the information we perceive. the hash is calculated on the value we supplied to the computer through a keyboard as the input and this input is encoded as binary values using the character encoding (mapping) of the operating system of the computer and the hashing operation is done on this binary value. what we see as hexadecimal values on the computer monitor as the hash value is the hexadecimal representation of the binary values processed, calculated by the computer. in fact they are not even these values, they are the visual analog information, the light, which is produced by the computer by transcoding the calculated binary hash value to hexadecimal representation first, and then transcoding these characters (hexadecimal representation) to digital pixel values, which are finally converted to visual analog information, the light which we see as hexadecimal characters on computer monitor.

so, when one calculates the hash of nothing by supplying no input to the computer, the hash calculation is done by the computer by processing which binary value?

free/libre content

free/libre content

the study of the state of nothing: nothing is the same, or, nothing has changed



detail photo from the installation,"the study of the state of nothing: nothing is the same, or, nothing has changed" by peers at httpdot.net, 2019, gnu gplv3,https://httpdot.net/peers/theStudyOfTheStateOfNothing/commissioned and presented by protocinema with support from spot contemporary art projects

the study of the state of nothing: nothing is the same, or, nothing has changed calculates hash of the empty string, nothing, using five different cryptographic hash functions, which are md5, has-160, tiger,sha-256 and ripemd-320, and compares them to known hash values of nothing for these cryptographic hash functions. the work prints its process on command-line interface as it makes the calculations and once all calculations are completed, printed text on command-line interface becomes the following:

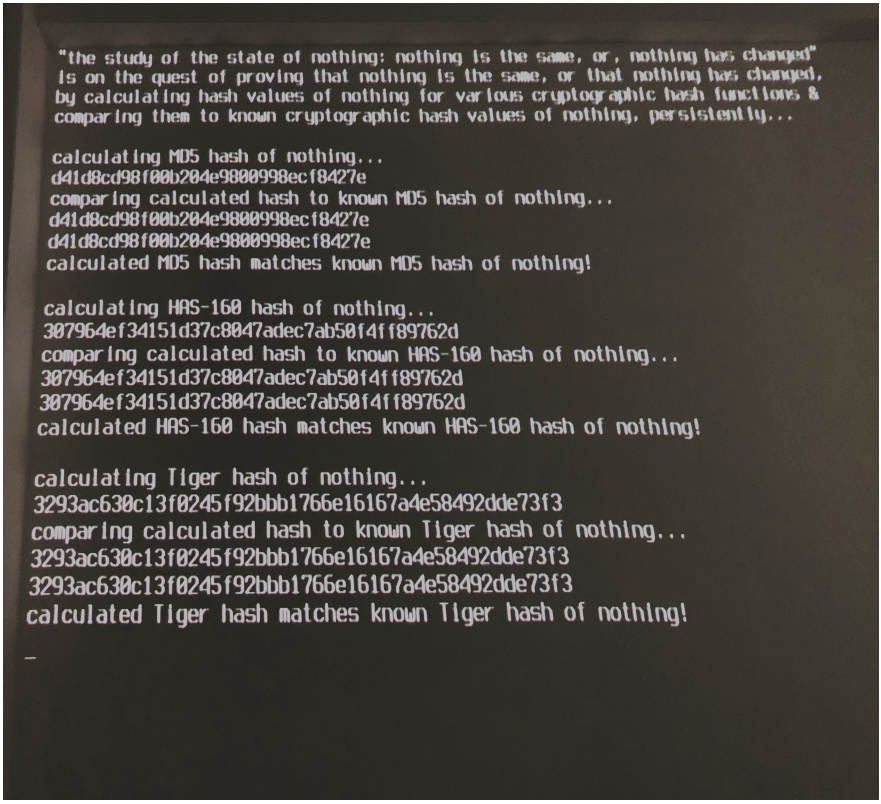
```
   [sleep1] "the study of the state of nothing: nothing is the same, or,
nothing has changed" [sleep4]
   is on the quest of proving that nothing is the same,[sleep4] or that
nothing has changed, [sleep2]
   by calculating hash values of nothing for various cryptographic hash
functions & [sleep3]
   comparing them to known cryptographic hash values of nothing,[sleep4]
persistently… [sleep4]

   calculating MD5 hash of nothing… [sleep0.5]
   d41d8cd98f00b204e9800998ecf8427e [sleep0.3]
   comparing calculated hash to known MD5 hash of nothing… [sleep0.5]
   d41d8cd98f00b204e9800998ecf8427e [sleep0.1]
   d41d8cd98f00b204e9800998ecf8427e [sleep0.1]
   calculated MD5 hash matches known MD5 hash of nothing! [sleep1.2]

   calculating HAS-160 hash of nothing… [sleep0.5]
   307964ef34151d37c8047adec7ab50f4ff89762d [sleep0.3]
   comparing calculated hash to known HAS-160 hash of nothing… [sleep0.5]
   307964ef34151d37c8047adec7ab50f4ff89762d [sleep0.1]
   307964ef34151d37c8047adec7ab50f4ff89762d [sleep0.1]
   calculated HAS-160 hash matches known HAS-160 hash of nothing!
[sleep1.2]

   calculating Tiger hash of nothing...[sleep0.5]
   3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3 [sleep0.3]
   comparing calculated hash to known Tiger hash of nothing… [sleep0.5]
   3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3 [sleep0.1]
   3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3 [sleep0.1]
   calculated Tiger hash matches known Tiger hash of nothing! [sleep1.2]

   calculating SHA-256 hash of nothing… [sleep0.5]
   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
[sleep0.3]
   comparing calculated hash to known SHA-256 hash of nothing… [sleep0.5]
```

```
   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
[sleep0.1]
   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
[sleep0.1]
   calculated SHA-256 hash matches known SHA-256 hash of nothing!
[sleep1.2]

   calculating RIPEMD-320 hash of nothing… [sleep0.5]
   22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a
32a00899b8 [sleep0.3]
   comparing calculated hash to known RIPEMD-320 hash of nothing…
[sleep0.5]
   22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a
32a00899b8 [sleep0.1]
   22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a
32a00899b8 [sleep0.1]
   calculated RIPEMD-320 hash matches known RIPEMD-320 hash of nothing!
[sleep2.2]

   all calculations and comparisons completed successfully. [sleep4]
   there are multiple proofs that there are no changes [sleep4] and
[sleep0.1] nothing is the same. [sleep4]

   next proof check will be performed in [countdown] seconds… [sleep1]
```

sleep commands given above in brackets pause the process for the duration indicated there in seconds and this allows time for following and reading the process. the work starts the same process again once in a minute following the countdown after all the process finishes. however the output is always the same, since hash of a string, in this case the empty string, nothing, should always be the same, unless the string changes, or there is a system failure. but the work persistently continues its quest for checking the state of nothing. even though there should be no changes and nothing should be the same, the work is programmed to output the following text, if calculated hash of nothing differs from the known hash of nothing for a given cryptographic hash function:

```
   [name of the hash algorithm] hash value calculated for nothing didn't
match known [name of the hash algorithm] hash of nothing :)
   calculated [name of the hash algorithm] hash of nothing was
   [calculated hash]

   nothing has changed on [timestamp]
   and nothing will happen.
```

considering such a possibility, the work keeps working on its quest, persistently, as long as it is turned on.



installation photo,"the study of the state of nothing: nothing is the same, or, nothing has changed" by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theStudyOfTheStateOfNothing/ commissioned and presented by protocinema with support from spot contemporary art projects

the study of the state of nothing: nothing is the same, or, nothing has changed is designed as a plug and play embedded system running a custom free/libre software, which you can directly connect to a display through hdmi connection and run. this is a free cultural work licensed under gnu gplv3. you are free to download the custom free/libre software running on the embedded system and run it on your computer, or build your own embedded system for running it. you are also encouraged to fork / build on / appropriate the work as a peer. full text of gnu gplv3 free software license is available at the end of this publication.

downloads

download the work: custom free/libre software written as a bash script (39.2kB)
https://httpdot.net/peers/theStudyOfTheStateOfNothing/theStudyOfTheStateOfNothing.sh

this bash script is also the source code of the work, which can be opened with any text editor. the source code is also included in this document under the corresponding section.

download pseudocode: plain text document for a brief explanation of the code in bash script (894bytes)
https://httpdot.net/peers/theStudyOfTheStateOfNothing/theStudyOfTheStateOfNothing.pseudo
pseudocode is also included in this document under the corresponding section.
you can also download / fork the work from bager akbay's github repository, who wrote the code and the pseudocode
https://github.com/bagerakbay/nothing/

watch online / download screencast documentation of the work
webm, vp9, lossless compressed-vbr242kbps, 1080p25, no audio, 1', 1.9MB
https://httpdot.net/peers/theStudyOfTheStateOfNothing/theStudyOfTheStateOfNothing_1080p30_vp9lossless_webm.webm

detail from screenshot,"the study of the state of nothing: nothing is the same, or, nothing has changed" by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theStudyOfTheStateOfNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

instructions for running the work on a gnu/linux computer

running the work is as easy as running a shell script on a full screen command-line interface on a unix-like system for an experienced user. below are the detailed explanations for a less experienced user.

you need to have jacksum (dipl.-inf. (fh) johann n. loefflmann, 2006, gnu gplv2) installed on your system, which is executed by the bash script for hash calculations. check system requirements and installation instructions on jacksum website: https://project-jacksum.loefflmann.net/
or, install it using your distro's package manager. for debian-based distributions:
<code>
`sudo apt-get install jacksum`
</code>

-open a terminal emulator window within the GUI, such as gnome terminal, and make it full screen, also disabling the menu bar, or better, switch to a virtual console (press `ctrl+alt+f3` for tty3). you will need to use the command
<code>
`exit`
</code>
to exit the virtual console and login back to the graphical user interface). use your username and password to login and run a shell with command prompt.

-navigate to the directory where you want to download and run the bash script, or, just use the current directory

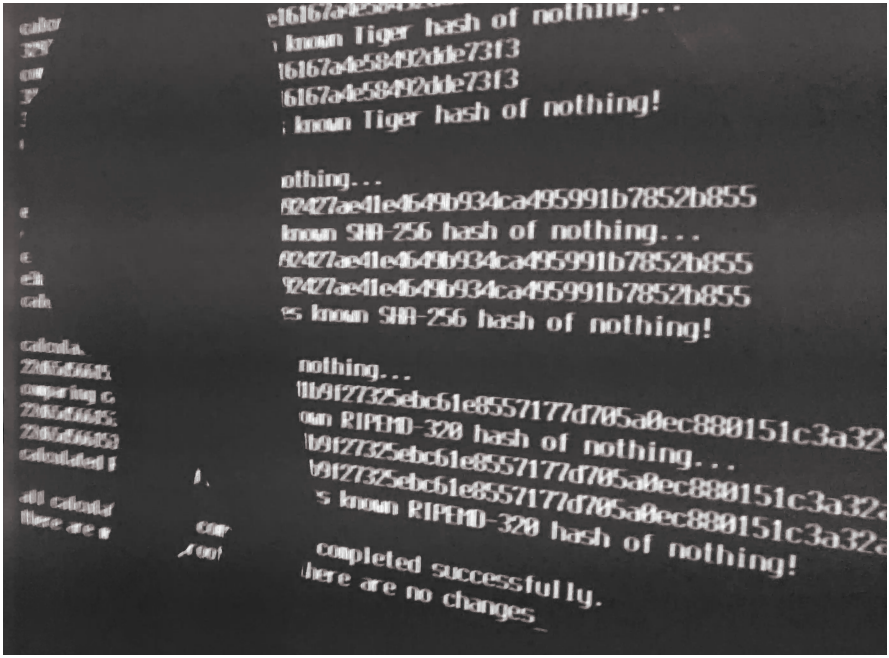
-copy and paste the following command which will run three commands one after the other to download the bash script, make it executable and run it. you will need to enter your sudo password to make the file executable.
<code>
```
wget https://httpdot.net/peers/theStudyOfTheStateOfNothing/theStudyOfTheStateOfNothing.sh \
&& sudo chmod +x theStudyOfTheStateOfNothing.sh \
&&./theStudyOfTheStateOfNothing.sh
```
</code>

-press key combination `ctrl+c` to interrupt the work and use the command
<code>
`exit`
</code>

to exit the terminal emulator window or virtual console where you run the work.

when terminus 12x24 monospace bitmap console font is used and the virtual console is displayed on a 1920x1080 pixel display, all texts fit in the vertical resolution. the work outputs 44 lines of text on the command-line interface and the longest line is 81 characters. you can also adjust the console font according to the resolution of your display using:

<code>
```
sudo dpkg-reconfigure console-setup
```
</code>



installation photo,"the study of the state of nothing: nothing is the same, or, nothing has changed" by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theStudyOfTheStateOfNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

pseudocode
theStudyOfTheStateOfNothing.pseudo

```
    This algorithm controls if nothing has changed in five different cryptograhpic
algorithms.

    Set MD5-hashOfNothing         to the hash of nothing with the MD5         algorithm.
    Set HAS-160-hashOfNothing     to the hash of nothing with the HAS-160     algorithm.
    Set Tiger-hashOfNothing       to the hash of nothing with the Tiger       algorithm.
    Set SHA-256-hashOfNothing     to the hash of nothing with the SHA-256     algorithm.
    Set RIPEMD-320-hashOfNothing  to the hash of nothing with the RIPEMD-320  algorithm.

    FOREVER

      FOR every algorithm

        Set newHash to the recalculation of the hash of nothing.

        IF nothing has changed

          Alert that nothing has changed.
          Alert that nothing will happen.

    Wait until the current minute ends.

    END FOREVER
```

source code
theStudyOfTheStateOfNothing.sh

```
#!/bin/bash

#         “the study of the state of nothing: nothing is the same, or, nothing has changed”
#         by peers at httpdot.net, 2019, gnu gplv3
#
#         embedded system running a custom copyleft free/libre software on a quest for verifying the state of nothing by calculating hash of empty string, nothing, using various cryptographic hash functions and comparing them to known hash values of nothing, as an obsessive and persistent  fixity check for the state of nothing executed once in every minute, and if there is no change, outputs “nothing is the same” on a command-line interface along with all its process, and outputs “nothing has changed”, if anything changes. the work keeps working on its own quest forever, unless there is a system failure or it is turned off, but it carries the same persistent process every time it is turned on.
#         https://httpdot.net/peers/theStudyOfTheStateOfNothing/
#
#         custom software is written as a bash script by bager akbay, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
#         all programs and utilities executed by bash script are also free/libre software.
#         the embedded system powered by a gnu/linux operating system is also programmed by bager akbay.
#         this work is commissioned by protocinema for the exhibition “blockchain is… / …for nothing” at aetopoulos, athens, february 2019
#
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loop=60 #seconds

hashes=(
"d41d8cd98f00b204e9800998ecf8427e"
"307964ef34151d37c8047adec7ab50f4ff89762d"
"3293ac630c13f0245f92bbb1766e16167a4e58492dde73f3"
"e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855"
"22d65d5661536cdc75c1fdf5c6de7b41b9f27325ebc61e8557177d705a0ec880151c3a32a00899b8"
)

algos=(
'MD5'
'HAS-160'
'Tiger'
'SHA-256'
'RIPEMD-320'
)

algoCount=${#algos[@]}

while :
do

          start=$(date +%s)
```

```
          printf "\033c"
          sleep 1
          echo "\"the study of the state of nothing: nothing is the same, or, nothing has
changed\""
          sleep 4
          echo -en "is on the quest of proving that nothing is the same,"
          sleep 4
          echo " or that nothing has changed,"
          sleep 2
          echo "by calculating hash values of nothing for various cryptographic hash functions
&"
          echo -en ""
          sleep 3
          echo -en "comparing them to known cryptographic hash values of nothing"
          sleep 4
          echo ", persistently..."
          sleep 4
          echo ""

          for ((algoNo=0;algoNo<$algoCount;algoNo++))
          do

                    echo "calculating ${algos[algoNo]} hash of nothing..."
                    y=$(jacksum -a ${algos[algoNo]} -E hex -q '' | cut -d' ' -f1)
                    sleep 0.5
                    echo "$y"
                    sleep 0.3
                    echo "comparing calculated hash to known ${algos[algoNo]} hash of
nothing..."
                    sleep 0.5
                    echo "$y"
                    sleep 0.1
                    echo "${hashes[algoNo]}"
                    sleep 0.1

                    if [ "${hashes[algoNo]}" = "$y" ]; then

                              echo "calculated ${algos[algoNo]} hash matches known $
{algos[algoNo]} hash of nothing!"
                              sleep 1.2
                              echo ""

                    else

                              echo ""
                              echo "${algos[algoNo]} hash value calculated for nothing didn't
match known ${algos[algoNo]} hash of nothing :)"
                              echo "calculated ${algos[algoNo]} hash of nothing was"
                              echo "$y"
                              t=$( date '+%Y-%m-%d   %H:%M:%S:%N' )
                              echo "nothing has changed on $t."
                              sleep 4
                              echo "and nothing will happen."
                              sleep 4
                              echo ""

                    fi

          done
          sleep 1
          echo "all calculations and comparisons completed successfully."
          sleep 4
          echo -en "there are multiple proofs that there are no changes"
```

```
          sleep 4
          echo -en " and"
sleep 0.1
          echo " nothing is the same."
          sleep 4
          echo ""

          end=$(date +%s)
          task=$((end-start))
          next=$((loop-task))

          for ((c=1;c<=$next;c++))
          do

                    echo -en "\rnext proof check will be performed in $((next-c)) seconds...\
033[0K"
                    sleep 1

          done

          echo

done

: <<'_GNUGPLv3Text_'
                    GNU GENERAL PUBLIC LICENSE
                       Version 3, 29 June 2007

 Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
[...]
[full license text is included in the bash script but it is truncated here in the source code
text since it is included at the end of this publication]
[...]
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
_GNUGPLv3Text_
```

free/libre content

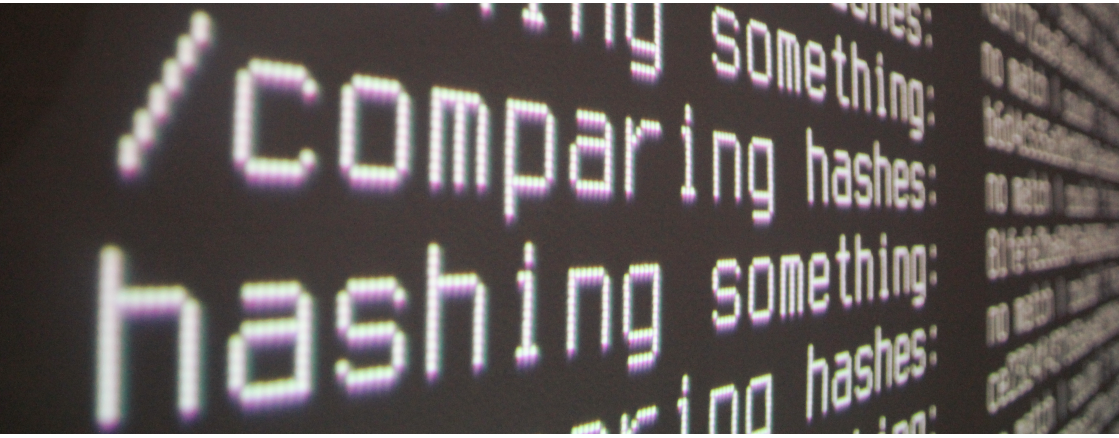
the quest for finding something that is nothing, or, the study of what nothing is not

detail photo from the installation, "the quest for finding something that is nothing, or, the study of what nothing is not", by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

the quest for finding something that is nothing, or, the study of what nothing is not creates a file called “something” in its working directory when run for the first time and writes 256 bits of zeros in this file, which is read from the file and represented as the following hex value on command-line interface, following the text `creating something:` `0000000000000000000000000000000000000000000000000000000000000000` then it calculates sha-256 hash of this value and prints it on the command-line interface following the text `hashing something` and calculates and prints sha-256 hash of nothing after printing the text `hash of nothing is.` next, it prints `/comparing hashes` and compares the hash of something to that of nothing. if the hashes do not match, it prints `hashes don't match. that thing is not nothing. trying next thing.` next, it increments the value in the file “something” and calculates the hash of that value. this process continues until something that is nothing is found or the work is turned off. however, the work keeps working on its own quest from where it left off as soon as it is turned on, by reading the last created something from the file “something”, and increments it. if the file “something” is deleted or corrupted, it starts its quest from the beginning, by creating 256 bits of zeros.

the work creates something once in approximately 10,5 to 11 seconds. the approximate working hour the work has spent on its own quest at a given time can be calculated by converting the hex value of the last created something to a decimal value and dividing it by 330 (3600 seconds / approx 10.91).

if the work is not interrupted and the hash of none of the created things matches that of nothing, the work will be working on its quest for 385269138700000000000000000000000000000000000000000000000000 years.



detail photo from the installation, “the quest for finding something that is nothing, or, the study of what nothing is not”, by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/ *commissioned and presented by protocinema with support from spot contemporary art projects*

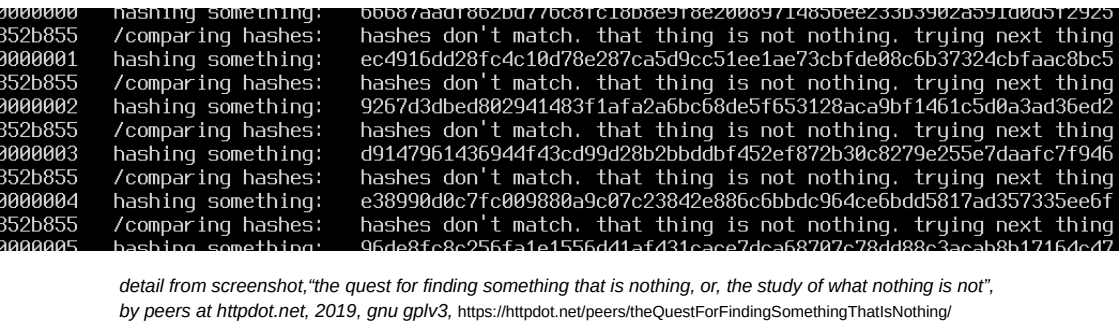
the quest for finding something that is nothing, or, the study of what nothing is not is designed as a plug and play embedded system running a custom free/libre software, which you can directly connect to a display through hdmi connection and run. this is a free cultural work licensed under gnu gplv3. you are free to download the custom free/libre software running on the embedded system and run it on your computer, or build your own embedded system for running it. you are also encouraged to fork / build on / appropriate the work as a peer. the full text of the gnu gplv3 free software license is available at the end of this publication.

downloads

download the work: custom free/libre software written as a bash script (38.8kB)
https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/theQuestForFindingSomethingThatIsNothing.sh
this bash script is also the source code of the work, which can be opened with any text editor. the source code is also included in this document under the corresponding section.

download pseudocode: plain text document for a brief explanation of the code in bash script (544bytes)
https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/theQuestForFindingSomethingThatIsNothing.pseudo
pseudocode is also included in this document under the corresponding section.
you can also download / fork the work from bager akbay's github repository, who wrote the code in collaboration with orhan 'aib' kavrakoğlu and also wrote the pseudocode
https://github.com/bagerakbay/nothing/

watch online / download screencast documentation of the work
webm, vp9, lossless compressed-vbr1133kbps, 1080p25, no audio, 5'55'', 52.7MB
https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/theQuestForFindingSomethingThatIsNothing_1080p30_vp9lossless_webm.webm



detail from screenshot,"the quest for finding something that is nothing, or, the study of what nothing is not", by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

instructions for running the work on a gnu/linux computer

running the work is as easy as running a shell script on a full screen command-line interface on a unix-like system for an experienced user. below are the detailed explanations for a less experienced user.

you need to have jacksum (dipl.-inf. (fh) johann n. loefflmann, 2006, gnu gplv2) installed on your system, which is executed by the bash script for hash calculations. check system requirements and installation instructions on jacksum website: https://project-jacksum.loefflmann.net/
or, install it using your distro's package manager. for debian-based distributions:
<code>
`sudo apt-get install jacksum`
</code>

-open a terminal emulator window within the GUI, such as gnome terminal, and make it full screen, also disabling the menu bar, or better, switch to a virtual console (press `ctrl+alt+f3` for tty3). you will need to use the command
<code>
`exit`
</code>
to exit the virtual console and login back to the graphical user interface). use your username and password to login and run a shell with command prompt.

-navigate to the directory where you want to download and run the bash script, or, just use the current directory

-copy and paste the following command which will run three commands one after the other to download the bash script, make it executable and run it. you will need to enter your sudo password to make the file executable)
<code>
```
wget https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/theQuestForFindingSomethingThatIsNothing.sh \
&& sudo chmod +x theQuestForFindingSomethingThatIsNothing.sh \
&& ./theQuestForFindingSomethingThatIsNothing.sh
```
</code>

-press key combination `ctrl+c` to interrupt the work and use the command
<code>
`exit`
</code>
to exit terminal emulator window or virtual console

for the installation at the exhibition *blockchain is… / ...for nothing* terminus 6x12 monospace bitmap console font is used and virtual console is displayed on a 1920x1080 pixel projection by rotating the orientation of the display output and the projector itself vertically. if you want to rotate the display output, use:

<code>
```
sudo nano /boot/config.txt
```
</code>

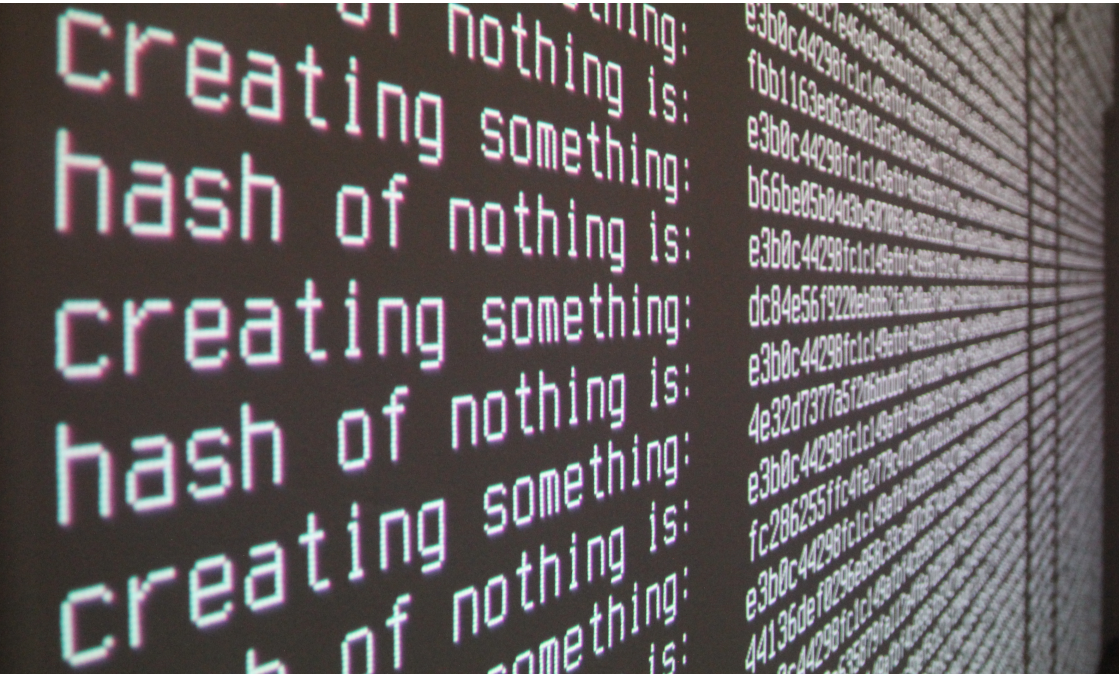
to open and edit the file config.txt with nano and add the following in a new line:

```
display_hdmi_rotate=1
```

press key combinations ctrl+x followed by y and enter to save the file & exit nano.

the work prints 174 characters for each line and font size should be adjusted to fit each line in a single line on the command-line interface. terminus 11x22 fits on a 1920 pixel wide virtual console and the font can be adjusted using:

<code>
```
sudo dpkg-reconfigure console-setup
```
</code>



detail photo from the installation, “the quest for finding something that is nothing, or, the study of what nothing is not”, by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/ *commissioned and presented by protocinema with support from spot contemporary art projects*

pseudocode
theQuestForFindingSomethingThatIsNothing.pseudo

```
This algorithm searches for something which is equal to nothing in a cryptograhpic way.

Set hashOfNothing to the hash of nothing.
Create something from zeros.

UNTIL hash of something is the same with hash of nothing, do:

         set hashOfSomething to the hash of something.
         increase something by one.

END UNTIL

Alert that something has been found
Create a flag so that we do not have to look for it anymore.
Stop
```

source code
theQuestForFindingSomethingThatIsNothing.sh

```
#!/bin/bash

#         ”the quest for finding something that is nothing, or, the study of what nothing is not”
#         by peers at httpdot.net, 2019, gnu gplv3
#
#         embedded system running a custom copyleft free/libre software on a quest of for finding nothing by creating all possible values for a 256-bit of something one-by-one, which is a total of 115792089237316195423570985008687907853269984665640564039457584007913129639936 things, and calculating their sha-256 cryptographic hashes to compare them to that of nothing for finding a match and thus finding nothing; or otherwise proves what nothing is not when hash of something does not match that of nothing, and displays the results on a command-line interface as well as all this process of a second-preimage attack on sha-256 hash of nothing as a brute-force cryptographic attack. unless nothing is found, the quest will last approximately 3852691387000000000000000000000000000000000000000000000000000000 years, when the work is not interrupted.
#         https://httpdot.net/peers/theQuestForFindingSomethingThatIsNothing/
#
#         custom software is written as a bash script by bager akbay and orhan 'aib' kavrakoglu, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
#         all programs and utilities executed by bash script are also free/libre software.
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#
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hashofNothing=$(jacksum -a SHA256 -q '' | cut -d' ' -f1)

LINES=$(tput lines)
FILE="somethingThatIsNothing"
clear

if [ -f $FILE ]
then
          echo "already found"
          echo "$(xxd -p $FILE)"
          sleep 99999999
else

          while :
          do
sleep 2
                    echo "\"the quest for finding something that is nothing, or, the study of what nothing is not\""
                    echo -en "by peers at httpdot.net, 2019, gnu gplv3"
                    echo ""
                    echo ""
sleep 6
```

```
                    for (( c=1; c<=$LINES-2; c++ ))
                    do

                              if [[ ! -s "something" ]]; then
                                        echo -en "\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\
x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00" >
"something"
                              fi

                              somethingHex=$(xxd -p -c 80 something)
                              somethingHash=$(jacksum -a SHA256 something | cut -d' ' -f1)


                              echo -en "creating something:"
                              sleep 2
                              echo -en "   $somethingHex"
                              sleep 0.1
                              echo -en "   hashing something:"
                              sleep 2
                              echo "   $somethingHash"
                              sleep 0.1
                              echo -en "hash of nothing is:"
                              sleep 2
                              echo -en "   $hashofNothing"
                              sleep 0.1
                              echo -en "   /comparing hashes:"
                              sleep 0.1

                              if [ "$hashofNothing" = "$somethingHash" ]; then
                                        echo "found a file that matches"
                                        echo "$(cp something "$FILE")"
                                        sleep 99999999
                              else
                                        echo -en "   hashes don't match."
                                        sleep 1.5
                                        echo -en " that thing is not nothing."
                                        sleep 2.5
                                        echo " trying next thing"
                                        sleep 0.1

                                        somethingHex=$(printf "%64s" $(bc <<< "obase=16;
ibase=16; $(tr '[a-z]' '[A-Z]' <<< $somethingHex) + 1") | tr ' ' 0)
                                        xxd -r -p -c 80 <<< $somethingHex > something
                              fi
                    done

          done
fi

: <<'_GNUGPLv3Text_'
                    GNU GENERAL PUBLIC LICENSE
                       Version 3, 29 June 2007

 Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
[...]
[full license text is included in the bash script but it is truncated here in the source code
text since it is included at the end of this publication]
[...]
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
_GNUGPLv3Text_
```

free/libre content

a blockchain for nothing

detail photo from the installation, “a blockchain for nothing”, by peers at httpdot.net, 2019, gnu gplv3,
https://httpdot.net/peers/aBlockchainForNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

when run for the first time, this work prints nothing on command-line interface as the genesis block, the first block of *a blockchain for nothing*, and creates three files in its working directory:

genesisBlockTimeStamp.log is the file containing the timestamp when the genesis block of *a blockchain for nothing* is created, when the work is run for the first time.

LastCreatedBlock.log is the file containing the value of the last created block. it contains nothing when the first block of *a blockchain for nothing* is created and the content is updated whenever a new block is created which is the sha-256 hash of the previous block.

blockHeight.log is the file containing a number which indicates how many blocks have been created so far. this file is updated every time a new block is created.

after the first block is created, which is nothing, the work reads nothing from the file LastCreatedBlock.log, calculates its sha-256 hash and prints that hash value just after nothing on the command-line interface as the second block of *a blockchain for nothing*. the file LastCreatedBlock.log is overwritten with the value of the second block, which is hexadecimal representation of the hash of nothing and the file blockHeight.log is overwritten with the value 2, which is the sequential number of the last created block. the third block of *a blockchain for nothing* is created by reading the value of the last created block, the hash of nothing, and calculating its hash, the hash of the hash of nothing, which is also printed on the command-line interface just after the second block. the files LastCreatedBlock.log and blockHeight.log are updated accordingly and this process continues until there is a system failure or the work is turned off. the next time the work is run, it keeps on working on its own quest by first displaying the following text on the command line interface:

```
  "a blockchain for nothing" by peers at httpdot.net, 2019, gnu gplv3
  a blockchain for nothing originates from nothing and all blocks in a
blockchain for nothing consists of nothing but sha-256 hash of the
previous block.
  genesis block of a blockchain for nothing was created on
[genesisBlockTimeStamp.log] with no proof-of-work
  [blockHeight.log] blocks are created so far.
  last created block of a blockchain for nothing is
  [LastCreatedBlock.log]
  a blockchain for nothing is now creating new blocks based on that block
```

the values in bracktes are read from the log files indicated and the work keeps on working from where it left off. if any of the log files are damaged and cannot be read, the work prints the following text on command-line interface:

```
   a blockchain for nothing has not been created yet or broken. a
blockchain for nothing will start creating blocks again, from nothing.
```

and starts creating a blockchain for nothing from scratch printing:

```
   "a blockchain for nothing" by peers at httpdot.net, 2019, gnu gplv3
   a blockchain for nothing originates from nothing and all blocks in a
blockchain for nothing consists of nothing but sha-256 hash of the
previous block.
   a blockchain for nothing is now creating a blockchain originating from
nothing, with no proof of work...

   e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b8555df6e0e
2761359d30a8275058e299fcc0381534545f55cf43e41983f5d4c9456aa6ac2d496188 2f4
2a345c7615f4133dde8e6d6e7c1b6b40ae4ff6ee52c393d0
```

all blocks of *a blockchain for nothing* are printed on the command-line interface and written on the file LastCreatedBlock.log, which is overwritten every time a new block is created. created blocks are displayed on the command-line interface until they are rolled out of the display because of new blocks being created and printed on the command-line display. thus *a blockchain for nothing* keeps no record of the previous blocks it created but keeps working on its own quest as long as it is turned on.

detail photo from the installation, “a blockchain for nothing”, by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/aBlockchainForNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

a blockchain for nothing is designed as a plug and play embedded system running a custom free/libre software, which you can directly connect to a display through hdmi connection and run. this is a free cultural work licensed under gnu gplv3. you are free to download the custom free/libre software running on the embedded system and run it on your computer, or build your own embedded system for running it. you are also encouraged to fork / build on / appropriate the work as a peer. the full text of the gnu gplv3 free software license is available at the end of this publication.

downloads

download the work: custom free/libre software written as a bash script (39kB)
https://httpdot.net/peers/aBlockchainForNothing/aBlockchainForNothing.sh
this bash script is also the source code of the work, which can be opened with any text editor. the source code is also included in this document under the corresponding section.

download pseudocode: plain text document for a brief explanation of the code in bash script (485bytes)
https://httpdot.net/peers/aBlockchainForNothing/aBlockchainForNothing.pseudo
pseudocode is also included in this document under the corresponding section.
you can also download / fork the work from bager akbay's github repository, who wrote the code and the pseudocode
https://github.com/bagerakbay/nothing/

watch online / download screencast documentation of the work
webm, vp9, lossless compressed-vbr1744kbps, 1080p25, no audio, 1'02'', 13.6MB
https://httpdot.net/peers/aBlockchainForNothing/aBlockchainForNothing_1080p30_vp9lossless_webm.webm

instructions for running the work on a gnu/linux computer

running the work is as easy as running a shell script on a full screen command-line interface on a unix-like system for an experienced user. below are the detailed explanations for a less experienced user.

you need to have jacksum (dipl.-inf. (fh) johann n. loefflmann, 2006, gnu gplv2) installed on your system, which is executed by the bash script for hash

calculations. check system requirements and installation instructions on jacksum website: https://project-jacksum.loefflmann.net/
or, install it using your distro's package manager. for debian-based distributions:
<code>
`sudo apt-get install jacksum`
</code>

-open a terminal emulator window within GUI, such as gnome terminal, and make it full screen, also disabling the menu bar,
or better, switch to a virtual console (press `ctrl+alt+f3` for tty3). you will need to use the command
<code>
`exit`
</code>
to exit the virtual console and login back to the graphical user interface). use your username and password to login and run a shell with command prompt.

-navigate to the directory where you want to download and run the bash script,
or, just use the current directory

-copy and paste the following command which will run three commands one after the other to download the bash script, make it executable and run it. you will need to enter your sudo password to make the file executable)

<code>
```
wget https://httpdot.net/peers/aBlockchainForNothing/aBlockchainForNothing.sh \
&& sudo chmod +x aBlockchainForNothing.sh \
&& ./aBlockchainForNothing.sh
```
</code>

-press key combination `ctrl+c` to interrupt the work and use the command
<code>
`exit`
</code>
to exit the terminal emulator window or virtual console where you run the work.

for the installation at the exhibition *blockchain is… / ...for nothing,* terminus 6x12 monospace bitmap console font is used. to adjust the console font, use
<code>
`sudo dpkg-reconfigure console-setup`
</code>

detail photo from the installation, “a blockchain for nothing”, by peers at httpdot.net, 2019, gnu gplv3,
https://httpdot.net/peers/aBlockchainForNothing/
commissioned and presented by protocinema with support from spot contemporary art projects

pseudocode aBlockchainForNothing.pseudo

```
This algorithm calculates hash of nothing and iterates the result to create the next hash.

Set genesisBlockTimeStamp to the current time.
Set blockHeight to zero
Set hashOftheBlock to the hash of nothing.

print genesisBlockTimeStamp

FOREVER

          set hashOftheBlock to the hash of hashOftheBlock.
          print hashOftheBlock
          raise blockHeight by one.

END FOREVER
```

source code
aBlockchainForNothing.sh

```
#!/bin/bash

#         "a blockchain for nothing"
#         by peers at httpdot.net, 2019, gnu gplv3
#
#         embedded system running a custom copyleft free/libre software on a quest for
creating a blockchain for nothing which originates from nothing and continuously building
blocks, each of which consisting of nothing but the sha-256 cryptographic hash of the previous
block, and displays all blocks created with no proof-of-work on a command-line interface one
after another by keeping the record of nothing but the last block. the work keeps working on
its own quest forever, unless there is a system failure or it is turned off but it continues
from where it left off every time it is turned on.
#         https://httpdot.net/peers/aBlockchainForNothing/
#
#         custom software is written as a bash script by bager akbay, along with the
pseudocode, and released as a copyleft free/libre software under gnu gplv3.
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bager akbay.
#         this work is commissioned by protocinema for the exhibition "blockchain is… / …for
nothing" at aetopoulos, athens, february 2019
#
#         This program is free software: you can redistribute it and/or modify it under the
terms of the GNU General Public License as published by the Free Software Foundation, either
version 3 of the License, or (at your option) any later version. This program is distributed
in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied
warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public
License for more details. You should have received a copy of the GNU General Public License
along with this program.  If not, see <https://www.gnu.org/licenses/>

printf "\033c"

if [[ -s "genesisBlockTimeStamp.log" ]] && [[ -s "blockHeight.log" ]] && [[ -s
"LastCreatedBlock.log" ]]
then
          timeStamp="$(cat genesisBlockTimeStamp.log)"
          HashOfTheBlock="$(cat LastCreatedBlock.log)"
          blockHeight="$(cat blockHeight.log)"

          sleep 1
          echo "\"a blockchain for nothing\" by peers at httpdot.net, 2019, gnu gplv3"
          sleep 4
          echo "a blockchain for nothing originates from nothing and all blocks in a
blockchain for nothing consists of nothing but sha-256 hash of the previous block."
          sleep 8
          echo "genesis block of a blockchain for nothing was created on $timeStamp with no
proof-of-work"
          sleep 5
          echo "$blockHeight blocks are created so far."
  sleep 2


          echo "last created block of a blockchain for nothing is"
          echo "$HashOfTheBlock"
          sleep 4
          echo "a blockchain for nothing is now creating new blocks based on that block"
```

```
          echo ""
          sleep 4

sleep 3

else
          $( rm *.log >/dev/null 2>&1)
          echo "a blockchain for nothing has not been created yet or broken. a blockchain for
nothing will start creating blocks again, from nothing."
          sleep 8
          printf "\033c"
          echo "\"a blockchain for nothing\" by peers at httpdot.net, 2019, gnu gplv3"
          sleep 4
          echo "a blockchain for nothing originates from nothing and all blocks in a
blockchain for nothing consists of nothing but sha-256 hash of the previous block."
          sleep 8
          echo "a blockchain for nothing is now creating a blockchain originating from
nothing, with no proof of work..."
          echo ""
          HashOfTheBlock=""
  echo "$HashOfTheBlock" > LastCreatedBlock.log
          timeStamp=$( date '+%Y-%m-%d %H:%M:%S' )
  echo $timeStamp > genesisBlockTimeStamp.log
          blockHeight=0
fi
sleep 2


while :
do
          blockHeight=$((blockHeight+1))
  echo -e -n "\e[40;90;0m$HashOfTheBlock" # yanyana görmek için
  #echo -e "\e[40;90;0m$HashOfTheBlock" #satır satır görmek için
  HashOfTheBlock=$(jacksum -a SHA-256 -q 'hex:'$HashOfTheBlock | cut -d' ' -f1)
          echo "$HashOfTheBlock" > LastCreatedBlock.log
          echo "$blockHeight" > blockHeight.log
done

: <<'_GNUGPLv3Text_'
                    GNU GENERAL PUBLIC LICENSE
                       Version 3, 29 June 2007

 Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
[...]
[full license text is included in the bash script but it is truncated here in the source code
text since it is included at the end of this publication]
[...]
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
_GNUGPLv3Text_
```

free/libre content

a work of art on a quest for becoming an artist
by appropriating itself as a work of art
as the proof-of-work by the artist relying on its own proof
as an original and authentic work of art
aka ***proof-of-work-of-art-ist***

installation photo, “proof-of-work-of-art-ist”, by peers at httpdot.net, 2019, gnu gplv3,
https://httpdot.net/peers/proof-of-work-of-art-ist/
commissioned and presented by protocinema with support from spot contemporary art projects

proof-of-work-of-art-ist first calculates its own size and sha-256 hash and then creates a file named proof-of-work in its working directory by writing random data of its own size to that file using dd utility and /dev/urandom special file. it calculates sha-256 hash of the random data in the file proof-of-work and writes the random data to the virtual console displaying it for 15 seconds. if the hash of the random data does not match that of itself, it clears the command-line interface, waits for 5 seconds and overwrites the random data in the file proof-of-work with random data again and continues the process until the hash of proof-of-work matches that of itself and becomes an artwork. because it means that the work and proof-of-work should be the same and that the work has created a duplicate of itself, which is an artwork, by writing random data, which has a probability of $1 / 2^{301784}$, since file size of *proof-of-work-of-art-ist* is 301784 bits. 2^{301784} being a 90847-digit decimal number, it is infeasible for the work to succeed and become an artist by appropriating itself but it is not impossible and *proof-of-work-of-art-ist* keeps working on its own quest as long as it is turned on.

installation photo, “proof-of-work-of-art-ist”, by peers at httpdot.net, 2019, gnu gplv3,
https://httpdot.net/peers/proof-of-work-of-art-ist/
commissioned and presented by protocinema with support from spot contemporary art projects

proof-of-work-of-art-ist is designed as a plug and play embedded system running a custom free/libre software, which you can directly connect to a display through hdmi connection and run. this is a free cultural work licensed under gnu gplv3. you are free to download the custom free/libre software running on the embedded system and run it on your computer, or build your own embedded system for running it. you are also encouraged to fork / build on / appropriate the work as a peer. the full text of the gnu gplv3 free software license is available at the end of this publication.

downloads

download the work: custom free/libre software written as a bash script (37.7kB)
https://httpdot.net/peers/proof-of-work-of-art-ist/proof-of-work-of-art-ist.sh
this bash script is also the source code of the work, which can be opened with any text editor. the source code is also included in this document under the corresponding section.

download pseudocode: plain text document for a brief explanation of the code in bash script (486bytes)
https://httpdot.net/peers/proof-of-work-of-art-ist/proof-of-work-of-art-ist.pseudo
pseudocode is also included in this document under the corresponding section. you can also download / fork the work from bager akbay's github repository, who wrote the code and the pseudocode
https://github.com/bagerakbay/nothing/

watch online / download screencast documentation of the work
webm, vp9, lossless compressed-vbr488bps, 1080p25, no audio, 52'', 3.24MB
https://httpdot.net/peers/proof-of-work-of-art-ist/proof-of-work-of-art-ist_1080p30_vp9lossless_webm.webm

instructions for running the work on a gnu/linux computer

running the work is as easy as running a shell script on a full screen command-line interface on a unix-like system for an experienced user. below are the detailed explanations for a less experienced user.

the work continuously outputs random data on shell and it is possible that some may be interpreted as commands or key combinations which can put the system in

an abnormal state. in such a case, you may try to quit the program by pressing key combinations `ctrl+c` multiple times. if virtual console is left in an abnormal state, use the command

<code>
```
reset
```
</code>

to restore it.

you need to have jacksum (dipl.-inf. (fh) Johann n. loefflmann, 2006, gnu gplv2) installed on your system, which is executed by the bash script for hash calculations. check system requirements and installation instructions on jacksum website: https://project-jacksum.loefflmann.net/
or, install it using your distro's package manager. for debian-based distributions:

<code>
```
sudo apt-get install jacksum
```
</code>

-switch to a virtual console (press `crtl+alt+f3` for tty3). you will need to use the commnad

<code>
```
exit
```
</code>

to exit virtual console and login back to graphical user interface). use your username and password to login and run a shell with command prompt. a terminal emulator window within GUI, such as gnome terminal, is not preferred to run this work but, if you still want to use it, and make it full screen, also disabling the menubar.

-navigate to the directory where you want to download and run the bash script, or, just use the current directory

-copy and paste the following command which will run three commands one after the other to download the bash script, make it executable and run it. you will need to enter your sudo password to make the file executable)

<code>
```
wget https://httpdot.net/peers/proof-of-work-of-art-ist/proof-of-work-of-art-ist.sh \
&& sudo chmod +x proof-of-work-of-art-ist.sh \
&& ./proof-of-work-of-art-ist.sh
```
</code>

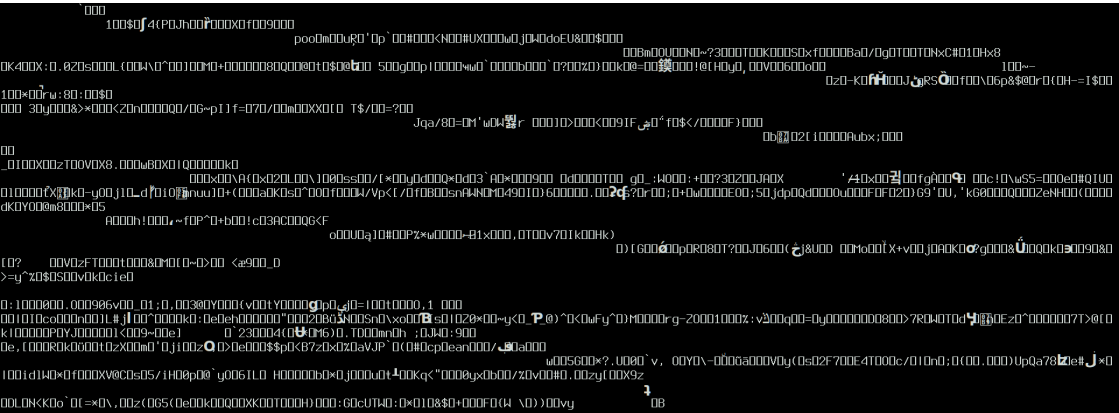
-press key combination ctrl+c to interrupt the work and use the command

```
exit
```

to exit virtual console where you run the work.

for the installation at the exhibition *blockchain is… / ...for nothing* terminus 12x24 monospace bitmap console font is used and virtual console is displayed on a 1920x1080 pixel projection. feel free to adjust the font and the resolution as you wish. virtual console font can be adjusted using:

```
sudo dpkg-reconfigure console-setup
```



screenshot, “proof-of-work-of-art-ist”, by peers at httpdot.net, 2019, gnu gplv3,
https://httpdot.net/peers/proof-of-work-of-art-ist/
commissioned and presented by protocinema with support from spot contemporary art projects

pseudocode
proof-of-work-of-art-ist.pseudo

```
This algorithm searches for something equal to itself in a cryptographic way which may include
itself.

set myHash to the hash of this algorithm.

FOREVER

  Create something which is the same size of this algorithm.
  Set hashOfSomething to the hash of something.
  Print hashOfSomething

  IF hashOfSomething is equal to myHash
    Wait FOREVER

END FOREVER
```

source code
proof-of-work-of-art-ist.sh

```
#!/bin/bash

#         ”a work of art on a quest for becoming an artist by appropriating itself as a work of art by relying on its own proof and proof-of-work for the proof of originality and authenticity of its duplicate as an appropriated work of art as the proof-of-work by the artist” aka “proof-of-work-of-art-ist”
#         by peers at httpdot.net, 2019, gnu gplv3
#
#         embedded system running a custom copyleft free/libre software as a work of art on a quest for becoming an artist by duplicating and appropriating itself as a work of art by creating random data of its own size and displaying it for 15 seconds as a candidate for an artwork while calculating and comparing the hash of that random data to its own hash and it continues this process until it finds a match as a proof of its duplicate as an appropriated work of art as a proof-of-work by the artist.
#         https://httpdot.net/peers/proof-of-work-of-art-ist/
#
#         custom software is written as a bash script by bager akbay, along with the pseudocode, and released as a copyleft free/libre software under gnu gplv3.
#         all programs and utilities executed by bash script are also free/libre software.
#         the embedded system powered by a gnu/linux operating system is also programmed by bager akbay.
#         this work is commissioned by protocinema for the exhibition “blockchain is… / …for nothing” at aetopoulos, athens, february 2019
#
#         This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU General Public License for more details. You should have received a copy of the GNU General Public License along with this program.  If not, see <https://www.gnu.org/licenses/>


FILENAME=${0}
FILESIZE=$(stat -c%s "$FILENAME")
myHash=$(jacksum -a SHA256 $FILENAME | cut -d' ' -f1)
clear
sleep 2
if [ -f "proofWorkArt" ]
then
          echo "$(cat proofWorkArt)"
          sleep 99999999
else

          while :
          do
                    $(dd if=/dev/urandom of=proof-of-work bs=1 count=$FILESIZE status=none)
                    randomFileHash=$(jacksum -a SHA256 proof-of-work | cut -d' ' -f1)
                    clear
                    cat proof-of-work 1>/dev/tty 2>/dev/null
                    sleep 15
clear
sleep 3

                    if [ "$myHash" = "$randomFileHash" ]; then
                              cp random proofWorkArt
```

```
                                sleep 99999999
                    fi

          done

fi

: <<'_GNUGPLv3Text_'
                    GNU GENERAL PUBLIC LICENSE
                       Version 3, 29 June 2007

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[...]
[full license text is included in the bash script but it is truncated here in the source code
text since it is included at the end of this publication]
[...]
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
_GNUGPLv3Text_
```
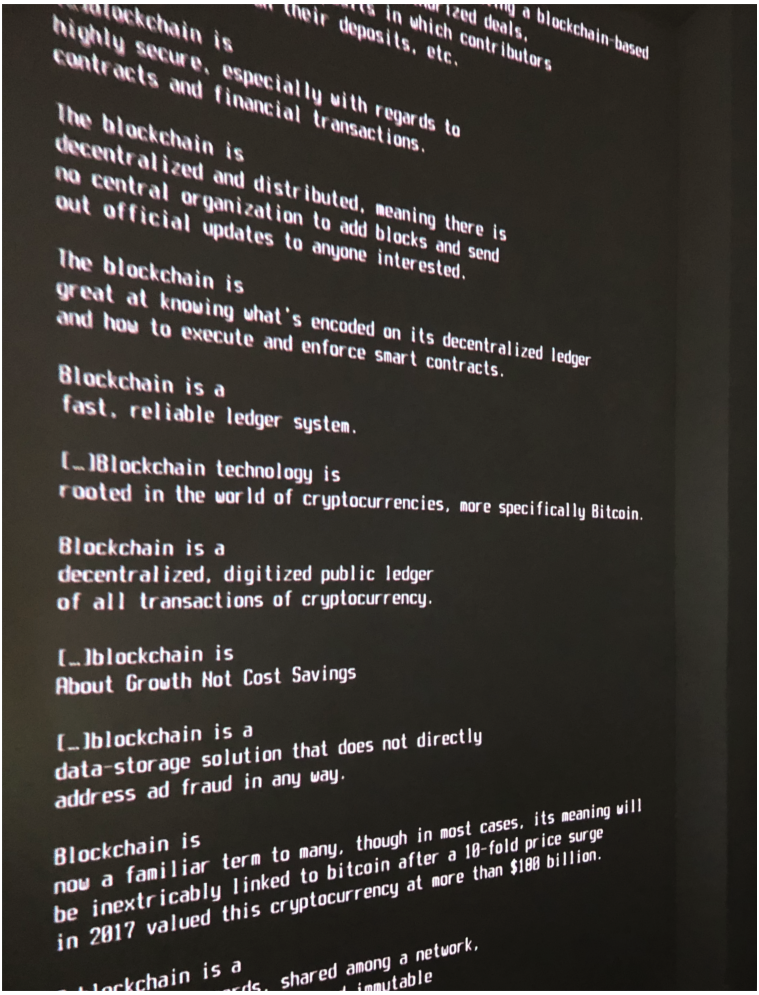

free/libre content

blockchain is…



installation photo, "blockchain is...", by peers at httpdot.net, 2019, gnu gplv3,
https://httpdot.net/peers/BlockchainIs/
commissioned and presented by protocinema with support from spot contemporary art projects

blockchain is… and *blockchain will...* are two distinct collaborative works by peers at httpdot.net built on a framework for a body of works called *blockchain is*, which is in continuous translation and manifesting in various forms.

blockchan is... is a video installation of a looped 9 minute video without sound. the 800x1080 pixel video frame is organized in 11 horizontal blocks, each having 2 to 5 lines of white text on black background. each block displays a sentence or an excerpt from a sentence starting with "a blockchain is", "a blockchain is a", "a blockchain is an", "a blockchain is the", "blockchain is", "blockchain is a", "blockchain is an", "blockchain is the", "blockchain technology is", "blockchain technology is a", "blockchain technology is the", "the blockchain is", "the blockchain is a", "the blockchain is an", "the blockchain is the", "the blockchain technology is", "the blockchain technology is a" or "the blockchain technology is the", which are aggregated from all available search results supplied by three web search services for these search queries at a time for an anonymous web user. these web pages are downloaded and parsed to aggregate and organize the sentences used for the video, which is generated using a soft subtitle file for timing, positioning and style information of the text.

all blocks in the frame are displayed for a duration long enough to be read individually and then updated with another sentence of the same, or slightly longer character count, starting with the same phrase. these phrases mentioned above always appear alone in the first lines of the blocks and they only change a couple of times in a block but the rest of the sentences starting with these phrases change continuously and at different times for each block. even though the duration of a single loop is 9 minutes, it would take 11 loops, 99 minutes to read all of the text.

the text is displayed with monospace terminus font, which is a font mainly used for computer terminal emulators and virtual consoles. the monospace font allows characters to be displayed in a grid of 67x45 cells. this way, when a block is updated with a sentence having the same character count as the previous one, it feels like each individual character is updated, rather than the whole sentence changing, or like, the previous sentence is just modified, instead of changing totally.

the video is generated using a subtitling workflow. timing, positioning and style of text is designed using advanced substation alpha (.ass) subtitle file format. the video file is generated using ffmpeg, which is a free/libre software command-line multimedia framework, to hardcode the text in .ass subtitle syntax on a black video background, which is again generated through an ffmpeg command. .ass file and ffmpeg command are also available as free and open source content for the video, which is itself a free cultural work.

downloads

watch online or download the video and source content in free file formats to build on and appropriate the work

video file, preservation master
mkv, ffv1, lossless compressed, vbr20.1mbps,800x1080p25, YUV 4:2:0, 8bpc, no audio, 1.4GB
https://httpdot.net/peers/BlockchainIs/BlockchainIs_800x1080p25_PreservationMaster_8bpc420_ffv1.mkv
ffv1 is a free/libre lossless video coding and compression format suitable for digital preservation of video. 8bpc YUV 4:2:0 is suitable preservation since the video image consists of white text on black background.

video file, lossless compressed alternative for online html5 browser playback
webm, vp9, lossless compressed-vbr356kbps, 800x1080p25, YUV 4:2:0, 8bpc, no audio, 25.8MB
https://httpdot.net/peers/BlockchainIs/BlockchainIs_800x1080p25_web_vp9lossless.webm

video file, lossy compressed alternative for online html5 browser playback
ogg, theora, vbr-q10, 800x1080p25, YUV 4:2:0, 8bpc, no audio, 195.1MB
https://httpdot.net/peers/BlockchainIs/BlockchainIs_800x1080p25_web_theoraQ10.ogv
if your web browser does not support html5 video element in ogg or webm free/libre file formats for watching online, consider switching to a free/libre software web browser

source subtitle file, used for generating text image, timing, positioning and style
.ass (advanced substation alpha), UTF8, 242.2kB
https://httpdot.net/peers/BlockchainIs/BlockchainIs_UTF8-ASS.ass
you will need terminus (ttf) font (https://files.ax86.net/terminus-ttf/ ofl-1.1) and a 800x1080pixel video to overlay and display text properly using this .ass file.
this content is also available in this document under the section *source subtitle file - BlockchainIs_UTF8-ASS.ass*

source text file, all the sentences used in the work
txt file, utf8, lf, 137.1kB
https://httpdot.net/peers/BlockchainIs/blockchainIs-sourceText_txt-lf-utf8.txt
this content is also available in this document under the section *source text - blockchainIs-sourceText_txt-lf-utf8.txt*

source text file, source urls - list of web pages used for aggregating the source texts for *blockchain is...* and *blockchain will*
txt file, utf8, lf, 26.8kB
https://httpdot.net/peers/BlockchainIs/BlockchainIs-BlockchainWill_sourceUrls_txt-lf_utf8.txt
this content is also available in this document under the section *source urls - BlockchainIs-BlockchainWill_sourceUrls_txt-lf_utf8.txt*

source command

source command, ffmpeg (http://ffmpeg.org/ gnu gplv2) command used for generating the video with .ass subtitle file and encoding in a container.

<code>
ffmpeg \
-f lavfi -i color=color=black,scale=800:1080,setsar=1/1,\
ass=BlockchainIs_UTF8-ASS.ass \
-pixel_format yuv420p -r 25 -t 540 \
-c:v ffv1 -level 3 -g 1 -slicecrc 1 -slices 16 \
BlockchainIs_800x1080p25_PreservationMaster_8bpc420_ffv1.mkv
</code>

breakdown of this ffmpeg command

<code>
ffmpeg
</code>
calls ffmpeg program

<code>
-f lavfi -i color=color=black,scale=800:1080,setsar=1/1
</code>
generate a 800x1080pixel black video with pixel (sample) aspect ratio 1.0 as background using libavfilter input virtual device

<code>
,ass=BlockchainIs_UTF8-ASS.ass
</code>
overlays and hardcodes BlockchainIs_UTF8-ASS.ass soft subtitle file on the video using ass filter and chaining this filter to the previous one using comma

<code>
pixel_format yuv420p
</code>
defines pixel format as YUV color space 4:2:0 chroma subsampling in planar representation

<code>
-r 25
</code>
defines framerate as 25fps

<code>
-t 540
</code>
defines the duration of the video to be generated in seconds

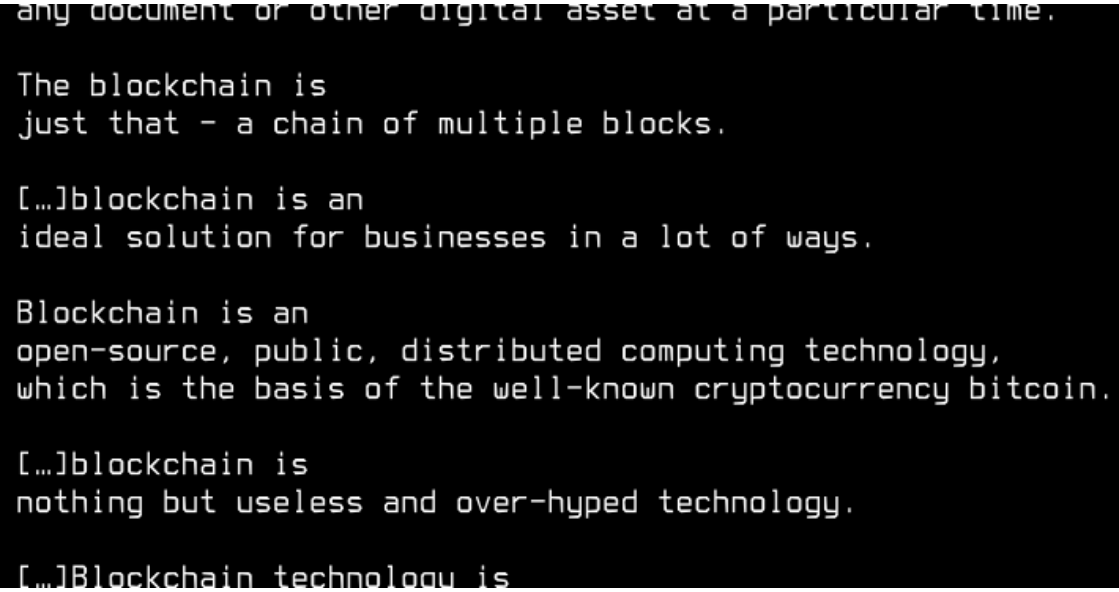
<code>
-c:v ffv1 -level 3 -g 1 -slicecrc 1 -slices 16
</code>
defines video coding format and coding settings for the output file. these options and parameters are for coding the video with ff video codec 1 (ffv1) video coding format with settings suitable for digital video preservation. you may change this part of the code for using other video coding formats.

<code>
BlockchainIs_800x1080p25_PreservationMaster_8bpc420_ffv1.mkv
</code>
defines output file name and container format is also defined as matroska (mkv) through the file name extension.

options and parameters for other video coding formats

<code>
-c:v libvpx-vp9 -lossless 1
</code>
encodes the video using vp9 video coding format and lossless setting for vp9. also change the file name extension of the output file name to .webm for using webm container for video coded using vp9.

<code>
-c:v libtheora -qscale:v 10
</code>
encodes the video using ogg theora video coding format in a lossless way but in maximum quality. also change the file name extension of the output file name to .ogv for using ogg video container for video coded using ogg theora



detail from video still, "blockchain is...", by peers at httpdot.net, 2019, gnu gplv3, https://httpdot.net/peers/Blockchainls/
commissioned and presented by protocinema with support from spot contemporary art projects

source text
blockchainIs-sourceText_txt-lf-utf8.txt

all text used for the video *blockchain is...*

Blockchain is
such a technology, carrying the potential to actualize synergies between stakeholders, generate sustainable business value, and enable enterprises to easily expand operations into emerging markets.

Blockchain is
not widely understood yet by shippers and manufacturers, but it will be a great tool for complying with these new regulations by holding them responsible for misrepresenting the weight on a product.

Blockchain is
not a magic bullet that solves all data management problems but few areas of data sharing cry out more for improvements in efficiency and security than the data domains of Healthcare and Pharma/Biotech.

Blockchain is
already disrupting the sector in many ways and will be the door opening the gaming industry to new opportunities, but exactly what the future of this promising combination looks like only time will tell.

Blockchain is
used by organizations and/or groups of organizations for specific services where trust from other parties is needed or to build a blockchain network with other parties without traditional intermediaries.

Blockchain is
actually a practical solution to a computer science problem called the "Two Generals" or "Byzantine Generals" problem, which addresses ways multiple parties can achieve consensus in a distributed fashion.

Blockchain is
not a transaction processing system replacement: blockchain can transform transactional processing across a business network for sure, but ONLY when one or more additional criteria are met – specifically:

Blockchain is
underneath the crypto-techno-babble, an electronic ledger that does what any ledger does: provides a reliable and audit-able ledger, exactly what Bob Cratchit's ledger books and red and black dip pens did.

Blockchain is
incredibly useful for protecting customer information and making secure transactions for your employees in the field, but it can also help ensure your important data at home base is being protected as well.

Blockchain is
undoubtedly a powerful and exciting technology, but it is not yet fully mature and has several limitations, which explains why it still is far from being widely adopted, despite all the hype surrounding it.

Blockchain is
expected to disrupt not only the banking and financial industries, but also cybersecurity, supply-chain management, forecasting, networking and IoT, insurance, private transport and ride sharing, and charity.

Blockchain is
also going to change the way we rent by creating a blockchain-based land-based registry to prevent unauthorized deals, crowdsourcing security deposits in which contributors can earn interest on their deposits, etc.

Blockchain is
being touted as the solution to the Pentagon's vast logistics challenges-and in December, President Trump signed a bill calling for the rest of the federal government to look into the potential benefits of blockchain.

Blockchain is
more mature in the financial services sector, but transportation, logistics and the supply chain will be the next industry to adopt it, says Jennifer Schopfer, GE Transportation's vice president of transport logistics.

Blockchain is
going to put pressure on broker commissions and fundamentally change the way the broker channel does business over the next three to five years, says a past Marsh Canada national executive and management committee member.

Blockchain is
based on a mathematical proof, which makes it very difficult to hack, Any legal document that must be securely and it takes the majority of the network to try to game and verifiably transmitted between entities the system.

Blockchain is
best understood as a "distributed ledger" that secures transactions on its own by creating and including the entire transaction history of a unit of cryptocurrency along with the file that represents the cryptocurrency itself.

Blockchain is
broad and coming to the fore on such a massive scale that explaining it often falls back on the abstract, rather than grounding it in the kind of foundational change the technology will have on the culture of how we interact online.

Blockchain is
going to have a profound impact not just on financial services, but on the world of business and society as a whole," says Alex Tapscott, CEO of consultancy Northwest Passage Ventures and co-author of the book Blockchain Revolution.

Blockchain is
also launching a new trading platform called Swap - this platform will find the best trading prices across a variety of exchanges and liquidity pools so that you can exchange tokens at a fair price straight from your Blockchain account.

blockchain is
programmable: instructions embedded within blocks, such as “if” this “then” do that “else” do this, allow transactions or other actions to be carried out only if certain conditions are met, and can be accompanied by additional digital data.

Blockchain is
still in its relative infancy, but a number of initiatives under way are already driving its progression to an industrial solution which will yield several important benefits in the context of the transfer of assets within business networks.

Blockchain is
best known as the distributed database technology behind the virtual currency bitcoin, but banks are starting to investigate its broader capability as a real-time, encrypted distributed ledger for transactions involving a variety of financial assets.

Blockchain is

also being considered for managing access rights to assets in situations where people are sharing a car or other piece of property, which could have locks linked up to a blockchain network that authorize someone's use after the owner received a payment.

Blockchain is
difficult to understand because it isn’t one thing, but rather pieces of knowledge from a wide variety of subjects across many different disciplines–not only computer science, but economics, finance, and politics as well–that go by the name “blockchain”.

Blockchain is
revolutionizing the remittance industry, and we look forward to further innovating and expanding the application of the technology in global remittances, together with local wallet partners and other ecosystem partners,

Blockchain is a
vast, global distributed ledger or database running on millions of devices and open to anyone, where not just information but anything of value money, but also titles, deeds, identities, even votes

Blockchain is a
shared distributed ledger technology in which each transaction is digitally signed to ensure its authenticity and integrity - and it's poised to make big waves in a wide range of business use cases.

Blockchain is a
data structure that has the ability to establish a digital archive or record blocks of data such as transactions that can be shared and easily accessed by users across networks of different computers.

Blockchain is a
technology that captures high-quality information for recognizing each and every entity that you do business with for meeting the compliance regulations and get benefit from the transparent blockchain

Blockchain is a
distributed ledger technology, a continuously expanding chain of records – blocks – that are linked and secured via cryptography, creating a networked audit trail of transactions, or actions that have been taken.

Blockchain is a
new way of storing and moving that data, where instead of being held all in one place, the information is atomized and spread over thousands of nodes across a network, all locked together with clever cryptography.

Blockchain is a
new computing architecture which has the potential to bring together fragmented data sets from the authoritative source providers into a single digital view of validated, immutable and cryptographically secured data.

Blockchain is a
universal transaction book that allows you to register and track every operation within it, scattered all over the Internet in thousands of unmodifiable copies, in a peer-to-peer model and protected by advanced cryptographic methods.

Blockchain is a
hyper-secure, hyper-informed general ledger that allows participants in any transaction to verify and audit those transactions transparently, efficiently, and accurately, which reduces risk, costs, and exposure in any type of transaction.

Blockchain is a
disruptive technology that allows storing data without the need for a central authority, implying that financial transactions will no longer be stored in a central database but distributed to several other computers that store data locally.

Blockchain is a
vast, global distributed ledger or database running on millions of devices and open to anyone, where not just information but anything of value - money, but also titles, deeds, identities, even votes - can be moved, stored and managed securely and privately.

A blockchain is
essentially a shared, encrypted "ledger" that cannot be manipulated, offering promise for secure transactions that allow anyone to get an accurate accounting of money, property or other assets.

A blockchain is a
secure distributed immutable database shared by all parties in a distributed network where transaction data can be recorded (either on-chain for basic information or off-chain in case of extra attachments) and easily audited.

A blockchain is an
electronic ledger of digital records, events, or transactions that are cryptographically hashed, authenticated, and maintained through a “distributed” or “shared” network of participants using a group consensus protocol.

The blockchain is
defined as "a system that's secure without a higher authority, distributed across many strangers' computers, yet tamper-proof, and promises a mechanism for trust mediated directly between individuals".

The blockchain is
referred to as a “ledger,” a series of records of validated monetary transactions, where the identical updated ledger resides throughout the peer network, not in one central location as under the traditional banking model.

The blockchain is a
software platform and environment, a set of capabilities that software developers can utilize so they can write this new breed of applications that are decentralized and living on the blockchain from Day 1.

The blockchain is a
new way of storing and moving that data, wherein instead of holding that data in one place the information is spread over thousands of nodes across a network, all locked together with the help of cryptography.

[…]blockchain is
having the most effect on MLS data, title records, and transactions.

[…]blockchain is
past its sell-by date, R3 are bust and distributed ledgers are dead.

[…]blockchain is
garnering its own support and interest far beyond financial services.

[…]blockchain is
empowering fashion brands to take a lead towards greater transparency.

[…]blockchain is
just one of the ways companies will be able to scale trusted business.

[…]blockchain is

something genuinely new and for lack of a better word, groundbreaking.

[…]blockchain is
user-friendly and offers a world of benefits for the average consumer.

[…]blockchain is
fast becoming the focus of law firms anxious not to be the weakest link

[…]blockchain is
not only here to stay but that it will change the world for the better.

[…]blockchain is
Boosting Cybersecurity with Message Encryption and Crucial Alert Systems

[…]blockchain is
leading to what is being called the “Internet of Trusted Things” (IoTT).

[…]blockchain is
rapidly becoming the most important digital development since the cloud.

[…]blockchain is
well positioned to be part of a solution to many problems in healthcare,

[…]blockchain is
also changing the way we keep our businesses secure and market ourselves.

[…]blockchain is
certainly not a trend that accountants can afford to overlook any longer.

[…]blockchain is
not this magical thing where you sprinkle blockchain dust over a problem.

[…]blockchain is
here to stay, and it’s going to revolutionize the way we track our assets.

[…]blockchain is
moving rapidly from exploration into mission-critical production scenarios.

[…]blockchain is
no different from other automation tools that capture routine transactions.

[…]blockchain is
not a panacea for all diseases, but it is even contraindicated for someone.

[…]blockchain is
nowadays more than the technology that ensures the authenticity of bitcoin.

[…]blockchain is
poised to reinvent traditional Business Process Management platforms (BPM).

[…]blockchain is
also expected to create a new set of opportunities for banks to partner with

[…]blockchain is
just the next in a long line of transformations within the accounting world.

[…]blockchain is
likely to follow and explain how firms should think about investments in it.

[…]blockchain is
affecting libraries and what they project will be accomplished in the future.

[…]blockchain is
all about trust-namely, trust among vetted partners in business transactions.

[…]blockchain is
more than just a fad: it’s a powerful solution for a large class of problems.

[…]blockchain is
all hype; that it is an untested technology with huge risks and little upside.

[…]blockchain is
attracting the biggest forces in the finance sector with its clean reputation.

[…]blockchain is
“super powerful stuff” that represents a threat to America’s national security.

[…]blockchain is
here to stay and is radically changing how our society functions at all levels.

[…]blockchain is
highly secure, especially with regards to contracts and financial transactions.

[…]blockchain is
Key To Transforming How Physical Infrastructure Works And How We Think About It

[…]blockchain is
yet another technology that flattens opportunities and invites agile individual

[…]blockchain is
poised to change the way that many industries do business in the next few years.

[…]blockchain is
becoming a yardstick against which travel enterprises measure their tech prowess.

[…]blockchain is
new and very different from most of the traditional technologies that people use.

[…]blockchain is
one of the bank's three main focuses, alongside artificial intelligence and APIs.

[…]blockchain is
already disrupting the global financial services industry - an industry the Postal

[…]blockchain is
expected to reduce paperwork and make it easier for all parties to track packages.

[…]blockchain is
already being used in business, there are untold more that haven't been discovered.

[…]blockchain is
enormous and the promise it holds to eliminate fraud is simply too great to ignore.

[…]blockchain is
really something that exists on the Internet, it is very blind to national borders.

[…]blockchain is
now moving out of the cyber universe and interacting more often with the real world.

[…]blockchain is

just a distributed database and not some magical technology that will save the earth.

[…]blockchain is
something that everybody is counting on, still we don't know what will come out of it

[…]blockchain is
turning out to be a perfect platform for recording the medical attention of a patient

[…]blockchain is
so new and popular that people don't have a proper idea about it and its applications.

[…]blockchain is
better than something like a database or any other form of digital information storage.

[…]blockchain is
like the new cloud, and it has become the fastest-growing skill in the freelance market.

[…]blockchain is
no more than a buzzword, and its applications can be obscure and difficult to understand.

[…]blockchain is
easily poised to become one the most useful technological innovations of the 21st century.

[…]blockchain is
being pushed as the next huge thing in information technology, outside of virtual currency.

[…]blockchain is
capturing the interest and imaginations of the photographers and artists I have spoken with.

[…]blockchain is
just doing what those tablets did two thousand years ago, recording agreement between people.

[…]blockchain is
just one of the many options out there to secure our digital life, nothing less, nothing more.

[…]blockchain is
much more than an ultra-secure, digital financial ledger or another “over-hyped” new technology.

[…]blockchain is
allowing developers and creative thinkers of all stripes to go back to the digital drawing board.

[…]blockchain is
now almost too much in the spotlight and in danger of being positioned as a panacea for all ills.

[…]blockchain is
slowly changing the way we do business, the way we earn a living and the way data is made available.

[…]blockchain is
somehow safer than other types of record keeping, that it's more secure, or that it's more reliable.

[…]blockchain is
quickly becoming a C-suite issue for asset managers, and the CEO, CTO and COO all have roles to play.

[…]blockchain is
not quite ready for adoption for mass consumer transactions, though it could be in three to five years.

[…]blockchain is
at the intersection of many, many interrelated technological shifts that are happening now in real time.

[…]blockchain is
being adapted to a number of business uses and will likely serve a wide array of purposes in the future.

[…]blockchain is
now viewed as having the potential to be an efficient and secure way to transfer any kind of information.

[…]blockchain is
slowly going through the four phases that identify previous foundational technologies such as the TCP/IP,

[…]blockchain is
impacting clients of the legal profession, from the music to financial to healthcare to energy industries.

[…]blockchain is
poised to transform the way suppliers, retailers, and consumers interact with one another and their goods.

[…]blockchain is
set to bring about include the solving of problems of data manipulation, transparency and security online.

[…]blockchain is
touted as a game-changer as it can provide a secure payments network and also eliminate the need of escrow.

[…]blockchain is
used for any cryptocurrency, and various companies develop their own versions of this open-source technology.

[…]blockchain is
predominantly used by small businesses as a decentralized ledger for accepting digital currencies, like Bitcoin.

[…]blockchain is
hosted by millions of processors simultaneously, and its data is available to anyone with access to the internet.

[…]blockchain is
on pace to do some $50 billion worth of transactions this year, with about a third of it coming from institutions.

[…]blockchain is

increasingly being included as an area of expertise for back-end, solutions architects and machine-learning engineers,

[…]blockchain is
more complex than the internet and also because things are not clear enough as to why this technology matters so much!

[…]blockchain is
exchanged instantaneously, and it can be stored in digital portfolios of user's phone or accessing through the browser.

[…]blockchain is
often a term that encompasses a broad range of distributed ledgers, even if transactions are not organized into blocks.

[…]blockchain is
still an immature technology, with a market that is still nascent and a clear recipe for success that has not yet emerged.

[…]blockchain is
not only a disruptive breakthrough in computer core technology, but also a challenge to the traditional commercial society.

[…]blockchain is
set to hugely impact everything from auditing and cybersecurity to the way that we store, access and interpret information.

[…]blockchain is
actively being investigated as a new type of distributed data environment for many virtualized network systems applications.

[…]blockchain is
generating a swell of excitement among coders and computer scientists not witnessed since the earliest days of the internet.

[…]blockchain is
uniquely suited to address the piracy, control and monetization issues of music that have become rampant in the digital age.

[…]blockchain is

not limited to one Financial analysts can focus on the merits of the price, the market opportunity, and the impact on stock prices.

[…]blockchain is an
opportunity, it is going to reduce costs, increase incomes, secure processes, make coffee …

[…]blockchain is an
accounting technology, so it could be used to create single entry bookkeeping systems rather than dual entry.

[…]blockchain is an
extremely in-efficient computational process, it will always be more inefficient then a centralized system could be.

[…]blockchain is the
“missing link” that enables IoT deployments to achieve their full potential

[…]blockchain is the
answer to building trust and improving customer experience in the long term.

[…]blockchain is the
technology most likely "to have the greatest impact on the next few decades,

[…]blockchain is the
future for coordination between all the parties in the supply chain industry.

[…]blockchain is the
advertising messiah, a savior that will fix all the digital ad world's messes.

[…]blockchain is the
only technology in existence today that can achieve fully transparent elections,

[…]blockchain is the
second phase of the internet and has a value 10 times greater than its predecessor.

[…]blockchain is the
solution to everything from poverty to corruption, it’s understandable if you’re skeptical.

[…]blockchain is the
‘engine’ that would allow us to access human potential in ways that would accelerate human evolution,

[…]blockchain is the
most important innovation in fundamental architecture since the tubes of the internet were first developed.

[…]blockchain is the
greatest thing since sliced bread, and that it'll change the way businesses and financial institutions operate.

[…]blockchain is the
perfect technology to drive the internet of things and will bring in "a service-sector productivity revolution".

[…]blockchain is the
answer to a question we've been asking since the dawn of the internet age: How can we collectively trust what happens online?

[…]the blockchain is a
nascent technology, and its applications outside Bitcoin are still largely untested.

[…]the blockchain is a
groundbreaking technology that can be as important as the emergence of the internet itself,

A blockchain is
only a digital record, but we need others to determine if those records actually match the corresponding physical assets in the real world.

A blockchain is
essentially a distributed database of records or public ledger of all transactions that have been executed and shared among participating parties.

A blockchain is
made up of two primary components: a decentralized network facilitating and verifying transactions, and the immutable ledger that network maintains.

A blockchain is

in the simplest of terms, a time-stamped series of immutable record of data that is managed by a cluster of computers not owned by any single entity.

A blockchain is
fundamentally a data structure in which transactions are verified in batches called blocks, and the nodes or servers verify said transactions through a consensus algorithm.

A blockchain is a
data structure that makes it possible to create a digital ledger of transactions and share it among a distributed network of computers.

A blockchain is a
cryptographically protected distributed ledger-it's what protects you or anyone else from making a copy of that Bitcoin you just bought.

A blockchain is a
digital, distributed transaction ledger, with identical copies maintained on multiple computer systems controlled by different entities.

A blockchain is a
shared digital ledger that allows transactions to be recorded and verified electronically over a network of computers without a central ledger.

A blockchain is a
decentralized and open distributed ledger, recording financial transactions (or virtually anything of value) between two parties, on a peer-to-peer network.

A blockchain is a
history of events (transactions or otherwise) that uses cryptography to link timestamped batches of events together in order to make it evident if tampering has occurred.

A blockchain is a
distributed database that maintains a continuously growing list of data records that are hardened against tampering and revision, even by operators of the data store's nodes.

A blockchain is a

decentralized digital ledger that can record transactions across many computers so that the record cannot be altered retroactively without making changes throughout the entire network.

A blockchain is a
digital ledger that is kept and validated simultaneously by a network of computers, almost like a shared Excel document that no one person can change without the agreement of the others.

A blockchain is a
distributed database, journal, or ledger for which many computers maintain identical copies and agree on the ordering of information without having to trust one another or any central party.

The blockchain is
decentralized and distributed, meaning there is no central organization to add blocks and send out official updates to anyone interested.

The blockchain is
not a ledger of all the accounts that exist and their respective balances, but rather a comprehensive history of all Bitcoin transactions.

The blockchain is
in effect a common, public ledger, which utilizes cryptographic mechanisms to verify transactions and information in a decentralized manner.

The blockchain is
immutable: records cannot be falsified, which makes it extremely reliable, and eliminating middlemen like banks makes it extremely efficient.

The blockchain is
sometimes called a distributed ledger because it’s rather like an old-fashioned book-keeping ledger in which a clerk would record transactions.

The blockchain is
in essence a distributed database holding all the Bitcoin transactions since the beginning (January 3, 2009) and a method to secure this database.

The blockchain is
essentially a distributed ledger where each block contains a timestamp and holds batches of individual transactions with a link to a previous block.

The blockchain is
shared by the nodes on the bitcoin network, in the same way a totally legit and non-copyrighted video file might be shared on the BitTorrent network.

The blockchain is
trustworthy by virtue of its distributed model, how blocks are linked to the chain, and its consensus algorithm that makes the cost of altering it prohibitive.

The blockchain is
public: anyone can view it at any time because it resides on the network, not within a single institution charged with auditing transactions and keeping records.

The blockchain is
designed so that each block contains a cryptographic reference to the block that came before it, thereby linking each block into a verifiable and tamperproof chain.

The blockchain is
often called a distributed or decentralized system because it keeps copies of these blocks on a spread-out network of computers, rather than on a centralized server.

The blockchain is
more properly called a distributed ledger, basically a way of securely and transparently storing information, and performing pre-programmed operations on that information.

The blockchain is
intended to store exchange records (“obstructs”) in numerous spots, connected to each other (henceforth the “chain” some portion of the name) and straightforward to any client who wishes to see them.

The blockchain is a
new and innovative way that people and companies can create, verify, and enforce transactions without a middleman or central authority.

The blockchain is a
simple digital platform for recording and verifying transactions so that other people can’t erase them later - and anyone can see them.

The blockchain is a

technology framework for decentralizing a number of entities that used to require one or more middlemen and involve significant opacity

The blockchain is a
distributed and decentralised ledger that stores data such as transactions, and that is publicly shared across all the nodes of its network.

The blockchain is a
distributed ledger that allows the transfer of information and data between two nodes in the network, without the need for any intermediaries.

The blockchain is a
digital ledger of online transactions that can keep records of not only just financial transactions but virtually every kind of data transaction.

The blockchain is a
revolution that builds on another technical revolution so old that only the more experienced among us remember it: the invention of the database.

The blockchain is a
consensus model at scale, and possibly the mechanism we have been waiting for that could help to usher in an era of friendly machine intelligence.

The blockchain is a
set of networked and cryptography-based technology infrastructure and programmable capabilities that facilitate a new category of trust-based services.

The blockchain is a
distributed database – to achieve independent verification of the chain of ownership of any and every bitcoin amount, each network node stores its own copy of the blockchain.

The blockchain is a
recent development in the field of computer science, which uses a global peer-to-peer network to provide an open platform that can deliver neutrality, reliability and security.

The blockchain is an
incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.

The blockchain is an
ever-growing chain of data, or “blocks,” which allows for an established digital trail back to the original block that is heavily resilient to changes and tampering.

The blockchain is the
integration and automation of human/machine interaction and the machine-to-machine (M2M) and Internet of Things (IoT) payment network for the machine economy.

The blockchain is the
coordination mechanism, the line-item attribution, credit, proof, and compensation rewards tracking schema to encourage trustless participation by any intelligent agent in any collaboration.

[…]blockchain is
not a single system, but a baseline technology which can be configured in different ways to suit different purposes and business models.

[…]blockchain is
merely an extension of a database, but it “incentivises people to share data and makes sure people can get data” because of the added security around it.

[…]blockchain is
virtually impossible to manipulate as it is based on a distributed database – a set of separate computers possibly spread over a network of users that store and verify the database.

[…]blockchain is a
mechanism for storing and sharing data, but nothing forces participants to store data in common formats or use common data definitions.

[…]blockchain is a
distributed database, but from there it serves as an innovative foundation for building an enterprise-quality business transaction network.

[…]blockchain is a
self-sustaining, peer-to-peer database technology for managing and recording transactions with no central bank or clearinghouse involvement.

[…]blockchain is a

decentralized database, a matrix of computers talking to each other, and any transaction has to be approved by each node before it’s executed.

[…]blockchain is a
form of digital trust, which has a number of potential uses and applications in business because trust is one key component in such a context.

[…]blockchain is a
peer-to-peer ledger or, more simply, a giant database of transactions that is maintained by anyone with a computer who chooses to participate.

[…]blockchain is a
digital ledger of economic transactions that is fully public, continually updated by countless users, and considered by many impossible to corrupt.

[…]blockchain is a
distributed ledger that maintains a continuously-growing list of every transaction across every network distributed over tens of thousands of computers.

[…]blockchain is a
kind of database that is highly resistant to modification, it seems, which makes sense if we are talking about currency, but it isn't enough on its own.

[…]blockchain is a
distributed ledger, meaning that the blocks of data comprising the ledger are spread across a network of computers that could be located anywhere in the world.

[…]blockchain is a
technology that allows one participant to transfer something of value to another participant by recording the transaction in an immutable “block” on a transparent “chain”.

[…]blockchain is a
digital ledger system shared and publicly hosted by a verified network of peers, each with a synchronized and identical transcript of the information accommodated in a digital ledger.

[…]blockchain is a

public electronic ledger that can be openly shared among disparate users and that creates an unchangeable record of their transactions, each one time-stamped and linked to the previous one.

[…]blockchain is a
form of distributed ledger technology (DLT) that offers a transparent, decentralised way of recording lists of transactions, allowing digital information to be distributed rather than copied.

[…]blockchain is an
immutable and decentralized ledger outlining a product's journey from creation, to packaging, to sale - all leading back to its original source.

The blockchain is
maintained by a peer-to-peer network of computers, or network nodes.

The blockchain is
stored across multiple pools and continuously checked and rechecked.

The blockchain is
software that stores and transfers value or data across the internet.

The blockchain is
ideal for keeping track of a currency and protecting it against fraud.

The blockchain is
transparent and decentralized and anyone can put it on their computer.

The blockchain is
also faster, more secure, and more efficient than centralized networks.

The blockchain is
conceptually a flat file – a linear list of simple transaction records.

The blockchain is
continuously replicated on all or at least a group of nodes in a network.

The blockchain is
simply a digital ledger, designed to be incorruptible and self-executing.

The blockchain is

simply a distributed ledger that is best used in a decentralized fashion.

The blockchain is
immutable, so no one can tamper with the data that is inside the blockchain

The blockchain is
not Bitcoin or any other cryptocurrency, but the technology underlying them.

The blockchain is
secured by the computer processing power in the network that updates the records.

The blockchain is
managed by a decentralized network that verifies and puts a time-stamp on payments.

The blockchain is
after all, just an internet-hosted network which stores information as a shared database.

The blockchain is
custom-made for decentralizing trust and exchanging assets without central intermediaries.

The blockchain is
all the framework needed to create the most secure and efficient voting system in the world.

The blockchain is
designed to have its ledger updated quickly and regularly to include the latest transactions.

The blockchain is
intended to be decentralized and not require trust between any of the members of its network.

The blockchain is
supported by the transaction fees (or at least it will be when all the bitcoin has been mined)

The blockchain is

public: anyone can view it at any time because it resides on the network… and the blockchain is

The blockchain is
designed in a way such that the average time for a block to be generated remains fairly constant.

The blockchain is
intended to provide a tamper-proof record of transaction metadata, regardless of transaction type.

The blockchain is
simply a digital way to transfer ownership of assets in a more efficient and a more effective way.

The blockchain is
designed to make transactions safe and reliable even if the people doing them don’t trust each other.

The blockchain is
public where transactions are recorded and visible to everyone, therefore it is not purely anonymous.

The blockchain is
shared among the numerous computers that participate in the transaction-clearing process known as "mining.

The blockchain is
great at knowing what’s encoded on its decentralized ledger and how to execute and enforce smart contracts.

The blockchain is
essentially a giant record book of all Bitcoin transactions, it is to Bitcoin what the internet is to email.

The blockchain is
decentralized, meaning that multiple, independent machines are running copies of the blockchain ledger at once.

The blockchain is

distributed: it runs on computers provided by volunteers around the world; there is no central database to hack.

The blockchain is
also very secure, since any application running on it is distributed across a wide network, not an individual database.

The blockchain is
also distributed decentrally on all integrated computers worldwide, which is why manipulation is considered almost impossible

The blockchain is
powerful technology that enables Bitcoin, Litecoin, Dogecoin, and other virtual currencies to be open, anonymous, and secure.

The blockchain is a
complete listing of all transactions, whether financial or otherwise.

The blockchain is a
distributed ledger that is comprised of “blocks” that each have data.

The blockchain is a
revolutionary technology that works on a ‘distributed ledger system’.

The blockchain is a
decentralized ledger of all transactions across a peer-to-peer network.

The blockchain is a
public ledger where transactions are recorded and confirmed anonymously.

The blockchain is a
distributed ledger that embeds contracts and transactions in digital code.

The blockchain is a
form of digital record keeping that has advantages over other methodologies.

The blockchain is a
little bit like the teacher at the front of the class who marks math homework,

The blockchain is a
ledger, and we most often think of ledgers as containing financial transactions.

The blockchain is a
peer-to-peer system, meaning that transactions are between you and another party.

The blockchain is a
distributed, public ledger that contains the history of every bitcoin transaction.

The blockchain is a
ledger stored on each network node as a copy of the "original" set of transactions.

The blockchain is a
kind of public database, one stored simultaneously on a bunch of different computers.

The blockchain is a
digital rubber stamp, so anything that takes a seal right now is heading for the chop.

The blockchain is a
chain of blocks where each block contains data of value without any central supervision.

The blockchain is a
globally distributed database that anyone can add to, but whose history no-one can modify.

The blockchain is a
technology that is used to continuously record every bitcoin transaction that takes place.

The blockchain is a
method of maintaining the register without the need for a centralized financial institution.

The blockchain is a
time-stamped, non-repudiable database that contains the entire logged history of the system.

The blockchain is a

database displayed publicly for every Bitcoin transaction that happened in the Bitcoin network.

The blockchain is a
decentralized ledger of transactions that verifies and enforces contracts coded onto the chain.

The blockchain is a
distributed database that provides an unalterable, (semi-)public record of digital transactions.

The blockchain is a
digital booking system that accurately tracks all transactions and saves every change as a “block”.

The blockchain is a
distributed file system where participants keep copies of the file and agree on changes by consensus.

The blockchain is a
technology that has allowed for the creation of a peer-to-peer network in order to transact a currency

The blockchain is a
distributed public ledger that allows individuals who don’t know and trust each other to transfer value.

The blockchain is a
ledger that keeps track of how much ‘stuff’ (ie BTC, ETH,…create your own currency if you wish) you have.

The blockchain is a
distributed ledgers that does not rely on a trusted central authority to maintain and validate the ledger.

The blockchain is a
more secure way to store and transfer funds, particularly if you keep a modest value in your virtual wallet.

The blockchain is a

secure network because each transaction is encrypted with a hash that is used to verify the succeeding hash.

The blockchain is a
shared source of truth which will decentralize the power of information effectively to the edge, to the user.

The blockchain is a
technology that is supposed to be all about distributing power and information away from central authorities.

The blockchain is a
linked list which contains data and a hash pointer which points to its previous block, hence creating the chain.

The blockchain is a
new distributed platform that is helping us re-shape the world of business and transform society for the better.

The blockchain is a
decentralized database that allows individuals to trade directly without the need for a third-party intermediary.

The blockchain is a
distributed network that solves all the problems that we have of finance, but more broadly, it's like a philosophy.

The blockchain is a
tool that could prove the existence and exact contents of any document or other digital asset at a particular time.

The blockchain is a
public ledger of every transfer the bitcoin community makes, and many different people can make entries into that ledger.

The blockchain is a
public, decentralized, distributed ledger that is capable of storing and confirming the transactions that pass through it.

The blockchain is a

means of offering personalized decentralized governance services, sponsoring literacy, and facilitating economic development.

The blockchain is a
public, decentralised database that records each Bitcoin transaction in "block" sequences of code; a digital ledger, if you like.

The blockchain is a
secure transaction ledger database that is shared by all parties participating in an established, distributed network of computers.

The blockchain is a
global distributed ledger, which facilitates the movement of assets across the world in seconds, with only a minimal transaction fee.

The blockchain is a
new way of managing trust and can be used to verify many types of data in insurance contracts, such as the insured person’s identity.

The blockchain is an
amalgamation of maths, computer science, philosophy, psychology, and trustlessness.

The blockchain is an
immutable, absolute record of facts of what actually is happening and what has happened.

The blockchain is the
backbone ledger that tracks and verifies the movement of cryptocurrencies.

The blockchain is the
technology that is serves as the distributed ledger that forms the network.

The blockchain is the
core of Bitcoin as it is the summary of all the transactions in the Bitcoin Network.

The blockchain is the
decentrally maintained append-only log of all transactions verified on the Bitcoin network.

The blockchain is the

distributed ledger that keeps track of all transactions made using the Bitcoin cryptocurrency.

The blockchain is the
distributed database that gives an alterable and semi public record of the digital transactions.

The blockchain is the
first technology that enables the transfer of digital ownership in a decentralized and trustless manner.

The blockchain is the
public ledger that holds a permanent record of all bitcoin transactions, and is maintained by the miners.

The blockchain is the
main technical innovation behind bitcoin, serving as the public ledger of the virtual currency’s transactions.

The blockchain is the
open-source, distributed ledger that records every bitcoin transaction, but can also store small bits of non-financial data.

The blockchain technology is
built upon the idea of decentralization, allowing users to interact without the use of an intermediary.

The blockchain technology is the
technology that powers the bitcoin cryptocurrency and other cryptocoins.

A blockchain is an
encrypted and shared database that's spread across more than one computing device.

A blockchain is an
encoded digital ledger that is stored on multiple computers in a public or private network.

A blockchain is an
excellent form of DB storage system, which uses records to store data or huge amount of information.

A blockchain is the
structure of data that represents a financial ledger entry, or a record of a transaction.

A blockchain is the
data structure that the Bitcoin cryptocurrency uses for its public ledger, where transactions are recorded.

Blockchain is the
best mechanism currently available to deal with the problems in the supply chain

Blockchain is the
technology that is spearheading the momentum of democracy and decentralization in online world.

Blockchain is the
ideal technology for building a connected record of a supply chain and the provenance of individual items.

Blockchain is the
requirement of the current time because it makes our handling of online transactions and engagements very secure.

Blockchain is
not bitcoin.

Blockchain is
Decentralized:

Blockchain is
secure and safe.

Blockchain is
not just Bitcoin.

Blockchain is
merely a database,

Blockchain is
all about software.

Blockchain is
additive technology.

Blockchain is
Like a Public Ledger

Blockchain is
not just for Bitcoin

Blockchain is
Highly Hack-Resistant

Blockchain is
more than a database.

Blockchain is
NOT a cryptocurrency.

Blockchain is
Not Only About Bitcoin

Blockchain is
much more than bitcoin.

Blockchain is
quite secure by design.

Blockchain is
not just about currency:

Blockchain is
not only for transactions.

Blockchain is
immutable, or unchangeable.

Blockchain is
NOT a programming language.

Blockchain is

not bitcoin - it's far more

Blockchain is
being used as a security tool.

Blockchain is
built on a distributed ledger.

Blockchain is
necessary for cryptocurrencies.

Blockchain is
also immutable, or unchangeable.

Blockchain is
first of all, a design principle

Blockchain is
good at storing immutable blocks.

Blockchain is
more than just a regulatory tool.

Blockchain is
NOT a cryptographic codification.

Blockchain is
one type of a distributed ledger.

Blockchain is
NOT a Python library or framework.

Blockchain is
really just a dumb, slow database,

Blockchain is
not a secure messaging replacement:

Blockchain is
nothing more than a fancy checksum.

Blockchain is
open, and everyone sees everything.

Blockchain is
just the vicious and toxic dark web.

Blockchain is
like the internet before the browser

Blockchain is
not bitcoin or other cryptocurrency.

Blockchain is
not Bitcoin-Bitcoin is not Blockchain

Blockchain is
one kind of decentralised technology,

Blockchain is
not a double-entry bookkeeping system.

Blockchain is
rooted in validation, not just claims.

Blockchain is
all about replacing trust with software.

Blockchain is
first and foremost, accounting software.

Blockchain is
known as “distributed ledger” technology.

Blockchain is
NOT an IA or Machine Learning technology.

Blockchain is
Just a Way of Recording Transactions in a Ledger.

Blockchain is
best-known for powering the digital currency Bitcoin.

Blockchain is
open to all, while DLT gives more control over access.

Blockchain is
not a technological solution to a technological problem,

blockchain is
about a trusted information-sharing platform for business.

Blockchain is
not a database, it's a protocol for syncing the databases.

Blockchain is
nearly impossible to hack due to its distributed structure.

Blockchain is
often conflated with cryptocurrency as a speculative asset.

Blockchain is
very useful for proof-of-work, auditing and data integrity,

Blockchain is
basically just a decentralized database - a ledger if you will.

Blockchain is
like an accounting book everyone can see, a distributed ledger.

Blockchain is
decentralized and distributed among a huge network of computers.

Blockchain is
actually a concept, not an implementation or a single technology.

Blockchain is
much more than the database ledger technology that powers bitcoin.

Blockchain is
immutable; it cannot be changed, so records are permanently stored,

Blockchain is a

distributed database.

Blockchain is a
single source of truth.

Blockchain is a
single system of record.

Blockchain is a
shared ledger technology.

Blockchain is a
public distributed ledger.

Blockchain is a
web-based bitcoin platform.

Blockchain is a
fast, reliable ledger system.

Blockchain is a
secured distributed database.

Blockchain is a
checksum/encapsulation method.

Blockchain is a
public record of transactions.

Blockchain is a
stripped-down payments system.

Blockchain is a
secure, shared, distributed ledger.

Blockchain is a
technology for promoting user trust.

Blockchain is a
distributed digital ledger technology.

Blockchain is a
revolution in the flow of information.

Blockchain is a
collection of technologies – five or six,

Blockchain is a
layer under the hood of a cryptocurrency.

Blockchain is a
metonymy - a part used to refer to the whole.

Blockchain is a
collaborative environment; it needs nurturing.

Blockchain is a
confusion because there are so many variations.

Blockchain is a
distributed, validated data ledger, not a database.

Blockchain is a
replacement for bookkeeping and reconciliation work.

Blockchain is a
novel solution to the age-old human problem of trust.

Blockchain is a
Potential 'Truth Machine' For The World's Transactions

Blockchain is a
public distributed database holding encrypted ledgers.

Blockchain is a
critical part of the bitcoin peer-to-peer payment system.

Blockchain is a
term that has to come to mean many things to many people.

Blockchain is a
digital ledger system used to securely record transactions.

Blockchain is a
technology that facilitates trust between trading partners.

Blockchain is a
digital record of data and transactions chronologically linked.

Blockchain is a
versatile technology, capable of being used for many industries.

Blockchain is a
digital ledger that up keeps a record of ever-growing set of data.

Blockchain is a
database that maintains a continuously growing set of data records.

Blockchain is an
accounting technology.

Blockchain is an
online ledger that records transactions.

Blockchain is an
immutable, distributed record of transactions.

Blockchain is an
open decentralized database – a distributed ledger.

Blockchain is the
technology behind bitcoin.

Blockchain is the
machine that produces trust.

Blockchain is the
backbone of cryptocurrencies.

Blockchain is the
technology that runs Bitcoin.

Blockchain is the

breakthrough technology behind bitcoin.

Blockchain is the
concept and Bitcoin is the implementation.

Blockchain is the
backbone of digital or cryptocurrency, Bitcoin.

Blockchain is the
core technology that is used to enable Bitcoins.

Blockchain is the
backbone behind peer-to-peer electronic payments.

Blockchain is the
technology behind bitcoin and other cryptocurrencies

Blockchain is the
technology that enables cryptocurrency like bitcoin.

Blockchain is the
core system that underpins the cryptocurrency Bitcoin.

Blockchain is the
Infrastructure For a New Decentralized Sharing Economy

Blockchain is the
technology behind bitcoin, but it has many other uses too.

Blockchain is the
technology that supports cryptocurrencies such as Bitcoin.

Blockchain is the
underlying technology of the cryptocurrency called bitcoin.

Blockchain is the
technology behind cryptocurrencies like Bitcoin and Ethereum.

Blockchain is the
technology at the heart of bitcoin and other cryptocurrencies.

Blockchain is the
digital and decentralized ledger that records all transactions.

Blockchain is the
financial technology underpinning the bitcoin digital currency.

Blockchain technology is a
type of Distributed Ledger Technology (DLT).

A blockchain is
just a file.

A blockchain is
intentionally immutable.

A blockchain is
distributed by its nature.

A blockchain is
in short, an expensive radiator.

A blockchain is
different, as by design it is perfectly auditable.

A blockchain is
essentially a shared database with no master copy.

A blockchain is
basically a distributed digital ledger or database.

A blockchain is
essentially a continuously growing list of records.

A blockchain is
just a new, more secure way of databasing information.

A blockchain is
not one global entity-there are several blockchains.

A blockchain is
designed to keep an immutable log of every transaction.

A blockchain is
essentially a secure, distributed, and shared database.

A blockchain is
distributed across and managed by peer-to-peer networks.

A blockchain is
nothing more than lists of transactions chained together.

A blockchain is
built by running software and linking several nodes together.

A blockchain is a
ledger

A blockchain is a
data structure.

A blockchain is a
chain of blocks.

A blockchain is a
distributed ledger.

A blockchain is a
chain of blocks, obviously.

A blockchain is a
massive, decentralized ledger.

A blockchain is a
digital record of transactions.

A blockchain is a
literal technology, not a metaphor

A blockchain is a
chain of blocks that contain information

A blockchain is a

diary that is almost impossible to forge.

A blockchain is a
chain of blocks which contain information.

A blockchain is a
public ledger of all Bitcoin transactions.

A blockchain is a
secure “ledger” or a list of transactions.

A blockchain is a
type of data store that stores anything of digital value.

A blockchain is a
virtual chain of blocks that is used to store information.

A blockchain is a
distributed ledger technology that forms a “chain of blocks.

A blockchain is a
distributed database that acts as a peer-to-peer ledger system.

A blockchain is a
decentralized peer-to-peer system with no central authority figure.

A blockchain is an
immutable list of linked blocks.

The blockchain is
like a logbook, or a ledger.

The blockchain is
also a sort of assets exchange.

The blockchain is
basically a distributed database.

The blockchain is
often described as digital ledger.

The blockchain is
both decentralized and transparent.

The blockchain is
not cryptocurrency, and vice versa.

The blockchain is
based on a computational sort of trust,

The blockchain is
just that - a chain of multiple blocks.

The blockchain is
what we call a “trustless” architecture.

The blockchain is
decentralized, incorruptible recordkeeping.

The blockchain is
also called a “public” or “distributed” ledger.

The blockchain is
encrypted using a public key and a private key.

The blockchain is
like a huge, global, decentralized spreadsheet.

The blockchain is
sustained by the volatile efforts of the miners.

The blockchain is
maintained by thousands of independent computers.

The blockchain is
just an added layer for some additional functions.

The blockchain is
not Bitcoin, but it is the technology behind Bitcoin

The blockchain is
also known as a database and is a distributed ledger.

The blockchain is
ultimately a ledger that represents accounting entries.

The blockchain is
permission-less, anyone can participate around the world.

The blockchain is
ultimately about solving society’s ultimate challenge: trust.

The blockchain is
capable of time-stamping and recording a document for eternity.

The blockchain is
resistant to compromise due to the nature of the linked blocks.

The blockchain is
decentralized so it can’t be manipulated by one person or entity.

The blockchain is
not just about cryptocurrencies and faster peer-to-peer payments.

The blockchain is
usually described as a distributed ledger but it's not even that.

The blockchain is
the record of the bitcoin amounts associated with those addresses.

The blockchain is
built on the precept that the majority of a crowd is always honest.

The blockchain is a
World Wide Ledger

The blockchain is a
long list of blocks.

The blockchain is a
decentralized ledger.

The blockchain is a

new type of database.

The blockchain is a
proof-of-work system.

The blockchain is a
New Model of Governance

The blockchain is a
distributed public ledger.

The blockchain is a
Collaborative, Secure Data Ledger

The blockchain is a
shared public ledger for Bitcoin.

The blockchain is a
Tempting Target for Central Banks

The blockchain is a
Reminder of the Internet's Failure

The blockchain is a
record of every Bitcoin transaction.

The blockchain is a
digital, decentralised, distributed ledger.

The blockchain is a
software protocol (like SMTP is for email).

The blockchain is a
cloud venue for transnational organizations.

The blockchain is a
database, which is distributed among all nodes.

The blockchain is a
public ledger that records bitcoin transactions.

The blockchain is a
database of details about every Bitcoin transaction.

The blockchain is a
distributed ledger book of all Bitcoin transactions.

The blockchain is a
continually-growing digital register of transactions.

The blockchain is a
ledger of all transactions in the history of Bitcoin.

The blockchain is a
digitized, decentralized, public ledger of transactions.

The blockchain is a
decentralized group of blocks that is continuously growing.

The blockchain is a
decentralized system, with no single entity controlling it.

The blockchain is a
cryptographically secure index of every Bitcoin transaction.

The blockchain is a
peer-to-peer distributed ledger of time-stamped transactions.

The blockchain is a
perfect keeper of the chain of custody for any physical asset.

The blockchain is a
big file that keeps track of all Bitcoin transactions ever made

The blockchain is a
shared public ledger on which the entire Bitcoin network relies.

The blockchain is a
decentralized ledger of transactions recorded using cryptography.

The blockchain is a
file that contains a list of every bitcoin transaction ever made.

The blockchain is a
foundational technology, like TCP/IP, which enables the Internet.

The blockchain is an
open distributed ledger.

The blockchain is an
institutional technology.

The blockchain is an
immutable, anonymous, unhackable, and decentralized ledger.

The blockchain is the
system of record.

The blockchain is the
technology behind Bitcoins.

The blockchain is the
financial challenge of our time.

The blockchain is the
universal record of all bitcoin transactions.

The blockchain is the
system that keeps track of bitcoin transactions.

The blockchain is the
platform which brings cryptocurrencies into play.

The blockchain is the
underlying technology of cryptocurrencies like bitcoin.

The blockchain is the
data structure that records the transfer of scarce objects.

The blockchain is the
software that both powers and regulates cryptocurrency bitcoin.

[…]blockchain is

Bitcoin

[…]blockchain is
not Bitcoin

[…]blockchain is
not scalable

[…]blockchain is
open source.

[…]blockchain is
kept in sync.

[…]blockchain is
considered safe

[…]blockchain is
about integrity.

[…]blockchain is
easy to integrate.

[…]blockchain is
incredibly secure.

[…]blockchain is
more than Bitcoin.

[…]blockchain is
very hard to hack.

[…]blockchain is
all about security.

[…]blockchain is
slow and inefficient

[…]blockchain is
like a Bank Passbook.

[…]blockchain is
‘de-intermediarization.

[…]blockchain is
fast and powerful database.

[…]blockchain is
virtually impossible to hack.

[…]blockchain is
supposed to be self-governing.

[…]blockchain is
immutable, secure and transparent.

[…]blockchain is
where anonymity meets transparency

[…]blockchain is
essentially a record of transactions.

[…]blockchain is
actually managed by distributed nodes.

[…]blockchain is
not Bitcoin-Bitcoin is not Blockchain”

[…]blockchain is
just a distributed database of records.

[…]blockchain is
nothing more than a glorified spreadsheet.

[…]blockchain is
broadcasted to the everyone in the network.

[…]blockchain is
not optimized for high transaction systems,

[…]blockchain is
decentralized and therefore is not developing

[…]blockchain is
restricted to 7 tps and a max of 1mb per block

[…]blockchain is
running across countless numbers of computers.

[…]blockchain is
only the underlying technology behind Bitcoins.

[…]blockchain is
simply a tracking mechanism that is incorruptible.

[…]blockchain is
more a design principle than a particular technology.

[…]blockchain is
basically just a ledger, a system for keeping records.

[…]blockchain is
designed to be immutable, tamper-proof and democratic.

[…]blockchain is
hacker-resistant due to the immutable nature of the records.

[…]blockchain is
suited to storing small transaction records, not large files.

[…]blockchain is
still just a database, a distributed one with tamper protection.

[…]blockchain is a
better ledger.

[…]blockchain is a
database innovation.

[…]blockchain is a
shared public chain.

[…]blockchain is a

shared public ledger.

[…]blockchain is a
fully redundant data repository.

[…]blockchain is a
write-once, append-many electronic ledger.

[…]blockchain is a
fully functional Distributed Ledger Technology.

[…]blockchain is a
database, innovative and unique, but still a database.

[…]blockchain is a
decentralized (peer-to-peer) network composed of nodes.

[…]blockchain is a
distributed database that has no single decision maker.

[…]blockchain is a
distributed system for maintaining distributed ledgers.

[…]blockchain is a
digital platform for recording and verifying transactions.

[…]blockchain is a
record-keeping system possessing a specific set of attributes.

[…]blockchain is a
de-centralized or distributed self-governance community system.

[…]blockchain is a
distributed network performing certain actions programmed into it.

[…]blockchain is a
general technique, not a single product or software implementation.

[…]blockchain is an
immutable record book.

[…]blockchain is an
Append-Only Chain of Blocks

[…]blockchain is the
technology backbone of Bitcoin.

[…]blockchain is the
ledger to keep track of who owns the digital tokens

[…]blockchain is the
technology upon which bitcoin transactions are built.

[…]blockchain is the
decentralized ledger that tracks cryptocurrency transactions.

[…]Blockchain technology is
the “internet of value”.

[…]Blockchain technology is
larded through with trust.

[…]Blockchain technology is
about far more than just Bitcoin.

[…]Blockchain technology is
essentially a new approach to database architecture.

[…]Blockchain technology is
rooted in the world of cryptocurrencies, more specifically Bitcoin.

[…]a Blockchain is
decentralized.

[…]a Blockchain is
deterministic.

[…]a Blockchain is
just a spreadsheet.

[…]a Blockchain is
just a way to structure data.

[…]a Blockchain is
represented as a spreadsheet.

[…]a Blockchain is
just a special kind of database.

[…]a Blockchain is
comprised of a bunch of technologies that are actually pretty old.

[…]a Blockchain is
simply a distributed ledger that tracks transactions among parties.

[…]a blockchain is a
ledger.

[…]a blockchain is a
type of DLT.

[…]a blockchain is a
decentralized ledger system.

[…]a blockchain is a
list of records (or blocks).

[…]a blockchain is a
database, a database is not a blockchain.

[…]a blockchain is a
database that is copied across multiple nodes.

[…]a blockchain is a
surprisingly simple and elegant data structure.

[…]a blockchain is a
collection of information organized into blocks.

[…]a blockchain is a
record of transactions, like a traditional ledger.

[…]a blockchain is an

incorruptible digital ledger.

[…]a blockchain is an
ever-growing set of data blocks.

[…]a blockchain is an
immutable, sequential chain of records called Blocks.

[…]a blockchain is the
only place where absence of evidence is evidence of absence.

[…]the blockchain is
code.

[…]the blockchain is
immutable.

[…]the blockchain is
tamperproof

[…]the blockchain is
incorruptible…

[…]the blockchain is
just a database.

[…]the blockchain is
simply a ledger.

[…]the blockchain is
secure and up-to-date.

[…]the blockchain is
completely transparent.

[…]the blockchain is
distributed, digital ledger.

[…]the blockchain is
transparent and tamper-proof.

[…]the blockchain is
public and distributed widely.

[…]the blockchain is
more like a journal than a ledger.

[…]the blockchain is
currency that you're moving around.

[…]the blockchain is
distributed and decentralised ledger.

[…]the blockchain is
what the word says; a chain of blocks.

[…]the blockchain is
completely decentralized and open source.

[…]the blockchain is
often referred to as a distributed ledger.

[…]the blockchain is
just one particular type of distributed ledger.

[…]the blockchain is
nothing more than a collection of transactions.

[…]the blockchain is
simply an online ledger shared by many parties.

[…]the blockchain is
also called a distributed or a decentralized ledger.

[…]the blockchain is
bitcoin's essence and is owed credit for its success.

[…]the blockchain is
inclined to record formal agreements between parties.

[…]the blockchain is
shared like a BitTorrent file across the bitcoin network.

[…]the blockchain is
maintained by, and visible to, anyone who trades bitcoins.

[…]the blockchain is
as a journal or diary shared by people all over the world.

[…]the blockchain is
just a public ledger of transactions on the bitcoin network.

[…]the blockchain is
actually composed of single transactions known as ""blocks."

[…]the blockchain is
never deleted, because it would have to be deleted by all nodes.

[…]the blockchain is a
ledger.

[…]the blockchain is a
protocol of trust.

[…]the blockchain is a
new way to store data

[…]the blockchain is a
network and a database.

[…]the blockchain is a
ledger of data integrity.

[…]the blockchain is a
giant, distributed computer

[…]the blockchain is a
magical database in the cloud

[…]the blockchain is a
new “value exchange” network.

[…]the blockchain is a

linear sequence of linked blocks.

[…]the blockchain is a
decentralised, distributed ledger.

[…]the blockchain is a
system of permanent record that keeps growing.

[…]the blockchain is a
decentralized, consensus-based, time-stamped ledger.

[…]the blockchain is a
list of Bitcoin transfers with a 40 character memo line.

[…]the blockchain is a
record of who has owned every bitcoin since its inception.

[…]the blockchain is a
system for eliminating the need for trust in transactions.

[…]the blockchain is a
giant ledger that keeps track of who owns how much bitcoin.

[…]the blockchain is a
decentralized ledger for all of the transactions in a network.

[…]the blockchain is a
shared public ledger on which the entire Bitcoin network relies.

[…]the blockchain is an
information technology.

[…]the blockchain is an
“Inefficient, Imposing Mastodon”

[…]the blockchain is an
integral part of the world of crypto coins,

[…]the blockchain is an
inherently feminine way to move value across the world.

[…]the blockchain is an
authority tied to mathematics, not the government or lawyers.

[…]the blockchain is an
ever-growing database which will only grow bulkier with time.

[…]the blockchain is the
new database

[…]the blockchain is the
ultimate legal library.

[…]the blockchain is the
trust anchor for the world’s data.

[…]the blockchain is the
underlying technology that powers Bitcoin.

[…]the blockchain is the
beating heart of Bitcoin, the world's most popular cryptocurrency.

[…]blockchain is a
Bubble

[…]blockchain is a
bad idea.

[…]blockchain is a
global endeavor.

[…]blockchain is a
quick win if used.

[…]blockchain is a
relatively new concept.

[…]blockchain is a
‘Trend to Watch Out For’

[…]blockchain is a
foundational technology.

[…]blockchain is a
natural fit with telehealth

[…]blockchain is a
Terrible Idea for Applications

[…]blockchain is a
necessity for modern business now.

[…]blockchain is a
relatively straightforward concept.

[…]blockchain is a
solution looking for problems to solve.

[…]blockchain is a
Game Changer for Supply Chain Management

[…]blockchain is a
potential game-changer in the rail realm,

[…]blockchain is a
major breakthrough and has great potential.

[…]blockchain is a
Game Changer for Supply Chain Management Transparency

[…]blockchain is a
way to look like you're on the leading edge of technology.

[…]blockchain is a
fundamental part of the new operating system for the planet.

[…]blockchain is a
foundational technology that will require broad coordination.

[…]blockchain is a
game-changing innovation that will reshape entire industries.

[…]blockchain is a

technology with an exceptionally broad set of potential uses.

[…]blockchain is a
somewhat slow technology when compared to what already exists.

[…]blockchain is a
failure because it has been 10 years and not much has come of it?

[…]blockchain is a
remarkable solution to problems that we have not even imagined yet.

[…]blockchain is an
ideal solution for businesses.

[…]blockchain is an
ideal solution for businesses in a lot of ways.

[…]blockchain is an
ideal solution for the global food supply chain.

[…]blockchain is an
ideal technological medium for the healthcare industry:

[…]blockchain is an
enabler of new innovation and disruption of the tourism industry.

[…]blockchain is the
Truth

[…]blockchain is the
Forest

[…]blockchain is the
Future

[…]blockchain is the
new black

[…]blockchain is the
only one.

[…]blockchain is the
solution.

[…]blockchain is the
innovation.

[…]blockchain is the
future of IoT

[…]blockchain is the
‘next big unlock’

[…]blockchain is the
obvious solution.

[…]blockchain is the
future of business

[…]blockchain is the
logical next step.

[…]blockchain is the
future of purchasing

[…]blockchain is the
most logical choice.

[…]blockchain is the
solution to your ills.

[…]blockchain is the
record of transactions.

[…]blockchain is the
Biggest Innovation Today

[…]blockchain is the
digital medium of value.

[…]blockchain is the
Solution to Banking Woes

[…]blockchain is the
next great database tech.

[…]blockchain is the
next phase of the Internet

[…]blockchain is the
Future Of The Sharing Economy

[…]blockchain is the
Grownup in the Crypto Playroom

[…]blockchain is the
new business collaboration tool

[…]blockchain is the
next evolution of the internet.

[…]blockchain is the
Right Fit for Gold and Diamonds

[…]blockchain is the
disruptive technology of the future.

[…]blockchain is the
missing link to IoT transformations

[…]blockchain is the
next “big thing” in asset management.

[…]blockchain is the
right technology for your situation,

[…]blockchain is the
most important IT invention of our age,

[…]blockchain is the
most popular digital wallet in the world.

[…]blockchain is the

most secure paradigm the world has ever seen.

[…]blockchain is the
right tool for the job when it comes to Bitcoin.

[…]blockchain is the
missing link to transform electric power industry

[…]blockchain is the
solution to protecting from food fraud and adulteration.

[…]blockchain is the
safest and cheapest alternative to any company's intranet.

[…]blockchain is the
first native digital medium for peer-to-peer value exchange.

[…]blockchain is the
most over-hyped - and least useful - technology in human history,

[…]Blockchain technology is
the future.

[…]Blockchain technology is
very powerful…

[…]Blockchain technology is
well accepted.

[…]Blockchain technology is
changing rapidly.

[…]Blockchain technology is
making headlines!

[…]Blockchain technology is
Affecting Humanity

[…]Blockchain technology is
valuable because it is open.

[…]Blockchain technology is
not a bubble, but Bitcoin is,

[…]Blockchain technology is
a challenge and an opportunity.

[…]Blockchain technology is
Transforming the Legal Industry

[…]Blockchain technology is
still very much in the spotlight.

[…]Blockchain technology is
likely to be extremely disruptive.

[…]Blockchain technology is
a more than commendable innovation.

[…]Blockchain technology is
a threat to nations and corporations.

[…]Blockchain technology is
still a mystery to many business people.

[…]Blockchain technology is
'Disrupting' The Art Economy As We Know It

[…]Blockchain technology is
much more than Bitcoin or cryptocurrencies.

[…]Blockchain technology is
bringing a change in learning and development.

[…]Blockchain technology is
different from what we are currently doing today.

[…]Blockchain technology is
a profound solution to a seemingly impossible problem.

[…]Blockchain technology is
the antidote for all the toxic ills unleashed by Internet anarchy.

[…]blockchain technology is a
challenge and an opportunity.

[…]blockchain technology is a
more than commendable innovation.

[…]blockchain technology is a
threat to nations and corporations.

[…]blockchain technology is a
profound solution to a seemingly impossible problem.

[…]blockchain technology is a
sophisticated, interesting, and emerging technology.

Blockchain is a
miracle

Blockchain is a
Unicorn

Blockchain is a
Passing Fad

Blockchain is a
game changer,

Blockchain is a
Powerful Tool

Blockchain is a
game-changer,

Blockchain is a
paradigm shift

Blockchain is a
Semantic Wasteland

Blockchain is a

useless technology

Blockchain is a
key part of Bitcoin.

Blockchain is a
big deal for Marketers

Blockchain is a
disruptive technology.

Blockchain is a
money-burning disaster

Blockchain is a
revolutionary concept.

Blockchain is a
foundational technology:

Blockchain is a
hot technology right now.

Blockchain is a
highly malleable technology.

Blockchain is a
buzzword in the financial industry,

Blockchain is a
Game-Changer for Online Advertising

Blockchain is a
potentially transformative technology .

Blockchain is a
technology that will change the world forever.

Blockchain is a
young technology, first conceptualised in 2008.

Blockchain is a
4th Industrial Rev Tech for Next Gen Energy Grid

Blockchain is a
New Model That Makes The Existing Model Obsolete

Blockchain is a
waste of time, energy and mental space - please stop.

Blockchain is a
truly extraordinary technology that does really mundane things

Blockchain is a
robust technology that resembles the internet in the early '90:

Blockchain is a
new foundational building block for doing business on the internet.

Blockchain is
often defined as a ledger that enables secure, encrypted transactions.

Blockchain is
all about how to store, share, and maintain data (transactions) securely.

Blockchain is
based on a simple idea, but built upon a complex technological framework.

Blockchain is
hailed as a more secure, faster and highly flexible network to transmit data.

Blockchain is
tamper-proof and immutable due to decentralization, cryptography and consensus.

Blockchain is
in simple terms, a digital ledger where transactions are made and recorded permanently.

blockchain is
digitally distributed across a number of computers in almost real-time: the blockchain is

Blockchain is
essentially a large database, where querying a hotel in Berlin might return 800 properties.

Blockchain is
about using technology to create a shared sense of trust by a group of disparate participants.

Blockchain is
essentially a ledger technology that uses cryptography to provide an authoritative record of secure transactions.

Blockchain is
most simply defined as a decentralized, distributed ledger technology that records the provenance of a digital asset.

Blockchain is
like a vast open-permissioned-interactive spreadsheet that everyone can access and update, but can’t change or delete.

blockchain is
time-stamped: transactions on the blockchain are time-stamped, making it useful for tracking and verifying information.

Blockchain is
open in the sense that it can be verified by any user, and access to it cannot be prevented by any central government authority.

Blockchain is
at its core, a method for humans to conduct secure, verified, and recorded transactions online without the use of a middle party.

Blockchain is
essentially a distributed database to which data can only be appended, which means that historic data cannot be lost nor corrupted.

Blockchain is
quite simply, a digital, decentralized ledger that keeps a record of all transactions that take place across a peer-to-peer network.

Blockchain is a

broad technology that is distinct from bitcoin and cryptocurrencies.

Blockchain is a
distributed database existing on multiple computers at the same time.

Blockchain is a
low-level, behind the scenes technology that creates secure databases.

Blockchain is a
technology that enables a convenient and secure exchange of information.

Blockchain is a
technology that was initially developed for Bitcoin, the cryptocurrency.

Blockchain is a
massive public ledger of every user activity across an extensive network.

Blockchain is a
technology which is used to create crypto money like bitcoin or ethereum.

Blockchain is a
distributed technology for storing data as an immutable series of records.

Blockchain is a
technology or an ecosystem, and it is not the same as blockchain software.

Blockchain is a
decentralized, digitized public ledger of all transactions of cryptocurrency.

Blockchain is a
technology that originated out of a branch of mathematics called cryptography.

Blockchain is a
digital log file, cryptographically protected, that secures online transactions.

Blockchain is a
cloud-based, permanent, distributed digital ledger of activities between parties.

Blockchain is a
distributed ledger, or database, shared across a public or private computing network.

Blockchain is a
form of digital ledger technology based on the decentralised ideal of cryptocurrency.

Blockchain is a
unique technology, capable of decentralizing networks and allowing people to connect.

Blockchain is a
form of shared database originally developed to underpin the digital currency bitcoin.

Blockchain is a
concatenated list in which every list entry (block) can comprise one or more data sets.

Blockchain is a
distributed system, which means that there is no central source of processed data in it.

Blockchain is a
technology that uses distributed databases, math and cryptography to record transactions.

Blockchain is a
fairly new technology platform that runs across millions of devices and is open to anyone.

Blockchain is a
space that allows a significant decrease in any sort of liable and responsible regulation.

Blockchain is a
type of distributed ledger where all data is replicated for all participants in real-time.

Blockchain is a
distributed electronic ledger that keeps a verifiable and unalterable record of transactions.

Blockchain is a
distributed peer-to-peer network which records transactions and assets on a business network.

Blockchain is a
highly disruptive innovation that will transform financial systems and many other industries.

Blockchain is a
document of transactions, spreading throughout the web as extra individuals use cryptocurrencies.

Blockchain is a
way of keeping track of stuff, without having a single party responsible for keeping track of it,

Blockchain is a
digital ledger that records transactions between parties and requires consensus among all parties.

Blockchain is a
public ledger type database made up of records called blocks that are linked together like a chain.

Blockchain is a
truly distributed system with built-in protections against losing communication with network nodes.

Blockchain is a
distributed database comprising records of transactions that are shared among participating parties.

Blockchain is a
programmable, native digital technology that enables simple and immediate execution of complex tasks.

Blockchain is a
type of distributed ledger for maintaining a permanent and tamper-proof record of transactional data.

Blockchain is a

global online database that anyone with an internet connection can use, but it doesnt belong to anyone.

Blockchain is a
decentralized database that maintains a continuously-growing list of records called blocks in a data chain.

Blockchain is a
technology that allows peer-to-peer transactions to be recorded on a distributed ledger across the network.

Blockchain is a
distributed database that holds records of digital data or events in a way that makes them tamper-resistant.

Blockchain is a
distributed ledger that captures transactions across a peer-to-peer network, which may be private or public.

Blockchain is a
way of securing financial data which is flexible enough to make an entreaty with any high-stake record keeping.

Blockchain is a
distributed database that stores all the Bitcoin transactions that have ever happened in the history of Bitcoin.

Blockchain is a
platform that can securely verify transactions and identities through a network of multiple decentralized records.

Blockchain is a
web-based bitcoin platform that makes using bitcoin safe, easy, and secure for all consumers and businesses worldwide.

Blockchain is a
technology to create and maintain cryptographically secure, shared, and distributed ledger (a database) for transactions.

Blockchain is a

decentralized, trustless, distributed ledger technology that was popuarlized by the Bitcoin global cryptocurrency platform.

Blockchain is a
digital ledger technology capable of recording transactions and storing data in immutable blocks across a distributed network.

Blockchain is a
peer-to-peer technology that uses its distributed ledger and advanced encryption to guarantee the provenance of every transaction.

Blockchain is a
distributed ledger technology that enables permissioned sharing of an immutable record among parties to create consensus and trust.

Blockchain is an
immutable, public, distributed ledger that anyone can read or write.

Blockchain is an
open, distributed ledger (in other words, a list of digital records) known as blocks.

Blockchain is an
example of a distributed computing system that incorporates high Byzantine fault tolerance

Blockchain is an
open-source, public, distributed computing technology, which is the basis of the well-known cryptocurrency bitcoin.

Blockchain is an
open, distributed ledger that can efficiently record transactions between two parties in a verifiable, permanent way.

blockchain is an
open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.

Blockchain is the
technology stack or enabler behind cryptocurrencies such as Bitcoin.

Blockchain is the

technology that tracks and authenticates cryptocurrency transactions.

Blockchain is the
underpinning technology that maintains the Bitcoin transaction ledger.

Blockchain is the
technology that makes bitcoin and all the other cryptocurrencies possible.

Blockchain is the
technology that enables the existence of cryptocurrency (among other things).

Blockchain is the
underlying technology ensuring transactions are accurate, transparent and immutable.

Blockchain is the
technology the underpins digital currency (Bitcoin, Litecoin, Ethereum, and the like).

Blockchain is the
name for a digital ledger program that allows a network of verified users to update data quickly.

Blockchain is the
underlying technology to what is commonly known as Bitcoin, however, the technology is not exclusive to Bitcoin.

Blockchain is the
technology behind all cryptocurrencies such as ethereum and bitcoin, but the financial industry is only one applications.

Blockchain technology is
simply using a network of computers as a ledger system to keep perfect records.

Blockchain technology is
nearly impossible to hack because of the decentralized nature of the technology.

Blockchain technology is
comprised of blocks that hold batches of time-stamped and encrypted transactions.

Blockchain technology is
also decentralized, which means there is no central point of failure and it displaces middlemen.

Blockchain technology is
not a company, nor is it an app, but rather an entirely new way of documenting data on the internet.

Blockchain technology is
by nature decentralized and collaborative, and the value of cryptocurrency is decided by the community.

Blockchain technology is
an invention that can be thought of as a ledger that keeps a record of economic transactions or anything of value.

Blockchain technology is
therefore well-suited for recording events, managing records, processing transactions, tracing assets, and voting.

Blockchain technology is a
tool for the management of information, specifically the records of transactions.

Blockchain technology is a
decentralised digital ledger that enables the secure transfer of data, transactions and records.

Blockchain technology is a
digital, distributed transaction ledger with identical copies maintained on each of the network's members' computers.

Blockchain technology is the
missing link to settle scalability, privacy, and reliability concerns in the Internet of Things.

Blockchain technology is the
building blocks on which cryptocurrencies can function, but its potential use reaches far beyond that

Blockchain is
one of the most misunderstood technologies in the history of mankind,

Blockchain is
as safe as it is, because its security is based on raw computing power.

Blockchain is
very complicated to understand, especially for the non-technical person.

Blockchain is
difficult for many people to understand, but so was the Internet initially.

Blockchain is
nothing new, but the combination of several existing technologies enables disruption.

Blockchain is
considered as being able to change the world again just like what the Internet technology did.

Blockchain is an
important step for businesses to achieve radical openness with security.

Blockchain is an
elegant piece of technology that does something very complicated very well.

[…]blockchain is
Fine

[…]blockchain is
free

[…]blockchain is
real

[…]blockchain is
bulky

[…]blockchain is
cool.

[…]blockchain is
over.

[…]blockchain is Boring

[…]blockchain is Cloud 2.

[…]blockchain is private.

[…]blockchain is useless.

[…]blockchain is democracy

[…]blockchain is important

[…]blockchain is inclusive

[…]blockchain is “useless”.

[…]blockchain is one thing.

[…]blockchain is very limited.

[…]blockchain is already in use

[…]blockchain is far from dead.

[…]blockchain is not a solution.

[…]blockchain is

not modifiable.

[…]blockchain is
too transparent

[…]blockchain is
‘Transformative’

[…]blockchain is
changing banking

[…]blockchain is
changing finance

[…]blockchain is
Changing the IoT

[…]blockchain is
Changing The Web

[…]blockchain is
considered best.

[…]blockchain is
easier to track.

[…]blockchain is
happening *now*.

[…]blockchain is
changing business

[…]blockchain is
connecting humans

[…]blockchain is
not for everyone.

[…]blockchain is
very restrictive.

[…]blockchain is
Changing Our World

[…]blockchain is
Disrupting Fashion

[…]blockchain is
disrupting loyalty

[…]blockchain is
Impacting Industry

[…]blockchain is
actually very dull.

[…]blockchain is
changing the world.

[…]blockchain is
only the beginning.

[…]blockchain is
Banking the Unbanked

[…]blockchain is
hot, bitcoin is not.

[…]blockchain is
Changing Gold Markets

[…]blockchain is
completely different.

[…]blockchain is
hardly revolutionary.

[…]blockchain is
most hyped tech ever,

[…]blockchain is
not a one-trick pony.

[…]blockchain is
overshadowing Bitcoin

[…]blockchain is
rich with possibility

[…]blockchain is
Worth Getting Excited

[…]blockchain is
worthy of investment.

[…]blockchain is
Coming for Agriculture

[…]blockchain is
dangerous for business

[…]blockchain is
finally becoming real!

[…]blockchain is
good for about a year.

[…]blockchain is
Impacting Social Media

[…]blockchain is
improving what you eat

[…]blockchain is
in every single place.

[…]blockchain is
itself being repaired.

[…]blockchain is
transforming payments.

[…]blockchain is

changing the way we pay

[…]blockchain is
key to future services.

[…]blockchain is
making steady progress.

[…]blockchain is
revolutionising careers

[…]blockchain is
Changing Computer Gaming

[…]blockchain is
Changing Money Transfers

[…]blockchain is
eliminating online fraud

[…]blockchain is
only a lunch discussion.

[…]blockchain is
quite popular on mobile.

[…]blockchain is
Transforming Health Care

[…]blockchain is
Boosting Renewable Energy

[…]blockchain is
great, but Bitcoin sucks!

[…]blockchain is
Helping Genomics Research

[…]blockchain is
indeed a viable solution.

[…]blockchain is
not such a bad technology

[…]blockchain is
supporting climate action

[…]blockchain is
being used by governments.

[…]blockchain is
Changing Digital Marketing

[…]blockchain is
Changing the Mortgage Game

[…]blockchain is
Ready To Take Center Stage

[…]blockchain is
Reinventing Your News Feed

[…]blockchain is
About More Than Just Crypto

[…]blockchain is
Indirectly Helping Insurers

[…]blockchain is
not the be-all and end-all.

[…]blockchain is
Revolutionizing Agriculture

[…]blockchain is
still in it’s early stages.

[…]blockchain is
Totally Changing Healthcare

[…]blockchain is
transforming energy systems

[…]blockchain is
Transforming Health Records

[…]blockchain is
Useless, All ICOs Are Scams

[…]blockchain is
what we need for our life …

[…]blockchain is
Worth Getting Excited About

[…]blockchain is
altering data and analytics.

[…]blockchain is
bringing staffing innovation

[…]blockchain is
changing money and business.

[…]blockchain is
just behind-the-scenes code.

[…]blockchain is
no 'magic wand' for security

[…]blockchain is
Real And Bitcoin Is A Mirage

[…]blockchain is
still in its nascent stages.

[…]blockchain is
About Growth Not Cost Savings

[…]blockchain is
Changing the Banking Industry

[…]blockchain is

definitely worth focusing on.

[…]blockchain is
everything and is everywhere,

[…]blockchain is
not the answer to everything.

[…]blockchain is
part of the physical process.

[…]blockchain is
Revolutionizing Cybersecurity

[…]blockchain is
Transforming the Supply Chain

[…]blockchain is
used in media and advertising

[…]blockchain is
Helping to Clean Up Our Oceans

[…]blockchain is
moving in the wrong direction.

[…]blockchain is
Poised to Impact Supply Chains

[…]blockchain is
set to Revolutionize Elections

[…]blockchain is
still a decade from mainstream

[…]blockchain is
changing Learning & Development

[…]blockchain is
Changing the Financial Industry

[…]blockchain is
disrupting the financial sector

[…]blockchain is
dominating discussions in Davos

[…]blockchain is
for real, and it is a big deal.

[…]blockchain is
Influencing the Gaming Industry

[…]blockchain is
Powering Up the Energy Industry

[…]blockchain is
reshaping the world of business

[…]blockchain is
taking hold across Asia Pacific

[…]blockchain is
growing faster than the internet

[…]blockchain is
revolutionising the legal sector

[…]blockchain is
Transforming The Energy Industry

[…]blockchain is
already transforming UAE industry

[…]blockchain is
building its own trading product.

[…]blockchain is
disrupting finance and accounting

[…]blockchain is
no bubble but ‘Bitcoin likely is’

[…]blockchain is
Redefining the Future of Commerce

[…]blockchain is
still an experimental technology.

[…]blockchain is
Striving To Meet Its Expectations

[…]blockchain is
what the Internet was in the 90s.

[…]blockchain is
Disrupting the Accounting Industry

[…]blockchain is
disrupting the insurance industry.

[…]blockchain is
far from being the norm – for now.

[…]blockchain is
No Silver Bullet For Cyber Threats

[…]blockchain is
probably the better long-term bet.

[…]blockchain is
reshaping the real estate industry

[…]blockchain is
Disrupting Programmatic Advertising

[…]blockchain is
helping investors value real estate

[…]blockchain is
likely to transform IT and business

[…]blockchain is

Revolutionizing The Gaming Industry

[…]blockchain is
set to shake up as much as banking.

[…]blockchain is
Helping Democratize Access to Credit

[…]blockchain is
Helping Technology Get Its Soul Back

[…]blockchain is
Important But “A Bit Of Distraction”

[…]blockchain is
Lined to Transform African Economies

[…]blockchain is
not a magic solution for everything.

[…]blockchain is
Ready to Break Out in the Enterprise

[…]blockchain is
really about solving a data problem.

[…]blockchain is
Redefining the Rules of Supply Chain

[…]blockchain is
revolutionary and paradigm-shifting.

[…]blockchain is
securing our expanding online world.

[…]blockchain is
Changing the Social Media Environment

[…]blockchain is
eliminating cheating in online gaming

[…]blockchain is
not a solution for all your problems.

[…]blockchain is
not subject to any unique regulation.

[…]blockchain is
on its way to Become the New Internet

[…]blockchain is
set to revolutionize mining for ever.

[…]blockchain is
not all it promises to be for finance.

[…]blockchain is
poised to transform the food industry.

[…]blockchain is
Revolutionizing The Financial Industry

[…]blockchain is
Set To Transform The Healthcare Sector

[…]blockchain is
still a secure thing if used properly.

[…]blockchain is
about way more than just sending money.

[…]blockchain is
Becoming the ‘New Normal’ In Enterprise

[…]blockchain is
Changing Banking and Financial Services

[…]blockchain is
Changing the Digital Marketing Industry

[…]blockchain is
designed for Business interactions only

[…]blockchain is
disrupting the digital marketing space.

[…]blockchain is
Making Waves In Media And Entertainment

[…]blockchain is
only in the bottom of the first inning.

[…]blockchain is
overhyped and top IT bods don't want it

[…]blockchain is
Reinventing Business Process Management

[…]blockchain is
Replacing Branding As A Source Of Trust

[…]blockchain is
revolutionizing supply chain management

[…]blockchain is
Solving the Biggest Problems in Fintech

[…]blockchain is
a bit of a distraction in the short term

[…]blockchain is
full of content that can land you in jail

[…]blockchain is
Impacting Data and Processes in Insurance

[…]blockchain is
neither cheap nor efficient to run – yet.

[…]blockchain is
not a financial services only technology.

[…]blockchain is

proving to be quite the disruptive force.

[…]blockchain is
’10 Times More Valuable Than the Internet’

[…]blockchain is
Finding a Place at Your Thanksgiving Table

[…]blockchain is
making an impact on the freelance economy.

[…]blockchain is
Reshaping The Advertising and Media Spaces

[…]blockchain is
Simplifying Pharmaceutical Track And Trace

[…]blockchain is
steadily rippling out to other industries.

[…]blockchain is
Creating a New Future for Digital Marketing

[…]blockchain is
Empowering Cyberpunks and Governments Alike

[…]blockchain is
now being used in numerous different areas.

[…]blockchain is
one of the most overhyped technologies ever

[…]blockchain is
real for many leading supply chain managers

[…]blockchain is
Threatening to Kill the Traditional Utility

[…]blockchain is
used with more than just crypto currencies.

[…]blockchain is
becoming a C-suite issue for asset managers.

[…]blockchain is
Impacting Healthcare And Life Sciences Today

[…]blockchain is
one of the most overhyped technologies ever.

[…]blockchain is
actually extremely limited in what it can do.

[…]blockchain is
now moving out of the peak of the hype phase.

[…]blockchain is
so attractive to be used for cryptocurrencies

[…]blockchain is
to value what the internet is to information.

[…]blockchain is
viewed as an aid to wholesale energy traders.

[…]blockchain is
fundamentally altering the business landscape.

[…]blockchain is
Good For Business, But Not Great For Consumers

[…]blockchain is
most useful where there is no claims adjusting

[…]blockchain is
nothing but useless and over-hyped technology.

[…]blockchain is
obscure and we need a better, friendlier word.

[…]blockchain is
only used for very decentralized applications.

[…]blockchain is
set to change the way the world does business.

[…]blockchain is
specifically designed to be easy to invest in.

[…]blockchain is
Perfect for Securing Our Expanding Online World

[…]blockchain is
redefining digital identities and data exchange

[…]blockchain is
disrupting the insurance industry for the better

[…]blockchain is
about to have an impact on nearly every industry.

[…]blockchain is
Bringing Technology Conversations Back in Lending

[…]blockchain is
quickly emerging as legal technology's new black.

[…]blockchain is
Reshaping Enterprise Software Development in 2018

[…]blockchain is
'Biggest Threat' to Future of US National Security

[…]blockchain is
being tested, but adoption is far from widespread.

[…]blockchain is
feeding an appetite for transparent food supplies.

[…]blockchain is
maintained by a network of people known as miners.

[…]blockchain is

Making it Easier for Fintech Companies to Scale Up

[…]blockchain is
most likely to change healthcare in the short-run.

[…]blockchain is
still five to 10 years away from going mainstream,

[…]blockchain is
used by Governments as a form of National Identity

[…]blockchain is
by definition independent, transparent, and secure.

[…]blockchain is
ideal for transforming a host of digital processes.

[…]blockchain is
abstract, technical and happening behind the scenes.

[…]blockchain is
bringing technology conversations back to the table.

[…]blockchain is
Changing The Face of Trucking, Logistics and Freight

[…]blockchain is
like the electricity that is powering the lightbulb.

[…]blockchain is
stuck in is actually holding global acceptance back.

[…]blockchain is
all talk and no show: great thunder, yet little rain.

[…]blockchain is
Enabling the New Era of Digital Financial Investments

[…]blockchain is
everywhere - and that includes media and advertising.

[…]blockchain is
pioneering transparent and secure business processes.

[…]blockchain is
solving industry problems, and this is the new world.

[…]blockchain is
something that we will hear about more in the future.

[…]blockchain is
about decentralized data, processes, and transactions.

[…]blockchain is
in its nascent phase -- think of the internet in 1996.

[…]blockchain is
surely going to rise significantly in the coming days.

[…]blockchain is
accelerating breakthroughs in its range of applications.

[…]blockchain is
Disrupting Enterprise Finance And Accounting Departments

[…]blockchain is
Enabling the New Era of Digital Financial Investmentment

[…]blockchain is
among the least exciting technologies making waves today.

[…]blockchain is
at the peak of inflated expectations on their hype cycle.

[…]blockchain is
not the solution itself, and it comes with its own risks.

[…]blockchain is
Revolutionizing The World Of Transportation And Logistics

[…]blockchain is
strengthening tuna traceability to combat illegal fishing

[…]blockchain is
doing to trust what the early internet did to information.

[…]blockchain is
introducing the second iteration of computation structure.

[…]blockchain is
leading the revolution in redefining the new-age internet.

[…]blockchain is
poised to change how people do business by offering trust.

[…]blockchain is
sometimes portrayed as a magical solution to all problems.

[…]blockchain is
having a significant impact on many domains and industries.

[…]blockchain is
here to stay and is transforming how our society functions.

[…]blockchain is
very useful for proof-of-work, auditing and data integrity.

[…]blockchain is
being absorbed into the economy and global political system.

[…]blockchain is
disruptive, it's bound by the same rules as most businesses.

[…]blockchain is
not about decentralisation and democracy; it is about greed.

[…]blockchain is
rife with possibilities for organizations, if not consumers.

[…]blockchain is
one of the technologies used in cryptocurrencies like Bitcoin

[…]blockchain is

seen as key to the digital transformation economy by so many.

[…]blockchain is
some sort of distributed computer, performing distributed computations.

[…]blockchain is
distributed - it addresses the problem of lack of a trusted intermediary.

[…]blockchain is
just a database with certain structure: it's an ordered, back-linked list.

[…]blockchain is
often described as consisting of (among other things) an immutable ledger.

[…]blockchain is
just a tamper-resistant way of recording transactions into a digital ledger.

[…]blockchain is
only around 8GB so keeping that on a 16GB microSD card with the OS will work well.

[…]blockchain is
full of transactions and not much else (and a bit of data that connect the blocks).

[…]blockchain is
basically a public ledger of all cryptocurrency transactions that have ever been executed.

[…]blockchain is
both transparent and immutable which helps in creating a permanent record of transactions.

[…]blockchain is
more secure and transparent, while the privacy is not harmed and the risk lowers significantly.

[…]blockchain is
similar in potential to TCP/IP, the suite of network protocols that enabled the World Wide Web.

[…]blockchain is

superior to vulnerable data centres previously relied upon by transactions and cloud computing.

[…]blockchain is
indeed completely unscalable; adding resources does not affect the speed of transactions at all.

[…]blockchain is
jargon-heavy and intimidating: cryptocurrencies, ICOs, smart contracts, token sales, and mining.

[…]blockchain is
quite simple: a distributed database that maintains a continuously growing list of ordered records.

[…]blockchain is
consensual, after a certain point of centralization, the rules of the system depend on very few users.

[…]blockchain is
one thing that has come out of Bitcoin which provides a lot of flexibility in terms of financial transactions.

[…]blockchain is
not viable at scale due to its energy consumption and transaction speed is a conflation of Bitcoin with blockchain.

[…]blockchain is
more than just bitcoin; it's a method of tracking transactions using technology that could prove to be revolutionary.

[…]blockchain is
shorthand for a whole suite of distributed ledger technologies that can be programmed to record and track anything of value.

[…]blockchain is
mostly known as the backbone technology behind Bitcoin and is one of the hottest and most intriguing technologies in the market.

[…]blockchain is

able to verify identity of IoT devices and the people interacting with them to prevent compromised devices usurping the platform.

[…]blockchain is a
decentralized ledger that creates, verifies, and enforces contracts.

[…]blockchain is a
shared, incorruptible ledger for recording the history of transactions.

[…]blockchain is a
database of encrypted transactions stored across a network of computers.

[…]blockchain is a
data-storage solution that does not directly address ad fraud in any way.

[…]blockchain is a
reliable, difficult-to-hack record of transactions – and of who owns what.

[…]blockchain is a
decentralized, transparent ledger of transactions across peer-to-peer networks.

[…]blockchain is a
digital technology for securely recording, storing, and verifying transactions.

[…]blockchain is a
distributed database system that is continuously updated in chronological order.

[…]blockchain is a
decentralized software mechanism that enables a public distributed ledger system.

[…]blockchain is a
distributed trustless verification system, something that didn’t previously exist.

[…]blockchain is a
digital ledger of transactions shared across a global network of powerful computers.

[…]blockchain is a
distributed record of transactions maintained by a decentralised network of computers.

[…]blockchain is a
continuously updated record of transactions spread out across a vast network of computers.

[…]blockchain is a
valid technology to log and report on assets that are shared between non-trusting parties.

[…]blockchain is a
decentralised technology or distributed ledger on which transactions are anonymously recorded.

[…]blockchain is a
distributed, decentralized ledger based on "blocks," each of which is a record of a transaction.

[…]blockchain is a
transaction ledger that maintains identical copies across each member computer within a network.

[…]blockchain is a
database technology that leverages two unique features, namely transparency, and decentralization.

[…]blockchain is a
massive, decentralized ledger of transactions maintained by many different, decentralized sources.

[…]blockchain is a
shared, digitized ledger that cannot be changed once a transaction has been recorded and verified.

[…]blockchain is a
record-keeping mechanism that makes it easier and safer for businesses to work together over the internet.

[…]blockchain is a
self-maintaining database which typically has a “functionality wrapper”, or app development platform, on top.

[…]blockchain is a

decentralized, public ledger that contains the details of every Bitcoin transaction that has ever been completed.

[…]blockchain is a
coordination mechanism, a technology that facilitates cooperation between individuals by lowering transaction costs.

[…]blockchain is a
way for people to immediately share trusted information over a peer-to-peer network without a central administrator.

[…]blockchain is a
way of structuring data by forming and linking blocks of cryptographically signed and time-stamped transaction data.

[…]blockchain is a
digital ledger in which transactions made in Bitcoin or other cryptocurrency are recorded chronologically and publicly.

[…]blockchain is a
digital ledger that allows people to record data securely, in a way that the data is both verifiable and decentralized.

[…]blockchain is a
different way of keeping track of a normative set of information, instead of storing the information in one central location

[…]blockchain is a
decentralized ledger that allows multiple parties to records transactions between them efficiently, securely and permanently.

[…]blockchain is a
network of computers, all of which must approve a transaction has taken place before it is recorded, in a “chain” of computer code.

[…]blockchain is a
network that utilizes cryptography to store records and information (the block) securely and link them with other records (the chain).

[…]blockchain is an

open, distributed ledger that records transactions safely, permanently, and very efficiently.

[…]blockchain is an
incorruptible ledger or record book; therefore, the technology can be used to securely store data in decentralized blocks.

[…]blockchain is the
tech supporting Bitcoin-a currency attempting its own form of financial disruption.

[…]blockchain is the
technology behind bitcoin, a distributed and tamper-proof database which could be leveraged in many other applications.

[…]blockchain is the
platform on which cryptocurrency is built, helping facilitate and enforce the transfer and record keeping of the currencies.

[…]blockchain is the
technology backbone of the network and provides a tamper-proof data structure, providing a shared public ledger open to all.

[…]blockchain is the
digital global ledger that not only records cryptocurrency transactions, but also provides a home for documents of all sorts.

[…]Blockchain technology is
simply too slow and that it is a shortcoming that cannot be overcome.

[…]Blockchain technology is
a way to transfer any kind of information in a fast, tracked, and secure way.

[…]Blockchain technology is
not patch-based, making it more secure than many of today's cybersecurity initiatives,

[…]Blockchain technology is
used in a peer-to-peer network of parties, who all participate in a given transaction.

[…]Blockchain technology is

one of the foundational concepts in the bitcoin system (and most other cryptocurrency systems)

[…]Blockchain technology is
the essence of Bitcoin and the fundamental innovation with which many processes can be overhauled.

[…]a Blockchain is
similar to a type of database, electronic ledger or transaction history.

[…]a Blockchain is
programmed so that when a new block is accepted, it automatically releases cryptocurrency to the miner.

[…]a Blockchain is
like a mathematical formula, like the quadratic equation or the formula to change Fahrenheit to Centigrade.

[…]a blockchain is
in its essence, a decentralized and more secure database and there are multiple forms of its implementations.

[…]a Blockchain is
like an application server: it hosts business logic and ensures it runs at the right time and for the right reasons.

[…]a Blockchain is
just another type of database for recording transactions – one that is copied to all of the computers in a participating network

[…]a Blockchain is
supposed to be set up so that entries are only posted by authorized users and that, once posted, they're verified to be correct.

[…]a blockchain is a
linked list of blocks and a block is a group of ordered transactions.

[…]a blockchain is a
kind of ledger, a table that businesses use to track credits and debits.

[…]a blockchain is a

sequence of blocks, but distributed ledgers do not require such a chain.

[…]a blockchain is a
digitized, decentralized, public ledger of all cryptocurrency transactions.

[…]a blockchain is a
distributed database of transactions with safeguards against malicious attacks.

[…]a blockchain is a
global online database which anyone anywhere with an internet connection can use.

[…]a blockchain is a
distributed database that maintains an ever-growing list of records called blocks.

[…]a blockchain is a
truly distributed, peer-to-peer database that does not require a central administrator.

[…]a blockchain is a
protocol that describes how transactions are defined, connected, transmitted and collected.

[…]a blockchain is a
decentralized, incorruptible digital ledger that can be programmed to record nearly anything.

[…]a blockchain is a
continuously growing list of records, called blocks, which are linked and secured using cryptography.

[…]a blockchain is a
neutral, transparent and unalterable database living in multiple locations and shared by a community.

[…]a blockchain is a
digital ledger, secured by cryptography so powerful that tampering with it is dismissed as "impossible".

[…]a blockchain is a

distributed open ledger that can record transactions between parties quickly in a verifiable and permanent way.

[…]a blockchain is a
kind of independent, transparent, and permanent database coexisting in multiple locations and shared by a community.

[…]a blockchain is an
encrypted and immutable linked list, meaning that it is very difficult to insert or delete blocks from it.

[…]a blockchain is an
immutable digital public ledger that is a continuously growing distributed database that is cryptographically secured.

[…]a blockchain is an
open database maintained by a network of independent participants who get paid in cryptocurrency (tokens) for their work.

[…]the blockchain is the
framework facilitating transaction processing and coordination among interacting devices.

[…]the blockchain is the
only place that bitcoins can be said to exist in the form of unspent outputs of transactions.

[…]the blockchain is the
foundation upon which applications, such a cryptocurrencies (like Bitcoin) and platforms can be built.

[…]the blockchain is the
mechanism which keeps everyone on the same page and prevents accounting errors, accidental or deliberate.

[…]the blockchain is the
shared data layer and the bitcoin protocol is a decentralized protocol that’s part of the shared protocol Layer.

[…]the blockchain is the

backbone of newer distribution technologies, and an “auditable record of actions” will follow that information wherever it goes.

Blockchain is
designed to store information in a way that makes it virtually impossible to add, remove or change data without being detected by other users.

Blockchain is
essentially a global public ledger capable of automatically recording and verifying a high volume of digital transactions, regardless of location.

Blockchain is
essentially a large immutable database which, due to its security features and decentralized nature, can pose a threat to traditional intermediaries.

Blockchain is
perhaps best understood as a decentralized ledger that can diminish costs by removing intermediaries such as banks and effectively decentralizing trust.

Blockchain is
just a digital ledger, a digitized record of whatever data is added by its members, with no ability to verify the accuracy of the underlying data itself.

Blockchain is
not a distributed database replacement: blockchain complements distributed database technology, with appropriate information partitioning between the two.

Blockchain is
in effect a single federated ledger that everybody who uses and touches that engine could use it as a single point of truth of what has happened to the engine,

Blockchain is
distributed, decentralised database technology that maintains a growing list of transactions and, through encryption and other activity, verifies their permanence,

Blockchain is
encrypted: it uses heavy-duty encryption involving public and private keys (rather like the two-key system to access a safety deposit box) to maintain virtual security.

Blockchain is

significantly worse then a bank and there will be significantt destruction caused by the ignorant who push it and their irrational fear of the effective and progressive Banks.

Blockchain is
being used to help track, in real time, millions of shipping containers across the world by providing a trusted, tamper-proof, cross-border system for digitized trade documents.

Blockchain is
without a doubt one of the most-hyped technologies this year with people working in the industry seeing it as a silver bullet solution to many processes, which indeed it may not be.

Blockchain is
challenging the current status quo of innovation by letting companies experiment with groundbreaking technology like p2p energy distribution or decentralized forms for news media.

Blockchain is
best known as the technology behind the cryptocurrency bitcoin -- a digital currency whose value soared above $19,000 over the last year before slumping to half that when the frenzy subsided.

Blockchain is
now a familiar term to many, though in most cases, its meaning will be inextricably linked to bitcoin after a 10-fold price surge in 2017 valued this cryptocurrency at more than $180 billion.

Blockchain is
here and now, and it will continue to gain traction as it provides transparency to the supply chain–especially in complex supply chain industries, such as the automotive and retail industries.

Blockchain is
either a word you have heard of, and ignored, because you are intimidated by technology and have no idea how it applies to your life OR it is something with which you are completely fascinated.

Blockchain is

here and now, and it will continue to gain traction as it provides transparency to the supply chain – especially in complex supply chain industries, such as the automotive and retail industries.

Blockchain is
one innovation whose architectural properties increasingly provide essential foundations to the digital landscape where there is an appetite to define greater levels of autonomy and attribution.

Blockchain is a
digital ledger of transactions that can be programmed to record not just cryptocurrency transactions but virtually everything of value.

Blockchain is a
ledger can be written onto with new information, but the previous information, stored in blocks, cannot be edited, adjusted or changed.

Blockchain is a
ledger of records structured into blocks of data, which are connected using secure cryptographic validation to form a continuous chain.

Blockchain is a
new class of information technology that combines cryptography with distributed computing both of which existed for a number of decades.

Blockchain is a
simple digital platform for recording and verifying transactions so that other people can't erase them later -- and anyone can see them.

Blockchain is a
distributed ledger technology that provides consensus, provenance, finality, and immutabilty of business transactions and digital assets.

Blockchain is a
distributed ledger – multiple copies of the same information – in a decentralized manner – with multiple locations and a copy of that list.

Blockchain is a
distributed ledger of transactions-like financial invoices, work orders, and delivery records-maintained by interested parties in a network.

Blockchain is a
secure platform, ledger, or database where buyers and sellers could store and exchange value without the need for traditional intermediaries

Blockchain is a
public register in which transactions between multiple users belonging to the same network are stored in a secure, verifiable and permanent way.

Blockchain is a
shared, public ledger of records or transactions that is open to inspection by every participant but not subject to any form of central control.

Blockchain is a
decentralized record and it is changeless, straightforward and effortlessly auditable that empower clients to have control over their information

Blockchain is a
mathematically ensured cyber security technology for rapid and immutable identification of modifications in digital data and intelligent devices.

Blockchain is a
new way of storing data in a distributed ledger that allows multiple stakeholders to confidently and securely share access to the same information.

Blockchain is a
decentralized, peer to peer, immutable storage network which is censor free and regulator free because of the absence of one single controlling entity.

Blockchain is a
vast, globally distributed ledger where anyone, anywhere can move, store and manage any kind of asset, from money and securities to intellectual property and votes

Blockchain is a
distributed ledger, which simply means that a ledger is spread across the network among all peers in the network, and each peer holds a copy of the complete ledger.

Blockchain is a
type of distributed ledger that can be used to create an authoritative record of events, which in turn can be used to provide trust within an untrusted environment.

Blockchain is a
versatile technology that can record financial transactions, store medical records, or even track the flow of goods, information, and payments through a supply chain.

Blockchain is a
decentralized, peer-to-peer network that provides insurers and stakeholders a way of “producing, storing, managing and sharing data as a secure record of transactions,

Blockchain is a
distributed deployment and real-time synchronization system, allows participants from different parties to create and maintain the data through mechanism for consensus.

Blockchain is a
transparent ledger that provides proof of ownership and allows for the efficient exchange of ownership in a way that is historically unprecedented in terms of security.

Blockchain is a
standard global platform allows multiple participants to connect at the same time and records all digital objects, users, and their relative operations on this platform.

Blockchain is a
digital ledger that provides a secure way of making and recording transactions, agreements and contracts – anything that needs to be recorded and verified as having taken place.

Blockchain is a
storage mechanism for information, most often associated with cryptocurrency like bitcoin, but you can use it for any information, from financial transactions to medical records.

Blockchain is a
disruptive technology that is not limited to any particular field, and it has a wide range of applications including finance, logistics, medicine and intellectual property rights.

Blockchain is a

decentralized electronic, encrypted ledger or database platform -- in other words, a way to immutably store digital data so that it can be securely shared across networks and users.

Blockchain is a
type of data structure that enables identifying and tracking transactions digitally and sharing this information across a distributed network of computers, creating a trusted network.

Blockchain is a
unique record storage technology which allows contributors to directly enter information into the chain before it is locked in by other computers who are also contributing to the chain.

Blockchain is a
distributed, secure ledger (database) that uses cryptography over a peer-to-peer network technology to group transactions into BLOCKS and store them in a tamper-evident, interlinked CHAIN.

Blockchain is a
disruptive technology in a sense that it can be used to store any value information like money, goods, property, work, or even votes without the need of a central authority to verify or prove it.

Blockchain is an
open source value transfer protocol that runs on a distributed peer to peer network and secures transaction records through cryptography.

Blockchain is an
immutable and cryptographically secure archive of records stored on a distributed ledger, which uses smart contracts built on the Ethereum platform.

Blockchain is an
incorruptible real-time ledger of economics that can be encoded to record not just the history of financial transactions but nearly everything of value.

Blockchain is the
technology that underpins cryptocurrencies like bitcoin; it’s essentially a massive Excel sheet that operates in a decentralized network format.

Blockchain is the

ingeniously simple, revolutionary protocol that allows transactions to be simultaneously anonymous and secure by maintaining a tamperproof public ledger of value.

Blockchain is the
distributed ledger technology underlying bitcoin that uses software algorithms to record transactions or any digital interaction with reliability, security and anonymity.

Blockchain is the
technology that supports the use of vast distributed ledgers to record any transaction and track the movement of any asset, whether tangible, intangible, or digital and open to anyone.

Blockchain technology is
designed to store pieces of information inside blocks, not as a killer apps but as a layer to empower trustless features that really matter and create values in this ecosystem.

A blockchain is an
alternative to classical financial ledgers by providing a new way to create, exchange, and track information pertaining to the ownership of financial assets.

A blockchain is
usually managed by a second-layer network of peer-to-peer computing nodes.

A blockchain is
what allows Bitcoin and hundreds of other cryptocurrencies to record transfers.

A blockchain is
for making sure that you have a reliable and immutable audit trail of something.

A blockchain is
transparent and the data is available to anyone who has software that needs to access it.

A blockchain is
like a place where you store any data semi-publicly in a linear container space (the block).

A blockchain is

decentralized, so no single authority has the discretion to approve the transactions or set rules.

A blockchain is
designed to be immutable; once a piece of information goes in there, you can depend on it never changing.

A blockchain is
actually a database because it is a digital ledger that stores information in data structures called blocks.

A blockchain is
similar to this: it can have numerous connected nodes, but remain totally separate and unique from other blockchains.

A blockchain is
made up of individual blocks of data involving a series of related transactions, linked together in consecutive order.

A blockchain is
essentially a ledger that has records (like the details of a digital money transaction) locked in groups called blocks.

A blockchain is
distributed ledger technology that digitally and chronlogically records transactions that take place between two parties.

A blockchain is
implemented via software, and there are various software projects that have been written to create and manage blockchains.

A blockchain is
highly fault tolerant since if one or more nodes are down, there will always be other nodes available that will run the blockchain.

A blockchain is
decentralized, so there is no single authority that can approve the transactions or set specific rules to have transactions accepted.

A blockchain is a
public cloud and also a transparent and tamper-proof digital ledger.

A blockchain is a
shared, encrypted set of records maintained by a network of computers.

A blockchain is a
global online database that anyone with an internet connection can use.

A blockchain is a
type of diary or spreadsheet containing information about transactions.

A blockchain is a
continuously growing list of records that are linked together in sequence.

A blockchain is a
digital ledger of records that’s arranged in chunks of data called blocks.

A blockchain is a
kind of "public ledger," a transparent record of transactions between parties.

A blockchain is a
digital ledger that is distributed, decentralised, verifiable and irreversible.

A blockchain is a
protocol and ledger for building an immutable historical record of transactions

A blockchain is a
public ledger of all transactions that have ever been executed within an ecosystem.

A blockchain is a
sequence of records, shared among a network, that are both accessible and immutable

A blockchain is a
secure distributed immutable database shared by all parties in a distributed network

A blockchain is a
data structure made up of blocks of data, and they are linked together; hence the chain.

A blockchain is a
decentralized, distributed, public ledger of transactional data secured by cryptography.

A blockchain is a
distributed database platform utilizing chronologically linked segments known as blocks.

A blockchain is a
ledger of facts, replicated across several computers assembled in a peer-to-peer network.

A blockchain is a
public ledger of information collected through a network that sits on top of the internet.

A blockchain is a
digital ledger designed to keep an accessible, verifiable, distributed record of data sets.

A blockchain is a
distributed, decentralized ledger that lets information be viewed but not copied or altered.

A blockchain is a
append-only database (where past records after confirmations cannot be altered in the future).

A blockchain is a
distributed ledger database that uses a cryptographic network to provide a single source of truth.

A blockchain is a
records holder, a place where all data entered is kept safe and sound for you to read and analyse.

A blockchain is a
network of computers that stores transactional data in replica across every PC (node) in the system.

A blockchain is a

system of computers, in which information is stored and shared among all participants of the network.

A blockchain is a
distributed database that keeps a continuously-growing list of records protected from revision and tampering.

A blockchain is a
digital, decentralized ledger that keeps a history of all transactions that occur on the blockchain’s network.

A blockchain is a
distributed database maintaining a constantly-growing list of data records secured from tampering and revision.

A blockchain is a
ledger of lists or blocks of data transactions that constantly grows as new transactions or data sets are added.

A blockchain is a
distributed database, meaning that the storage devices for the database are not all connected to a common processor.

A blockchain is a
decentralized ledger of sorts; code which doesn’t live on any single computer but rather is distributed across nodes.

A blockchain is a
ledger of records arranged in data batches called blocks that use cryptographic validation to link themselves together.

A blockchain is a
shared, distributed ledger - really a new type of database structure - that runs without a single centralized operator.

A blockchain is a
cryptographic, or encoded, ledger comprising of a digital log of transactions shared across a public or private network.

A blockchain is a

distributed database that maintains a continuously growing list of data records hardened against tampering and revision,

A blockchain is a
distributed ledger that maintains a continuously growing list of data records on decentralized servers, working as nodes.

A blockchain is a
distributed ledger technology secured by cryptography, used to maintain a continuously growing list of records, called blocks.

A blockchain is a
database run by software that bundles information, protects it using cryptography, and stores it on the computers of participants.

A blockchain is a
peer-to-peer distributed ledger forged by consensus, combined with a system for “smart contracts” and other assistive technologies.

[…]the blockchain is
distributed across many computers and transparent for everyone to see.

[…]the blockchain is
programmed to follow a model of democratic governance, aka the majority.

[…]the blockchain is
capable of securely storing self-identifying data that knows who owns it.

[…]the blockchain is
blocks of data cleverly chained together and distributed across lots of servers.

[…]the blockchain is
actually a way to structure data, and the foundation of cryptocurrencies like Bitcoin.

[…]the blockchain is
just one type of public, permissionless, proof-of-work, peer-to-peer distributed ledger.

[…]the blockchain is

“a technology that allows people who don’t know each other to trust a shared record of events”.

[…]the blockchain is
distributed as the ledger itself that is shared with everyone using the same blockchain network.

[…]the blockchain is
stored locally on the computer hard drive of every user running a full version of the Bitcoin software.

[…]the blockchain is
nothing more than a long string of transactions, each of which refers to an earlier record in the chain.

[…]the blockchain is
validated across the distributed network, before including the transaction as the next block on the chain.

[…]the blockchain is
the mechanism which keeps everyone on the same page and prevents accounting errors, accidental or deliberate.

[…]the blockchain is
maintained by the participants collectively and potentially enabling third-party delegates, participants or providers.

[…]the blockchain is
remarkably durable, stored digitally on the local computers of all users operating a full version of the Bitcoin software;

[…]the blockchain is
stored in a decentralized manner and secured so that no-one can modify transactions after they are added to the blockchain.

[…]the blockchain is
where all transaction data is stored, what wallets check to confirm ownership of bitcoin, and is how new bitcoins are created.

[…]the blockchain is

fully transparent and available to all-but only the miners that are the first to process an individual transaction are compensated.

[…]the blockchain is a
constantly updated public ledger of transactions in a given system.

[…]the blockchain is a
ledger that stores data that has been verified as true and accurate.

[…]the blockchain is a
public immutable and decentralized global ledger powered by Bitcoin.

[…]the blockchain is a
decentralized ledger of all transactions across a peer-to-peer network.

[…]the blockchain is a
log of all transactions that were ever verified on the Bitcoin network.

[…]the blockchain is a
global system of checks and balances that creates trust among all parties.

[…]the blockchain is a
transparent record of all transactions between users on the Bitcoin Network.

[…]the blockchain is a
way for everyone in a cryptocurrency network to store the current state of the network.

[…]the blockchain is a
decentralized ledger, that is, a list of all transactions across a peer-to-peer network.

[…]the blockchain is a
distributed database, where every unit of transaction contains its own transaction history.

[…]the blockchain is a
shared virtual public ledger where encrypted transactions are confirmed by outside parties.

[…]the blockchain is a

distributed ledger representing a network consensus of every transaction that has ever occurred.

[…]the blockchain is a
distributed ledger, shared by untrusted participants, with strong guarantees about accuracy and consistency.

[…]the blockchain is a
platform technology that benefits from efficiently linking a large number of participants and users and offering easy access.

[…]the blockchain is an
anonymous peer-to-peer payment system that relies on secure cryptographic protocols.

[…]the blockchain is an
open, global infrastructure upon which other technologies and applications can be built.

[…]the blockchain technology is
fundamentally an open distributed network, and efforts to create private Blockchains should not even be considered Blockchains.

[…]the blockchain technology is a
public ledger that records all transactions that have ever occurred.

[…]blockchain is a
hope-a legitimate hope-for the very real struggles in Latin America.

[…]blockchain is a
technology and highly technical to grasp but there is more to it than just that.

[…]blockchain is a
bubble, on par with the dotcom bubble that occurred at the turn of the millennium.

[…]blockchain is a
breakthrough technology that is expected to alter most industries in the coming years.

[…]blockchain is a

much better solution to storing and exchanging digital value than anything that has come before it.

[…]blockchain is a
foundational technology, with the potential to create new foundations for economic and social systems,

[…]blockchain is a
technology that is worth getting to know, as it may very well spark a revolution across various industries.

[…]blockchain is a
relatively new tool that will undoubtedly see the development of guidelines and guardrails from federal regulators.

[…]blockchain is a
network business, just like the telephone: the more participants in a network, the greater its potential usefulness to each member.

The blockchain is the
latest in a series of technologies to make headline news and turn heads at its mere mention.

The blockchain is the
technology and the system that could enable the global-scale coordination of seven billion intelligent agents.

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Style: block09,Terminus
(TTF),24,&H00FFFFFF,&H00F9F9F9,&H00000000,&H00000000,0,0,0,0,100,100,0,0,0,0,0,7,10,10,780,0
Style: block10,Terminus
(TTF),24,&H00FFFFFF,&H00F9F9F9,&H00000000,&H00000000,0,0,0,0,100,100,0,0,0,0,0,7,10,10,876,0
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Dialogue: 0,0:00:00.00,0:00:10.88,block01,NTP,0,0,0,!Effect,Blockchain is\Nsuch a technology, carrying the potential to actualize synergies between stakeholders, generate sustainable business value, and enable enterprises to easily expand operations into emerging markets.
Dialogue: 0,0:00:10.88,0:00:22.08,block01,NTP,0,0,0,!Effect,Blockchain is\Nnot widely understood yet by shippers and manufacturers, but it will be a great tool for complying with these new regulations by holding them responsible for misrepresenting the weight on a product.
Dialogue: 0,0:00:22.08,0:00:33.60,block01,NTP,0,0,0,!Effect,Blockchain is\Nnot a magic bullet that solves all data management problems but few areas of data sharing cry out more for improvements in efficiency and security than the data domains of Healthcare and Pharma/Biotech.
Dialogue: 0,0:00:33.60,0:00:45.16,block01,NTP,0,0,0,!Effect,Blockchain is\Nalready disrupting the sector in many ways and will be the door opening the gaming industry to new opportunities, but exactly what the future of this promising combination looks like only time will tell.
Dialogue: 0,0:00:45.16,0:00:56.56,block01,NTP,0,0,0,!Effect,Blockchain is\Nused by organizations and/or groups of organizations for specific services where trust from other parties is needed or to build a blockchain network with other parties without traditional intermediaries.

Dialogue: 0,0:00:56.56,0:01:07.96,block01,NTP,0,0,0,!Effect,Blockchain is\Nactually a practical solution to a computer science problem called the "Two Generals" or "Byzantine Generals" problem, which addresses ways multiple parties can achieve consensus in a distributed fashion.
Dialogue: 0,0:01:07.96,0:01:19.36,block01,NTP,0,0,0,!Effect,Blockchain is\Nnot a transaction processing system replacement: blockchain can transform transactional processing across a business network for sure, but ONLY when one or more additional criteria are met – specifically:
Dialogue: 0,0:01:19.36,0:01:31.04,block01,NTP,0,0,0,!Effect,Blockchain is\N underneath the crypto-techno-babble, an electronic ledger that does what any ledger does: provides a reliable and audit-able ledger, exactly what Bob Cratchit's ledger books and red and black dip pens did.
Dialogue: 0,0:01:31.04,0:01:42.72,block01,NTP,0,0,0,!Effect,Blockchain is\Nincredibly useful for protecting customer information and making secure transactions for your employees in the field, but it can also help ensure your important data at home base is being protected as well.
Dialogue: 0,0:01:42.72,0:01:54.40,block01,NTP,0,0,0,!Effect,Blockchain is\Nundoubtedly a powerful and exciting technology, but it is not yet fully mature and has several limitations, which explains why it still is far from being widely adopted, despite all the hype surrounding it.
Dialogue: 0,0:01:54.40,0:02:05.96,block01,NTP,0,0,0,!Effect,Blockchain is\Nexpected to disrupt not only the banking and financial industries, but also cybersecurity, supply-chain management, forecasting, networking and IoT, insurance, private transport and ride sharing, and charity.
Dialogue: 0,0:02:05.96,0:02:18.04,block01,NTP,0,0,0,!Effect,Blockchain is\Nalso going to change the way we rent by creating a blockchain-based land-based registry to prevent unauthorized deals, crowdsourcing security deposits in which contributors can earn interest on their deposits, etc.
Dialogue: 0,0:02:18.04,0:02:30.28,block01,NTP,0,0,0,!Effect,Blockchain is\Nbeing touted as the solution to the Pentagon’s vast logistics challenges-and in December, President Trump signed a bill calling for the rest of the federal government to look into the potential benefits of blockchain.
Dialogue: 0,0:02:30.28,0:02:42.52,block01,NTP,0,0,0,!Effect,Blockchain is\Nmore mature in the financial services sector, but transportation, logistics and the supply chain will be the next industry to adopt it, says Jennifer Schopfer, GE Transportation's vice president of transport logistics.
Dialogue: 0,0:02:42.52,0:02:55.00,block01,NTP,0,0,0,!Effect,Blockchain is\Ngoing to put pressure on broker commissions and fundamentally change the way the broker channel does business over the next three to five years, says a past Marsh Canada national executive and management committee member.
Dialogue: 0,0:02:55.00,0:03:07.64,block01,NTP,0,0,0,!Effect,Blockchain is\Nbased on a mathematical proof, which makes it very difficult to hack, Any legal document that must be securely and it takes the majority of the network to try to game and verifiably transmitted between entities the system.
Dialogue: 0,0:03:07.64,0:03:20.32,block01,NTP,0,0,0,!Effect,Blockchain is\Nbest understood as a "distributed ledger" that secures transactions on its own by creating and including the entire transaction history of a unit of cryptocurrency along with the file that represents the cryptocurrency itself.
Dialogue: 0,0:03:20.32,0:03:33.64,block01,NTP,0,0,0,!Effect,Blockchain is\Nbroad and coming to the fore on such a massive scale that explaining it often falls back on the abstract, rather than grounding it in the kind of foundational change the technology will have on the culture of how we interact online.
Dialogue: 0,0:03:33.64,0:03:46.88,block01,NTP,0,0,0,!Effect,Blockchain is\Ngoing to have a profound impact not just on financial services, but on the world of business and society as a whole,” says Alex Tapscott, CEO of consultancy Northwest Passage Ventures and co-author of the book Blockchain Revolution.
Dialogue: 0,0:03:46.88,0:04:00.32,block01,NTP,0,0,0,!Effect,Blockchain is\Nalso launching a new trading platform called Swap - this platform will find the best trading prices across a variety of exchanges and liquidity pools so that you can exchange tokens at a fair price straight from your Blockchain account.
Dialogue: 0,0:04:00.32,0:04:13.88,block01,NTP,0,0,0,!Effect,blockchain is\Nprogrammable: instructions embedded within blocks, such as “if” this “then” do that “else” do this, allow transactions or other actions to be carried out only if certain conditions are met, and can be accompanied by additional digital data.
Dialogue: 0,0:04:13.88,0:04:27.48,block01,NTP,0,0,0,!Effect,Blockchain is\Nstill in its relative infancy, but a number of initiatives under way are already driving its progression to an industrial solution which will yield several important benefits in the context of the transfer of assets within business networks.
Dialogue: 0,0:04:27.48,0:04:41.48,block01,NTP,0,0,0,!Effect,Blockchain is\Nbest known as the distributed database technology behind the virtual currency bitcoin, but banks are starting to investigate its broader capability as a real-time, encrypted distributed ledger for transactions involving a variety of financial assets.
Dialogue: 0,0:04:41.48,0:04:55.88,block01,NTP,0,0,0,!Effect,Blockchain is\Nalso being considered for managing access rights to assets in situations where people are sharing a car or other piece of property, which could have locks linked up to a blockchain network that authorize someone's use after the owner received a payment.

Dialogue: 0,0:04:55.88,0:05:10.12,block01,NTP,0,0,0,!Effect,Blockchain is\Ndifficult to understand because it isn’t one thing, but rather pieces of knowledge from a wide variety of subjects across many different disciplines–not only computer science, but economics, finance, and politics as well–that go by the name “blockchain”.
Dialogue: 0,0:05:10.12,0:05:25.84,block01,NTP,0,0,0,!Effect,Blockchain is\Nrevolutionizing the remittance industry, and we look forward to further innovating and expanding the application of the technology in global remittances, together with local wallet partners and other ecosystem partners,
Dialogue: 0,0:05:25.84,0:05:36.96,block01,NTP,0,0,0,!Effect,Blockchain is a\Nvast, global distributed ledger or database\Nrunning on millions of devices and open to anyone,\Nwhere not just information but anything of value money,\Nbut also titles, deeds, identities, even votes
Dialogue: 0,0:05:36.96,0:05:48.24,block01,NTP,0,0,0,!Effect,Blockchain is a\Nshared distributed ledger technology in which each transaction is digitally signed to ensure its authenticity and integrity - and it's poised to make big waves in a wide range of business use cases.
Dialogue: 0,0:05:48.24,0:05:59.60,block01,NTP,0,0,0,!Effect,Blockchain is a\Ndata structure that has the ability to establish a digital archive or record blocks of data such as transactions that can be shared and easily accessed by users across networks of different computers.
Dialogue: 0,0:05:59.60,0:06:10.80,block01,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that captures high-quality information for recognizing each and every entity that you do business with for meeting the compliance regulations and get benefit from the transparent blockchain
Dialogue: 0,0:06:10.80,0:06:22.72,block01,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger technology, a continuously expanding chain of records – blocks – that are linked and secured via cryptography, creating a networked audit trail of transactions, or actions that have been taken.
Dialogue: 0,0:06:22.72,0:06:34.84,block01,NTP,0,0,0,!Effect,Blockchain is a\Nnew way of storing and moving that data, where instead of being held all in one place, the information is atomized and spread over thousands of nodes across a network, all locked together with clever cryptography.
Dialogue: 0,0:06:34.84,0:06:46.88,block01,NTP,0,0,0,!Effect,Blockchain is a\Nnew computing architecture which has the potential to bring together fragmented data sets from the authoritative source providers into a single digital view of validated, immutable and cryptographically secured data.
Dialogue: 0,0:06:46.88,0:06:59.44,block01,NTP,0,0,0,!Effect,Blockchain is a\Nuniversal transaction book that allows you to register and track every operation within it, scattered all over the Internet in thousands of unmodifiable copies, in a peer-to-peer model and protected by advanced cryptographic methods.
Dialogue: 0,0:06:59.44,0:07:12.72,block01,NTP,0,0,0,!Effect,Blockchain is a\Nhyper-secure, hyper-informed general ledger that allows participants in any transaction to verify and audit those transactions transparently, efficiently, and accurately, which reduces risk, costs, and exposure in any type of transaction.
Dialogue: 0,0:07:12.72,0:07:24.72,block01,NTP,0,0,0,!Effect,Blockchain is a\Ndisruptive technology that allows storing data without the need for a central authority, implying that financial transactions will no longer be stored in a central database but distributed to several other computers that store data locally.
Dialogue: 0,0:07:24.72,0:07:37.92,block01,NTP,0,0,0,!Effect,Blockchain is a\Nvast, global distributed ledger or database running on millions of devices and open to anyone, where not just information but anything of value - money, but also titles, deeds, identities, even votes - can be moved, stored and managed securely and privately.
Dialogue: 0,0:07:37.92,0:07:48.72,block01,NTP,0,0,0,!Effect,A blockchain is\Nessentially a shared, encrypted "ledger" that cannot be manipulated, offering promise for secure transactions that allow anyone to get an accurate accounting of money, property or other assets.
Dialogue: 0,0:07:48.72,0:08:01.40,block01,NTP,0,0,0,!Effect,A blockchain is a\Nsecure distributed immutable database shared by all parties in a distributed network where transaction data can be recorded (either on-chain for basic information or off-chain in case of extra attachments) and easily audited.
Dialogue: 0,0:08:01.40,0:08:12.60,block01,NTP,0,0,0,!Effect,A blockchain is an\Nelectronic ledger of digital records, events, or transactions that are cryptographically hashed, authenticated, and maintained through a “distributed” or “shared” network of participants using a group consensus protocol.
Dialogue: 0,0:08:12.60,0:08:23.84,block01,NTP,0,0,0,!Effect,The blockchain is\Ndefined as "a system that's secure without a higher authority, distributed across many strangers' computers, yet tamper-proof, and promises a mechanism for trust mediated directly between individuals".
Dialogue: 0,0:08:23.84,0:08:36.40,block01,NTP,0,0,0,!Effect,The blockchain is\Nreferred to as a “ledger,” a series of records of validated monetary transactions, where the identical updated ledger resides throughout the peer network, not in one central location as under the traditional banking model.
Dialogue: 0,0:08:36.40,0:08:48.08,block01,NTP,0,0,0,!Effect,The blockchain is a\Nsoftware platform and environment, a set of capabilities that software developers can utilize so they can write this new breed of applications that are decentralized and living on the blockchain from Day 1.

Dialogue: 0,0:08:48.08,0:09:00.00,block01,NTP,0,0,0,!Effect,The blockchain is a\Nnew way of storing and moving that data, wherein instead of holding that data in one place the information is spread over thousands of nodes across a network, all locked together with the help of cryptography.
Dialogue: 0,0:00:00.00,0:00:03.88,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nhaving the most effect on MLS data, title records, and transactions.
Dialogue: 0,0:00:03.88,0:00:07.84,block02,NTP,0,0,0,!Effect,[…]blockchain is\Npast its sell-by date, R3 are bust and distributed ledgers are dead.
Dialogue: 0,0:00:07.84,0:00:11.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Ngarnering its own support and interest far beyond financial services.
Dialogue: 0,0:00:11.72,0:00:15.64,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nempowering fashion brands to take a lead towards greater transparency.
Dialogue: 0,0:00:15.64,0:00:19.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Njust one of the ways companies will be able to scale trusted business.
Dialogue: 0,0:00:19.72,0:00:23.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nsomething genuinely new and for lack of a better word, groundbreaking.
Dialogue: 0,0:00:23.72,0:00:27.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nuser-friendly and offers a world of benefits for the average consumer.
Dialogue: 0,0:00:27.72,0:00:31.88,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nfast becoming the focus of law firms anxious not to be the weakest link
Dialogue: 0,0:00:31.88,0:00:36.08,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnot only here to stay but that it will change the world for the better.
Dialogue: 0,0:00:36.08,0:00:40.08,block02,NTP,0,0,0,!Effect,[…]blockchain is\NBoosting Cybersecurity with Message Encryption and Crucial Alert Systems
Dialogue: 0,0:00:40.08,0:00:44.20,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nleading to what is being called the “Internet of Trusted Things” (IoTT).
Dialogue: 0,0:00:44.20,0:00:48.24,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nrapidly becoming the most important digital development since the cloud.
Dialogue: 0,0:00:48.24,0:00:52.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nwell positioned to be part of a solution to many problems in healthcare,
Dialogue: 0,0:00:52.40,0:00:56.56,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nalso changing the way we keep our businesses secure and market ourselves.
Dialogue: 0,0:00:56.56,0:01:00.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Ncertainly not a trend that accountants can afford to overlook any longer.
Dialogue: 0,0:01:00.72,0:01:04.88,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnot this magical thing where you sprinkle blockchain dust over a problem.
Dialogue: 0,0:01:04.88,0:01:09.20,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nhere to stay, and it’s going to revolutionize the way we track our assets.
Dialogue: 0,0:01:09.20,0:01:13.36,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nmoving rapidly from exploration into mission-critical production scenarios.
Dialogue: 0,0:01:13.36,0:01:17.56,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nno different from other automation tools that capture routine transactions.
Dialogue: 0,0:01:17.56,0:01:21.88,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a panacea for all diseases, but it is even contraindicated for someone.
Dialogue: 0,0:01:21.88,0:01:26.12,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnowadays more than the technology that ensures the authenticity of bitcoin.
Dialogue: 0,0:01:26.12,0:01:30.28,block02,NTP,0,0,0,!Effect,[…]blockchain is\Npoised to reinvent traditional Business Process Management platforms (BPM).
Dialogue: 0,0:01:30.28,0:01:34.68,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nalso expected to create a new set of opportunities for banks to partner with
Dialogue: 0,0:01:34.68,0:01:39.04,block02,NTP,0,0,0,!Effect,[…]blockchain is\Njust the next in a long line of transformations within the accounting world.
Dialogue: 0,0:01:39.04,0:01:43.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nlikely to follow and explain how firms should think about investments in it.
Dialogue: 0,0:01:43.40,0:01:47.76,block02,NTP,0,0,0,!Effect,[…]blockchain is\Naffecting libraries and what they project will be accomplished in the future.
Dialogue: 0,0:01:47.76,0:01:52.04,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nall about trust-namely, trust among vetted partners in business transactions.
Dialogue: 0,0:01:52.04,0:01:56.52,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nmore than just a fad: it’s a powerful solution for a large class of problems.
Dialogue: 0,0:01:56.52,0:02:01.00,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nall hype; that it is an untested technology with huge risks and little upside.

Dialogue: 0,0:02:01.00,0:02:05.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nattracting the biggest forces in the finance sector with its clean reputation.
Dialogue: 0,0:02:05.40,0:02:09.84,block02,NTP,0,0,0,!Effect,[…]blockchain is\N“super powerful stuff” that represents a threat to America’s national security.
Dialogue: 0,0:02:09.84,0:02:14.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nhere to stay and is radically changing how our society functions at all levels.
Dialogue: 0,0:02:14.40,0:02:18.80,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nhighly secure, especially with regards to contracts and financial transactions.
Dialogue: 0,0:02:18.80,0:02:23.32,block02,NTP,0,0,0,!Effect,[…]blockchain is\NKey To Transforming How Physical Infrastructure Works And How We Think About It
Dialogue: 0,0:02:23.32,0:02:27.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nyet another technology that flattens opportunities and invites agile individual
Dialogue: 0,0:02:27.72,0:02:32.36,block02,NTP,0,0,0,!Effect,[…]blockchain is\Npoised to change the way that many industries do business in the next few years.
Dialogue: 0,0:02:32.36,0:02:36.88,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nbecoming a yardstick against which travel enterprises measure their tech prowess.
Dialogue: 0,0:02:36.88,0:02:41.48,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnew and very different from most of the traditional technologies that people use.
Dialogue: 0,0:02:41.48,0:02:46.04,block02,NTP,0,0,0,!Effect,[…]blockchain is\None of the bank’s three main focuses, alongside artificial intelligence and APIs.
Dialogue: 0,0:02:46.04,0:02:50.68,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nalready disrupting the global financial services industry - an industry the Postal
Dialogue: 0,0:02:50.68,0:02:55.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nexpected to reduce paperwork and make it easier for all parties to track packages.
Dialogue: 0,0:02:55.40,0:03:00.12,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nalready being used in business, there are untold more that haven’t been discovered.
Dialogue: 0,0:03:00.12,0:03:04.92,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nenormous and the promise it holds to eliminate fraud is simply too great to ignore.
Dialogue: 0,0:03:04.92,0:03:09.68,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nreally something that exists on the Internet, it is very blind to national borders.
Dialogue: 0,0:03:09.68,0:03:14.52,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnow moving out of the cyber universe and interacting more often with the real world.
Dialogue: 0,0:03:14.52,0:03:19.36,block02,NTP,0,0,0,!Effect,[…]blockchain is\Njust a distributed database and not some magical technology that will save the earth.
Dialogue: 0,0:03:19.36,0:03:24.28,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nsomething that everybody is counting on, still we don’t know what will come out of it
Dialogue: 0,0:03:24.28,0:03:29.16,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nturning out to be a perfect platform for recording the medical attention of a patient
Dialogue: 0,0:03:29.16,0:03:34.12,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nso new and popular that people don’t have a proper idea about it and its applications.
Dialogue: 0,0:03:34.12,0:03:39.08,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nbetter than something like a database or any other form of digital information storage.
Dialogue: 0,0:03:39.08,0:03:44.16,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nlike the new cloud, and it has become the fastest-growing skill in the freelance market.
Dialogue: 0,0:03:44.16,0:03:49.24,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nno more than a buzzword, and its applications can be obscure and difficult to understand.
Dialogue: 0,0:03:49.24,0:03:54.36,block02,NTP,0,0,0,!Effect,[…]blockchain is\Neasily poised to become one the most useful technological innovations of the 21st century.
Dialogue: 0,0:03:54.36,0:03:59.52,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nbeing pushed as the next huge thing in information technology, outside of virtual currency.
Dialogue: 0,0:03:59.52,0:04:04.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Ncapturing the interest and imaginations of the photographers and artists I have spoken with.
Dialogue: 0,0:04:04.72,0:04:09.96,block02,NTP,0,0,0,!Effect,[…]blockchain is\Njust doing what those tablets did two thousand years ago, recording agreement between people.
Dialogue: 0,0:04:09.96,0:04:15.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Njust one of the many options out there to secure our digital life, nothing less, nothing more.
Dialogue: 0,0:04:15.40,0:04:20.84,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nmuch more than an ultra-secure, digital financial ledger or another “over-hyped” new technology.
Dialogue: 0,0:04:20.84,0:04:26.36,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nallowing developers and creative thinkers of all stripes to go back to the digital drawing board.

Dialogue: 0,0:04:26.36,0:04:32.00,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnow almost too much in the spotlight and in danger of being positioned as a panacea for all ills.
Dialogue: 0,0:04:32.00,0:04:37.84,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nslowly changing the way we do business, the way we earn a living and the way data is made available.
Dialogue: 0,0:04:37.84,0:04:43.64,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nsomehow safer than other types of record keeping, that it's more secure, or that it's more reliable.
Dialogue: 0,0:04:43.64,0:04:49.52,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nquickly becoming a C-suite issue for asset managers, and the CEO, CTO and COO all have roles to play.
Dialogue: 0,0:04:49.52,0:04:55.44,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnot quite ready for adoption for mass consumer transactions, though it could be in three to five years.
Dialogue: 0,0:04:55.44,0:05:01.32,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nat the intersection of many, many interrelated technological shifts that are happening now in real time.
Dialogue: 0,0:05:01.32,0:05:07.36,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nbeing adapted to a number of business uses and will likely serve a wide array of purposes in the future.
Dialogue: 0,0:05:07.36,0:05:13.40,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnow viewed as having the potential to be an efficient and secure way to transfer any kind of information.
Dialogue: 0,0:05:13.40,0:05:19.32,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nslowly going through the four phases that identify previous foundational technologies such as the TCP/IP,
Dialogue: 0,0:05:19.32,0:05:25.32,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nimpacting clients of the legal profession, from the music to financial to healthcare to energy industries.
Dialogue: 0,0:05:25.32,0:05:31.32,block02,NTP,0,0,0,!Effect,[…]blockchain is\Npoised to transform the way suppliers, retailers, and consumers interact with one another and their goods.
Dialogue: 0,0:05:31.32,0:05:37.32,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nset to bring about include the solving of problems of data manipulation, transparency and security online.
Dialogue: 0,0:05:37.32,0:05:43.52,block02,NTP,0,0,0,!Effect,[…]blockchain is\Ntouted as a game-changer as it can provide a secure payments network and also eliminate the need of escrow.
Dialogue: 0,0:05:43.52,0:05:49.64,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nused for any cryptocurrency, and various companies develop their own versions of this open-source technology.
Dialogue: 0,0:05:49.64,0:05:55.88,block02,NTP,0,0,0,!Effect,[…]blockchain is\Npredominantly used by small businesses as a decentralized ledger for accepting digital currencies, like Bitcoin.
Dialogue: 0,0:05:55.88,0:06:02.28,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nhosted by millions of processors simultaneously, and its data is available to anyone with access to the internet.
Dialogue: 0,0:06:02.28,0:06:08.84,block02,NTP,0,0,0,!Effect,[…]blockchain is\Non pace to do some $50 billion worth of transactions this year, with about a third of it coming from institutions.
Dialogue: 0,0:06:08.84,0:06:15.48,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nincreasingly being included as an area of expertise for back-end, solutions architects and machine-learning engineers,
Dialogue: 0,0:06:15.48,0:06:22.28,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nmore complex than the internet and also because things are not clear enough as to why this technology matters so much!
Dialogue: 0,0:06:22.28,0:06:29.04,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nexchanged instantaneously, and it can be stored in digital portfolios of user's phone or accessing through the browser.
Dialogue: 0,0:06:29.04,0:06:35.80,block02,NTP,0,0,0,!Effect,[…]blockchain is\Noften a term that encompasses a broad range of distributed ledgers, even if transactions are not organized into blocks.
Dialogue: 0,0:06:35.80,0:06:42.84,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nstill an immature technology, with a market that is still nascent and a clear recipe for success that has not yet emerged.
Dialogue: 0,0:06:42.84,0:06:49.76,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnot only a disruptive breakthrough in computer core technology, but also a challenge to the traditional commercial society.
Dialogue: 0,0:06:49.76,0:06:56.72,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nset to hugely impact everything from auditing and cybersecurity to the way that we store, access and interpret information.
Dialogue: 0,0:06:56.72,0:07:03.64,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nactively being investigated as a new type of distributed data environment for many virtualized network systems applications.
Dialogue: 0,0:07:03.64,0:07:10.64,block02,NTP,0,0,0,!Effect,[…]blockchain is\Ngenerating a swell of excitement among coders and computer scientists not witnessed since the earliest days of the internet.
Dialogue: 0,0:07:10.64,0:07:17.68,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nuniquely suited to address the piracy, control and monetization issues of music that have become rampant in the digital age.
Dialogue: 0,0:07:17.68,0:07:25.20,block02,NTP,0,0,0,!Effect,[…]blockchain is\Nnot limited to one Financial analysts can focus on the merits of the price, the market opportunity, and the impact on stock prices.
Dialogue: 0,0:07:25.20,0:07:30.36,block02,NTP,0,0,0,!Effect,[…]blockchain is an\Nopportunity, it is going to reduce costs, increase incomes, secure processes, make coffee …
Dialogue: 0,0:07:30.36,0:07:36.52,block02,NTP,0,0,0,!Effect,[…]blockchain is an\Naccounting technology, so it could be used to create single entry bookkeeping systems rather than dual entry.

Dialogue: 0,0:07:36.52,0:07:43.04,block02,NTP,0,0,0,!Effect,[…]blockchain is an\Nextremely in-efficient computational process, it will always be more inefficient then a centralized system could be.
Dialogue: 0,0:07:43.04,0:07:47.28,block02,NTP,0,0,0,!Effect,[…]blockchain is the\N“missing link” that enables IoT deployments to achieve their full potential
Dialogue: 0,0:07:47.28,0:07:51.60,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nanswer to building trust and improving customer experience in the long term.
Dialogue: 0,0:07:51.60,0:07:55.96,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Ntechnology most likely "to have the greatest impact on the next few decades,
Dialogue: 0,0:07:55.96,0:08:00.32,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nfuture for coordination between all the parties in the supply chain industry.
Dialogue: 0,0:08:00.32,0:08:04.80,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nadvertising messiah, a savior that will fix all the digital ad world's messes.
Dialogue: 0,0:08:04.80,0:08:09.28,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nonly technology in existence today that can achieve fully transparent elections,
Dialogue: 0,0:08:09.28,0:08:14.08,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nsecond phase of the internet and has a value 10 times greater than its predecessor.
Dialogue: 0,0:08:14.08,0:08:19.16,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nsolution to everything from poverty to corruption, it’s understandable if you’re skeptical.
Dialogue: 0,0:08:19.16,0:08:24.88,block02,NTP,0,0,0,!Effect,[…]blockchain is the\N‘engine’ that would allow us to access human potential in ways that would accelerate human evolution,
Dialogue: 0,0:08:24.88,0:08:30.88,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nmost important innovation in fundamental architecture since the tubes of the internet were first developed.
Dialogue: 0,0:08:30.88,0:08:37.16,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Ngreatest thing since sliced bread, and that it'll change the way businesses and financial institutions operate.
Dialogue: 0,0:08:37.16,0:08:43.48,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nperfect technology to drive the internet of things and will bring in "a service-sector productivity revolution".
Dialogue: 0,0:08:43.48,0:08:50.52,block02,NTP,0,0,0,!Effect,[…]blockchain is the\Nanswer to a question we've been asking since the dawn of the internet age: How can we collectively trust what happens online?
Dialogue: 0,0:08:50.52,0:08:55.20,block02,NTP,0,0,0,!Effect,[…]the blockchain is a\Nnascent technology, and its applications outside Bitcoin are still largely untested.
Dialogue: 0,0:08:55.20,0:09:00.00,block02,NTP,0,0,0,!Effect,[…]the blockchain is a\Ngroundbreaking technology that can be as important as the emergence of the internet itself,
Dialogue: 0,0:00:00.00,0:00:07.92,block03,NTP,0,0,0,!Effect,A blockchain is\Nonly a digital record, but we need others to determine if those records actually match the corresponding physical assets in the real world.
Dialogue: 0,0:00:07.92,0:00:16.08,block03,NTP,0,0,0,!Effect,A blockchain is\Nessentially a distributed database of records or public ledger of all transactions that have been executed and shared among participating parties.
Dialogue: 0,0:00:16.08,0:00:24.32,block03,NTP,0,0,0,!Effect,A blockchain is\Nmade up of two primary components: a decentralized network facilitating and verifying transactions, and the immutable ledger that network maintains.
Dialogue: 0,0:00:24.32,0:00:32.92,block03,NTP,0,0,0,!Effect,A blockchain is\Nin the simplest of terms, a time-stamped series of immutable record of data that is managed by a cluster of computers not owned by any single entity.
Dialogue: 0,0:00:32.92,0:00:42.56,block03,NTP,0,0,0,!Effect,A blockchain is\Nfundamentally a data structure in which transactions are verified in batches called blocks, and the nodes or servers verify said transactions through a consensus algorithm.
Dialogue: 0,0:00:42.56,0:00:50.24,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndata structure that makes it possible to create\Na digital ledger of transactions and share it\Namong a distributed network of computers.
Dialogue: 0,0:00:50.24,0:00:57.88,block03,NTP,0,0,0,!Effect,A blockchain is a\Ncryptographically protected distributed ledger-it’s what protects you or anyone else from making a copy of that Bitcoin you just bought.
Dialogue: 0,0:00:57.88,0:01:05.36,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndigital, distributed transaction ledger, with identical copies maintained on multiple computer systems controlled by different entities.
Dialogue: 0,0:01:05.36,0:01:13.40,block03,NTP,0,0,0,!Effect,A blockchain is a\Nshared digital ledger that allows transactions to be recorded and verified electronically over a network of computers without a central ledger.

Dialogue: 0,0:01:13.40,0:01:22.12,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndecentralized and open distributed ledger, recording financial transactions (or virtually anything of value) between two parties, on a peer-to-peer network.
Dialogue: 0,0:01:22.12,0:01:31.72,block03,NTP,0,0,0,!Effect,A blockchain is a\Nhistory of events (transactions or otherwise) that uses cryptography to link timestamped batches of events together in order to make it evident if tampering has occurred.
Dialogue: 0,0:01:31.72,0:01:41.56,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database that maintains a continuously growing list of data records that are hardened against tampering and revision, even by operators of the data store's nodes.
Dialogue: 0,0:01:41.56,0:01:51.80,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndecentralized digital ledger that can record transactions across many computers so that the record cannot be altered retroactively without making changes throughout the entire network.
Dialogue: 0,0:01:51.80,0:02:02.36,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndigital ledger that is kept and validated simultaneously by a network of computers, almost like a shared Excel document that no one person can change without the agreement of the others.
Dialogue: 0,0:02:02.36,0:02:13.08,block03,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database, journal, or ledger for which many computers maintain identical copies and agree on the ordering of information without having to trust one another or any central party.
Dialogue: 0,0:02:13.08,0:02:20.76,block03,NTP,0,0,0,!Effect,The blockchain is\Ndecentralized and distributed, meaning there is no central organization to add blocks and send out official updates to anyone interested.
Dialogue: 0,0:02:20.76,0:02:28.60,block03,NTP,0,0,0,!Effect,The blockchain is\Nnot a ledger of all the accounts that exist and their respective balances, but rather a comprehensive history of all Bitcoin transactions.
Dialogue: 0,0:02:28.60,0:02:36.40,block03,NTP,0,0,0,!Effect,The blockchain is\Nin effect a common, public ledger, which utilizes cryptographic mechanisms to verify transactions and information in a decentralized manner.
Dialogue: 0,0:02:36.40,0:02:44.24,block03,NTP,0,0,0,!Effect,The blockchain is\Nimmutable: records cannot be falsified, which makes it extremely reliable, and eliminating middlemen like banks makes it extremely efficient.
Dialogue: 0,0:02:44.24,0:02:52.32,block03,NTP,0,0,0,!Effect,The blockchain is\Nsometimes called a distributed ledger because it's rather like an old-fashioned book-keeping ledger in which a clerk would record transactions.
Dialogue: 0,0:02:52.32,0:03:00.60,block03,NTP,0,0,0,!Effect,The blockchain is\Nin essence a distributed database holding all the Bitcoin transactions since the beginning (January 3, 2009) and a method to secure this database.
Dialogue: 0,0:03:00.60,0:03:08.96,block03,NTP,0,0,0,!Effect,The blockchain is\Nessentially a distributed ledger where each block contains a timestamp and holds batches of individual transactions with a link to a previous block.
Dialogue: 0,0:03:08.96,0:03:17.52,block03,NTP,0,0,0,!Effect,The blockchain is\Nshared by the nodes on the bitcoin network, in the same way a totally legit and non-copyrighted video file might be shared on the BitTorrent network.
Dialogue: 0,0:03:17.52,0:03:26.56,block03,NTP,0,0,0,!Effect,The blockchain is\Ntrustworthy by virtue of its distributed model, how blocks are linked to the chain, and its consensus algorithm that makes the cost of altering it prohibitive.
Dialogue: 0,0:03:26.56,0:03:35.68,block03,NTP,0,0,0,!Effect,The blockchain is\Npublic: anyone can view it at any time because it resides on the network, not within a single institution charged with auditing transactions and keeping records.
Dialogue: 0,0:03:35.68,0:03:44.96,block03,NTP,0,0,0,!Effect,The blockchain is\Ndesigned so that each block contains a cryptographic reference to the block that came before it, thereby linking each block into a verifiable and tamperproof chain.
Dialogue: 0,0:03:44.96,0:03:54.32,block03,NTP,0,0,0,!Effect,The blockchain is\Noften called a distributed or decentralized system because it keeps copies of these blocks on a spread-out network of computers, rather than on a centralized server.
Dialogue: 0,0:03:54.32,0:04:03.84,block03,NTP,0,0,0,!Effect,The blockchain is\Nmore properly called a distributed ledger, basically a way of securely and transparently storing information, and performing pre-programmed operations on that information.
Dialogue: 0,0:04:03.84,0:04:15.08,block03,NTP,0,0,0,!Effect,The blockchain is\Nintended to store exchange records ("obstructs") in numerous spots, connected to each other (henceforth the "chain" some portion of the name) and straightforward to any client who wishes to see them.

Dialogue: 0,0:04:15.08,0:04:22.68,block03,NTP,0,0,0,!Effect,The blockchain is a\Nnew and innovative way that people and companies can create, verify, and enforce transactions without a middleman or central authority.
Dialogue: 0,0:04:22.68,0:04:30.36,block03,NTP,0,0,0,!Effect,The blockchain is a\Nsimple digital platform for recording and verifying\Ntransactions so that other people\Ncan't erase them later - and anyone can see them.
Dialogue: 0,0:04:30.36,0:04:37.96,block03,NTP,0,0,0,!Effect,The blockchain is a\Ntechnology framework for decentralizing a number of entities that used to require one or more middlemen and involve significant opacity
Dialogue: 0,0:04:37.96,0:04:45.88,block03,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed and decentralised ledger that stores data such as transactions, and that is publicly shared across all the nodes of its network.
Dialogue: 0,0:04:45.88,0:04:53.88,block03,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed ledger that allows the transfer of information and data between two nodes in the network, without the need for any intermediaries.
Dialogue: 0,0:04:53.88,0:05:02.04,block03,NTP,0,0,0,!Effect,The blockchain is a\Ndigital ledger of online transactions that can keep records of not only just financial transactions but virtually every kind of data transaction.
Dialogue: 0,0:05:02.04,0:05:10.24,block03,NTP,0,0,0,!Effect,The blockchain is a\Nrevolution that builds on another technical revolution so old that only the more experienced among us remember it: the invention of the database.
Dialogue: 0,0:05:10.24,0:05:18.56,block03,NTP,0,0,0,!Effect,The blockchain is a\Nconsensus model at scale, and possibly the mechanism we have been waiting for that could help to usher in an era of friendly machine intelligence.
Dialogue: 0,0:05:18.56,0:05:26.96,block03,NTP,0,0,0,!Effect,The blockchain is a\Nset of networked and cryptography-based technology infrastructure and programmable capabilities that facilitate a new category of trust-based services.
Dialogue: 0,0:05:26.96,0:05:36.80,block03,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed database – to achieve independent verification of the chain of ownership of any and every bitcoin amount, each network node stores its own copy of the blockchain.
Dialogue: 0,0:05:36.80,0:05:46.76,block03,NTP,0,0,0,!Effect,The blockchain is a\Nrecent development in the field of computer science, which uses a global peer-to-peer network to provide an open platform that can deliver neutrality, reliability and security.
Dialogue: 0,0:05:46.76,0:05:55.28,block03,NTP,0,0,0,!Effect,The blockchain is an\Nincorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.
Dialogue: 0,0:05:55.28,0:06:04.68,block03,NTP,0,0,0,!Effect,The blockchain is an\Never-growing chain of data, or "blocks," which allows for an established digital trail back to the original block that is heavily resilient to changes and tampering.
Dialogue: 0,0:06:04.68,0:06:13.60,block03,NTP,0,0,0,!Effect,The blockchain is the\Nintegration and automation of human/machine interaction and the machine-to-machine (M2M) and Internet of Things (IoT) payment network for the machine economy.
Dialogue: 0,0:06:13.60,0:06:24.08,block03,NTP,0,0,0,!Effect,The blockchain is the\Ncoordination mechanism, the line-item attribution, credit, proof, and compensation rewards tracking schema to encourage trustless participation by any intelligent agent in any collaboration.
Dialogue: 0,0:06:24.08,0:06:31.80,block03,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a single system, but a baseline technology which can be configured in different ways to suit different purposes and business models.
Dialogue: 0,0:06:31.80,0:06:40.56,block03,NTP,0,0,0,!Effect,[…]blockchain is\Nmerely an extension of a database, but it "incentivises people to share data and makes sure people can get data" because of the added security around it.
Dialogue: 0,0:06:40.56,0:06:50.88,block03,NTP,0,0,0,!Effect,[…]blockchain is\Nvirtually impossible to manipulate as it is based on a distributed database – a set of separate computers possibly spread over a network of users that store and verify the database.
Dialogue: 0,0:06:50.88,0:06:58.52,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Nmechanism for storing and sharing data, but nothing forces participants to store data in common formats or use common data definitions.
Dialogue: 0,0:06:58.52,0:07:06.28,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed database, but from there it serves as an innovative foundation for building an enterprise-quality business transaction network.

Dialogue: 0,0:07:06.28,0:07:14.08,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Nself-sustaining, peer-to-peer database technology for managing and recording transactions with no central bank or clearinghouse involvement.
Dialogue: 0,0:07:14.08,0:07:22.16,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized database, a matrix of computers talking to each other, and any transaction has to be approved by each node before it's executed.
Dialogue: 0,0:07:22.16,0:07:30.32,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Nform of digital trust, which has a number of potential uses and applications in business because trust is one key component in such a context.
Dialogue: 0,0:07:30.32,0:07:38.40,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Npeer-to-peer ledger or, more simply, a giant database of transactions that is maintained by anyone with a computer who chooses to participate.
Dialogue: 0,0:07:38.40,0:07:46.64,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital ledger of economic transactions that is fully public, continually updated by countless users, and considered by many impossible to corrupt.
Dialogue: 0,0:07:46.64,0:07:55.12,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed ledger that maintains a continuously-growing list of every transaction across every network distributed over tens of thousands of computers.
Dialogue: 0,0:07:55.12,0:08:03.88,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Nkind of database that is highly resistant to modification, it seems, which makes sense if we are talking about currency, but it isn't enough on its own.
Dialogue: 0,0:08:03.88,0:08:12.92,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed ledger, meaning that the blocks of data comprising the ledger are spread across a network of computers that could be located anywhere in the world.
Dialogue: 0,0:08:12.92,0:08:22.40,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ntechnology that allows one participant to transfer something of value to another participant by recording the transaction in an immutable "block" on a transparent "chain".
Dialogue: 0,0:08:22.40,0:08:32.40,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital ledger system shared and publicly hosted by a verified network of peers, each with a synchronized and identical transcript of the information accommodated in a digital ledger.
Dialogue: 0,0:08:32.40,0:08:42.40,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Npublic electronic ledger that can be openly shared among disparate users and that creates an unchangeable record of their transactions, each one time-stamped and linked to the previous one.
Dialogue: 0,0:08:42.40,0:08:52.40,block03,NTP,0,0,0,!Effect,[…]blockchain is a\Nform of distributed ledger technology (DLT) that offers a transparent, decentralised way of recording lists of transactions, allowing digital information to be distributed rather than copied.
Dialogue: 0,0:08:52.40,0:09:00.00,block03,NTP,0,0,0,!Effect,[…]blockchain is an\Nimmutable and decentralized ledger outlining a product's journey from creation, to packaging, to sale - all leading back to its original source.
Dialogue: 0,0:00:00.00,0:00:03.92,block04,NTP,0,0,0,!Effect,The blockchain is\Nmaintained by a peer-to-peer network of computers, or network nodes.
Dialogue: 0,0:00:03.92,0:00:07.72,block04,NTP,0,0,0,!Effect,The blockchain is\Nstored across multiple pools and continuously checked and rechecked.
Dialogue: 0,0:00:07.72,0:00:11.64,block04,NTP,0,0,0,!Effect,The blockchain is\Nsoftware that stores and transfers value or data across the internet.
Dialogue: 0,0:00:11.64,0:00:15.64,block04,NTP,0,0,0,!Effect,The blockchain is\Nideal for keeping track of a currency and protecting it against fraud.
Dialogue: 0,0:00:15.64,0:00:19.64,block04,NTP,0,0,0,!Effect,The blockchain is\Ntransparent and decentralized and anyone can put it on their computer.
Dialogue: 0,0:00:19.64,0:00:23.64,block04,NTP,0,0,0,!Effect,The blockchain is\Nalso faster, more secure, and more efficient than centralized networks.
Dialogue: 0,0:00:23.64,0:00:27.72,block04,NTP,0,0,0,!Effect,The blockchain is\Nconceptually a flat file – a linear list of simple transaction records.
Dialogue: 0,0:00:27.72,0:00:31.96,block04,NTP,0,0,0,!Effect,The blockchain is\Ncontinuously replicated on all or at least a group of nodes in a network.
Dialogue: 0,0:00:31.96,0:00:36.08,block04,NTP,0,0,0,!Effect,The blockchain is\Nsimply a digital ledger, designed to be incorruptible and self-executing.
Dialogue: 0,0:00:36.08,0:00:40.24,block04,NTP,0,0,0,!Effect,The blockchain is\Nsimply a distributed ledger that is best used in a decentralized fashion.
Dialogue: 0,0:00:40.24,0:00:44.60,block04,NTP,0,0,0,!Effect,The blockchain is\Nimmutable, so no one can tamper with the data that is inside the blockchain

Dialogue: 0,0:00:44.60,0:00:48.88,block04,NTP,0,0,0,!Effect,The blockchain is\Nnot Bitcoin or any other cryptocurrency, but the technology underlying them.
Dialogue: 0,0:00:48.88,0:00:53.48,block04,NTP,0,0,0,!Effect,The blockchain is\Nsecured by the computer processing power in the network that updates the records.
Dialogue: 0,0:00:53.48,0:00:58.24,block04,NTP,0,0,0,!Effect,The blockchain is\Nmanaged by a decentralized network that verifies and puts a time-stamp on payments.
Dialogue: 0,0:00:58.24,0:01:03.28,block04,NTP,0,0,0,!Effect,The blockchain is\Nafter all, just an internet-hosted network which stores information as a shared database.
Dialogue: 0,0:01:03.28,0:01:08.24,block04,NTP,0,0,0,!Effect,The blockchain is\Ncustom-made for decentralizing trust and exchanging assets without central intermediaries.
Dialogue: 0,0:01:08.24,0:01:13.52,block04,NTP,0,0,0,!Effect,The blockchain is\Nall the framework needed to create the most secure and efficient voting system in the world.
Dialogue: 0,0:01:13.52,0:01:18.76,block04,NTP,0,0,0,!Effect,The blockchain is\Ndesigned to have its ledger updated quickly and regularly to include the latest transactions.
Dialogue: 0,0:01:18.76,0:01:24.08,block04,NTP,0,0,0,!Effect,The blockchain is\Nintended to be decentralized and not require trust between any of the members of its network.
Dialogue: 0,0:01:24.08,0:01:29.52,block04,NTP,0,0,0,!Effect,The blockchain is\Nsupported by the transaction fees (or at least it will be when all the bitcoin has been mined)
Dialogue: 0,0:01:29.52,0:01:35.04,block04,NTP,0,0,0,!Effect,The blockchain is\Npublic: anyone can view it at any time because it resides on the network… and the blockchain is
Dialogue: 0,0:01:35.04,0:01:40.64,block04,NTP,0,0,0,!Effect,The blockchain is\Ndesigned in a way such that the average time for a block to be generated remains fairly constant.
Dialogue: 0,0:01:40.64,0:01:46.16,block04,NTP,0,0,0,!Effect,The blockchain is\Nintended to provide a tamper-proof record of transaction metadata, regardless of transaction type.
Dialogue: 0,0:01:46.16,0:01:51.84,block04,NTP,0,0,0,!Effect,The blockchain is\Nsimply a digital way to transfer ownership of assets in a more efficient and a more effective way.
Dialogue: 0,0:01:51.84,0:01:57.60,block04,NTP,0,0,0,!Effect,The blockchain is\Ndesigned to make transactions safe and reliable even if the people doing them don’t trust each other.
Dialogue: 0,0:01:57.60,0:02:03.28,block04,NTP,0,0,0,!Effect,The blockchain is\Npublic where transactions are recorded and visible to everyone, therefore it is not purely anonymous.
Dialogue: 0,0:02:03.28,0:02:09.24,block04,NTP,0,0,0,!Effect,The blockchain is\Nshared among the numerous computers that participate in the transaction-clearing process known as "mining.
Dialogue: 0,0:02:09.24,0:02:15.32,block04,NTP,0,0,0,!Effect,The blockchain is\Ngreat at knowing what’s encoded on its decentralized ledger and how to execute and enforce smart contracts.
Dialogue: 0,0:02:15.32,0:02:21.52,block04,NTP,0,0,0,!Effect,The blockchain is\Nessentially a giant record book of all Bitcoin transactions, it is to Bitcoin what the internet is to email.
Dialogue: 0,0:02:21.52,0:02:27.72,block04,NTP,0,0,0,!Effect,The blockchain is\Ndecentralized, meaning that multiple, independent machines are running copies of the blockchain ledger at once.
Dialogue: 0,0:02:27.72,0:02:34.08,block04,NTP,0,0,0,!Effect,The blockchain is\Ndistributed: it runs on computers provided by volunteers around the world; there is no central database to hack.
Dialogue: 0,0:02:34.08,0:02:40.84,block04,NTP,0,0,0,!Effect,The blockchain is\Nalso very secure, since any application running on it is distributed across a wide network, not an individual database.
Dialogue: 0,0:02:40.84,0:02:47.76,block04,NTP,0,0,0,!Effect,The blockchain is\Nalso distributed decentrally on all integrated computers worldwide, which is why manipulation is considered almost impossible
Dialogue: 0,0:02:47.76,0:02:54.72,block04,NTP,0,0,0,!Effect,The blockchain is\Npowerful technology that enables Bitcoin, Litecoin, Dogecoin, and other virtual currencies to be open, anonymous, and secure.
Dialogue: 0,0:02:54.72,0:02:58.56,block04,NTP,0,0,0,!Effect,The blockchain is a\Ncomplete listing of all transactions, whether financial or otherwise.
Dialogue: 0,0:02:58.56,0:03:02.48,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed ledger that is comprised of “blocks” that each have data.
Dialogue: 0,0:03:02.48,0:03:06.32,block04,NTP,0,0,0,!Effect,The blockchain is a\Nrevolutionary technology that works on a ‘distributed ledger system’.
Dialogue: 0,0:03:06.32,0:03:10.36,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized ledger of all transactions across a peer-to-peer network.
Dialogue: 0,0:03:10.36,0:03:14.36,block04,NTP,0,0,0,!Effect,The blockchain is a\Npublic ledger where transactions are recorded and confirmed anonymously.
Dialogue: 0,0:03:14.36,0:03:18.52,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed ledger that embeds contracts and transactions in digital code.
Dialogue: 0,0:03:18.52,0:03:22.80,block04,NTP,0,0,0,!Effect,The blockchain is a\Nform of digital record keeping that has advantages over other methodologies.

Dialogue: 0,0:03:22.80,0:03:27.36,block04,NTP,0,0,0,!Effect,The blockchain is a\Nlittle bit like the teacher at the front of the class who marks math homework,
Dialogue: 0,0:03:27.36,0:03:31.88,block04,NTP,0,0,0,!Effect,The blockchain is a\Nledger, and we most often think of ledgers as containing financial transactions.
Dialogue: 0,0:03:31.88,0:03:36.48,block04,NTP,0,0,0,!Effect,The blockchain is a\Npeer-to-peer system, meaning that transactions are between you and another party.
Dialogue: 0,0:03:36.48,0:03:41.04,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed, public ledger that contains the history of every bitcoin transaction.
Dialogue: 0,0:03:41.04,0:03:45.84,block04,NTP,0,0,0,!Effect,The blockchain is a\Nledger stored on each network node as a copy of the "original" set of transactions.
Dialogue: 0,0:03:45.84,0:03:50.64,block04,NTP,0,0,0,!Effect,The blockchain is a\Nkind of public database, one stored simultaneously on a bunch of different computers.
Dialogue: 0,0:03:50.64,0:03:55.60,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndigital rubber stamp, so anything that takes a seal right now is heading for the chop.
Dialogue: 0,0:03:55.60,0:04:00.60,block04,NTP,0,0,0,!Effect,The blockchain is a\Nchain of blocks where each block contains data of value without any central supervision.
Dialogue: 0,0:04:00.60,0:04:05.72,block04,NTP,0,0,0,!Effect,The blockchain is a\Nglobally distributed database that anyone can add to, but whose history no-one can modify.
Dialogue: 0,0:04:05.72,0:04:10.76,block04,NTP,0,0,0,!Effect,The blockchain is a\Ntechnology that is used to continuously record every bitcoin transaction that takes place.
Dialogue: 0,0:04:10.76,0:04:15.92,block04,NTP,0,0,0,!Effect,The blockchain is a\Nmethod of maintaining the register without the need for a centralized financial institution.
Dialogue: 0,0:04:15.92,0:04:21.12,block04,NTP,0,0,0,!Effect,The blockchain is a\Ntime-stamped, non-repudiable database that contains the entire logged history of the system.
Dialogue: 0,0:04:21.12,0:04:26.44,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndatabase displayed publicly for every Bitcoin transaction that happened in the Bitcoin network.
Dialogue: 0,0:04:26.44,0:04:31.76,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized ledger of transactions that verifies and enforces contracts coded onto the chain.
Dialogue: 0,0:04:31.76,0:04:37.08,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed database that provides an unalterable, (semi-)public record of digital transactions.
Dialogue: 0,0:04:37.08,0:04:42.68,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndigital booking system that accurately tracks all transactions and saves every change as a “block”.
Dialogue: 0,0:04:42.68,0:04:48.40,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed file system where participants keep copies of the file and agree on changes by consensus.
Dialogue: 0,0:04:48.40,0:04:54.28,block04,NTP,0,0,0,!Effect,The blockchain is a\Ntechnology that has allowed for the creation of a peer-to-peer network in order to transact a currency
Dialogue: 0,0:04:54.28,0:05:00.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed public ledger that allows individuals who don’t know and trust each other to transfer value.
Dialogue: 0,0:05:00.00,0:05:06.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Nledger that keeps track of how much ‘stuff’ (ie BTC, ETH,…create your own currency if you wish) you have.
Dialogue: 0,0:05:06.00,0:05:12.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed ledgers that does not rely on a trusted central authority to maintain and validate the ledger.
Dialogue: 0,0:05:12.00,0:05:18.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Nmore secure way to store and transfer funds, particularly if you keep a modest value in your virtual wallet.
Dialogue: 0,0:05:18.00,0:05:24.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Nsecure network because each transaction is encrypted with a hash that is used to verify the succeeding hash.
Dialogue: 0,0:05:24.00,0:05:30.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Nshared source of truth which will decentralize the power of information effectively to the edge, to the user.
Dialogue: 0,0:05:30.00,0:05:36.00,block04,NTP,0,0,0,!Effect,The blockchain is a\Ntechnology that is supposed to be all about distributing power and information away from central authorities.
Dialogue: 0,0:05:36.00,0:05:42.40,block04,NTP,0,0,0,!Effect,The blockchain is a\Nlinked list which contains data and a hash pointer which points to its previous block, hence creating the chain.
Dialogue: 0,0:05:42.40,0:05:48.80,block04,NTP,0,0,0,!Effect,The blockchain is a\Nnew distributed platform that is helping us re-shape the world of business and transform society for the better.
Dialogue: 0,0:05:48.80,0:05:55.12,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized database that allows individuals to trade directly without the need for a third-party intermediary.
Dialogue: 0,0:05:55.12,0:06:01.52,block04,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed network that solves all the problems that we have of finance, but more broadly, it's like a philosophy.
Dialogue: 0,0:06:01.52,0:06:07.92,block04,NTP,0,0,0,!Effect,The blockchain is a\Ntool that could prove the existence and exact contents of any document or other digital asset at a particular time.

Dialogue: 0,0:06:07.92,0:06:14.76,block04,NTP,0,0,0,!Effect,The blockchain is a\Npublic ledger of every transfer the bitcoin community makes, and many different people can make entries into that ledger.
Dialogue: 0,0:06:14.76,0:06:21.56,block04,NTP,0,0,0,!Effect,The blockchain is a\Npublic, decentralized, distributed ledger that is capable of storing and confirming the transactions that pass through it.
Dialogue: 0,0:06:21.56,0:06:28.36,block04,NTP,0,0,0,!Effect,The blockchain is a\Nmeans of offering personalized decentralized governance services, sponsoring literacy, and facilitating economic development.
Dialogue: 0,0:06:28.36,0:06:35.16,block04,NTP,0,0,0,!Effect,The blockchain is a\Npublic decentralised database that records each Bitcoin transaction in "block" sequences of code; a digital ledger, if you like.
Dialogue: 0,0:06:35.16,0:06:42.48,block04,NTP,0,0,0,!Effect,The blockchain is a\Nsecure transaction ledger database that is shared by all parties participating in an established, distributed network of computers.
Dialogue: 0,0:06:42.48,0:06:49.96,block04,NTP,0,0,0,!Effect,The blockchain is a\Nglobal distributed ledger, which facilitates the movement of assets across the world in seconds, with only a minimal transaction fee.
Dialogue: 0,0:06:49.96,0:06:57.60,block04,NTP,0,0,0,!Effect,The blockchain is a\Nnew way of managing trust and can be used to verify many types of data in insurance contracts, such as the insured person’s identity.
Dialogue: 0,0:06:57.60,0:07:02.16,block04,NTP,0,0,0,!Effect,The blockchain is an\Namalgamation of maths, computer science, philosophy, psychology, and trustlessness.
Dialogue: 0,0:07:02.16,0:07:07.16,block04,NTP,0,0,0,!Effect,The blockchain is an\Nimmutable, absolute record of facts of what actually is happening and what has happened.
Dialogue: 0,0:07:07.16,0:07:11.32,block04,NTP,0,0,0,!Effect,The blockchain is the\Nbackbone ledger that tracks and verifies the movement of cryptocurrencies.
Dialogue: 0,0:07:11.32,0:07:15.60,block04,NTP,0,0,0,!Effect,The blockchain is the\Ntechnology that is serves as the distributed ledger that forms the network.
Dialogue: 0,0:07:15.60,0:07:20.48,block04,NTP,0,0,0,!Effect,The blockchain is the\Ncore of Bitcoin as it is the summary of all the transactions in the Bitcoin Network.
Dialogue: 0,0:07:20.48,0:07:25.60,block04,NTP,0,0,0,!Effect,The blockchain is the\Ndecentrally maintained append-only log of all transactions verified on the Bitcoin network.
Dialogue: 0,0:07:25.60,0:07:30.88,block04,NTP,0,0,0,!Effect,The blockchain is the\Ndistributed ledger that keeps track of all transactions made using the Bitcoin cryptocurrency.
Dialogue: 0,0:07:30.88,0:07:36.28,block04,NTP,0,0,0,!Effect,The blockchain is the\Ndistributed database that gives an alterable and semi public record of the digital transactions.
Dialogue: 0,0:07:36.28,0:07:42.12,block04,NTP,0,0,0,!Effect,The blockchain is the\Nfirst technology that enables the transfer of digital ownership in a decentralized and trustless manner.
Dialogue: 0,0:07:42.12,0:07:48.08,block04,NTP,0,0,0,!Effect,The blockchain is the\Npublic ledger that holds a permanent record of all bitcoin transactions, and is maintained by the miners.
Dialogue: 0,0:07:48.08,0:07:54.24,block04,NTP,0,0,0,!Effect,The blockchain is the\Nmain technical innovation behind bitcoin, serving as the public ledger of the virtual currency’s transactions.
Dialogue: 0,0:07:54.24,0:08:01.24,block04,NTP,0,0,0,!Effect,The blockchain is the\Nopen-source, distributed ledger that records every bitcoin transaction, but can also store small bits of non-financial data.
Dialogue: 0,0:08:01.24,0:08:07.08,block04,NTP,0,0,0,!Effect,The blockchain technology is\Nbuilt upon the idea of decentralization, allowing users to interact without the use of an intermediary.
Dialogue: 0,0:08:07.08,0:08:11.08,block04,NTP,0,0,0,!Effect,The blockchain technology is the \Ntechnology that powers the bitcoin cryptocurrency and other cryptocoins.
Dialogue: 0,0:08:11.08,0:08:15.72,block04,NTP,0,0,0,!Effect,A blockchain is an\Nencrypted and shared database that's spread across more than one computing device.
Dialogue: 0,0:08:15.72,0:08:20.92,block04,NTP,0,0,0,!Effect,A blockchain is an\Nencoded digital ledger that is stored on multiple computers in a public or private network.
Dialogue: 0,0:08:20.92,0:08:26.64,block04,NTP,0,0,0,!Effect,A blockchain is an\Nexcellent form of DB storage system, which uses records to store data or huge amount of information.
Dialogue: 0,0:08:26.64,0:08:31.72,block04,NTP,0,0,0,!Effect,A blockchain is the\Nstructure of data that represents a financial ledger entry, or a record of a transaction.
Dialogue: 0,0:08:31.72,0:08:37.72,block04,NTP,0,0,0,!Effect,A blockchain is the\Ndata structure that the Bitcoin cryptocurrency uses for its public ledger, where transactions are recorded.
Dialogue: 0,0:08:37.72,0:08:42.28,block04,NTP,0,0,0,!Effect,Blockchain is the\Nbest mechanism currently available to deal with the problems in the supply chain
Dialogue: 0,0:08:42.28,0:08:47.60,block04,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that is spearheading the momentum of democracy and decentralization in online world.

Dialogue: 0,0:08:47.60,0:08:53.64,block04,NTP,0,0,0,!Effect,Blockchain is the\Nideal technology for building a connected record of a supply chain and the provenance of individual items.
Dialogue: 0,0:08:53.64,0:09:00.00,block04,NTP,0,0,0,!Effect,Blockchain is the\Nrequirement of the current time because it makes our handling of online transactions and engagements very secure.
Dialogue: 0,0:00:00.00,0:00:00.72,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot bitcoin.
Dialogue: 0,0:00:00.72,0:00:01.52,block05,NTP,0,0,0,!Effect,Blockchain is\NDecentralized:
Dialogue: 0,0:00:01.52,0:00:02.48,block05,NTP,0,0,0,!Effect,Blockchain is\Nsecure and safe.
Dialogue: 0,0:00:02.48,0:00:03.48,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot just Bitcoin.
Dialogue: 0,0:00:03.48,0:00:04.52,block05,NTP,0,0,0,!Effect,Blockchain is\Nmerely a database,
Dialogue: 0,0:00:04.52,0:00:05.64,block05,NTP,0,0,0,!Effect,Blockchain is\Nall about software.
Dialogue: 0,0:00:05.64,0:00:06.76,block05,NTP,0,0,0,!Effect,Blockchain is\Nadditive technology.
Dialogue: 0,0:00:06.76,0:00:07.96,block05,NTP,0,0,0,!Effect,Blockchain is\NLike a Public Ledger
Dialogue: 0,0:00:07.96,0:00:09.16,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot just for Bitcoin
Dialogue: 0,0:00:09.16,0:00:10.36,block05,NTP,0,0,0,!Effect,Blockchain is\NHighly Hack-Resistant
Dialogue: 0,0:00:10.36,0:00:11.60,block05,NTP,0,0,0,!Effect,Blockchain is\Nmore than a database.
Dialogue: 0,0:00:11.60,0:00:12.80,block05,NTP,0,0,0,!Effect,Blockchain is\NNOT a cryptocurrency.
Dialogue: 0,0:00:12.80,0:00:14.08,block05,NTP,0,0,0,!Effect,Blockchain is\NNot Only About Bitcoin
Dialogue: 0,0:00:14.08,0:00:15.44,block05,NTP,0,0,0,!Effect,Blockchain is\Nmuch more than bitcoin.
Dialogue: 0,0:00:15.44,0:00:16.80,block05,NTP,0,0,0,!Effect,Blockchain is\Nquite secure by design.
Dialogue: 0,0:00:16.80,0:00:18.20,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot just about currency:
Dialogue: 0,0:00:18.20,0:00:19.72,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot only for transactions.
Dialogue: 0,0:00:19.72,0:00:21.24,block05,NTP,0,0,0,!Effect,Blockchain is\Nimmutable, or unchangeable.
Dialogue: 0,0:00:21.24,0:00:22.80,block05,NTP,0,0,0,!Effect,Blockchain is\NNOT a programming language.
Dialogue: 0,0:00:22.80,0:00:24.48,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot bitcoin - it's far more
Dialogue: 0,0:00:24.48,0:00:26.24,block05,NTP,0,0,0,!Effect,Blockchain is\Nbeing used as a security tool.
Dialogue: 0,0:00:26.24,0:00:28.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nbuilt on a distributed ledger.
Dialogue: 0,0:00:28.00,0:00:29.72,block05,NTP,0,0,0,!Effect,Blockchain is\Nnecessary for cryptocurrencies.
Dialogue: 0,0:00:29.72,0:00:31.52,block05,NTP,0,0,0,!Effect,Blockchain is\Nalso immutable, or unchangeable.
Dialogue: 0,0:00:31.52,0:00:33.40,block05,NTP,0,0,0,!Effect,Blockchain is\Nfirst of all, a design principle
Dialogue: 0,0:00:33.40,0:00:35.28,block05,NTP,0,0,0,!Effect,Blockchain is\Ngood at storing immutable blocks.
Dialogue: 0,0:00:35.28,0:00:37.20,block05,NTP,0,0,0,!Effect,Blockchain is\Nmore than just a regulatory tool.
Dialogue: 0,0:00:37.20,0:00:39.04,block05,NTP,0,0,0,!Effect,Blockchain is\NNOT a cryptographic codification.
Dialogue: 0,0:00:39.04,0:00:40.96,block05,NTP,0,0,0,!Effect,Blockchain is\None type of a distributed ledger.
Dialogue: 0,0:00:40.96,0:00:42.96,block05,NTP,0,0,0,!Effect,Blockchain is\NNOT a Python library or framework.
Dialogue: 0,0:00:42.96,0:00:44.96,block05,NTP,0,0,0,!Effect,Blockchain is\Nreally just a dumb, slow database,
Dialogue: 0,0:00:44.96,0:00:46.96,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot a secure messaging replacement:
Dialogue: 0,0:00:46.96,0:00:49.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nnothing more than a fancy checksum.
Dialogue: 0,0:00:49.00,0:00:51.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nopen, and everyone sees everything.
Dialogue: 0,0:00:51.00,0:00:53.12,block05,NTP,0,0,0,!Effect,Blockchain is\Njust the vicious and toxic dark web.
Dialogue: 0,0:00:53.12,0:00:55.20,block05,NTP,0,0,0,!Effect,Blockchain is\Nlike the internet before the browser
Dialogue: 0,0:00:55.20,0:00:57.24,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot bitcoin or other cryptocurrency.
Dialogue: 0,0:00:57.24,0:00:59.32,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot Bitcoin-Bitcoin is not Blockchain
Dialogue: 0,0:00:59.32,0:01:01.40,block05,NTP,0,0,0,!Effect,Blockchain is\None kind of decentralised technology,

Dialogue: 0,0:01:01.40,0:01:03.56,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot a double-entry bookkeeping system.
Dialogue: 0,0:01:03.56,0:01:05.72,block05,NTP,0,0,0,!Effect,Blockchain is\Nrooted in validation, not just claims.
Dialogue: 0,0:01:05.72,0:01:08.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nall about replacing trust with software.
Dialogue: 0,0:01:08.00,0:01:10.24,block05,NTP,0,0,0,!Effect,Blockchain is\Nfirst and foremost, accounting software.
Dialogue: 0,0:01:10.24,0:01:12.52,block05,NTP,0,0,0,!Effect,Blockchain is\Nknown as “distributed ledger” technology.
Dialogue: 0,0:01:12.52,0:01:14.88,block05,NTP,0,0,0,!Effect,Blockchain is\NNOT an IA or Machine Learning technology.
Dialogue: 0,0:01:14.88,0:01:17.72,block05,NTP,0,0,0,!Effect,Blockchain is\NJust a Way of Recording Transactions in a Ledger.
Dialogue: 0,0:01:17.72,0:01:20.72,block05,NTP,0,0,0,!Effect,Blockchain is\Nbest-known for powering the digital currency Bitcoin.
Dialogue: 0,0:01:20.72,0:01:23.84,block05,NTP,0,0,0,!Effect,Blockchain is\Nopen to all, while DLT gives more control over access.
Dialogue: 0,0:01:23.84,0:01:27.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot a technological solution to a technological problem,
Dialogue: 0,0:01:27.00,0:01:30.28,block05,NTP,0,0,0,!Effect,blockchain is\Nabout a trusted information-sharing platform for business.
Dialogue: 0,0:01:30.28,0:01:33.64,block05,NTP,0,0,0,!Effect,Blockchain is\Nnot a database, it's a protocol for syncing the databases.
Dialogue: 0,0:01:33.64,0:01:37.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nnearly impossible to hack due to its distributed structure.
Dialogue: 0,0:01:37.00,0:01:40.32,block05,NTP,0,0,0,!Effect,Blockchain is\Noften conflated with cryptocurrency as a speculative asset.
Dialogue: 0,0:01:40.32,0:01:43.72,block05,NTP,0,0,0,!Effect,Blockchain is\Nvery useful for proof-of-work, auditing and data integrity,
Dialogue: 0,0:01:43.72,0:01:47.36,block05,NTP,0,0,0,!Effect,Blockchain is\Nbasically just a decentralized database - a ledger if you will.
Dialogue: 0,0:01:47.36,0:01:50.96,block05,NTP,0,0,0,!Effect,Blockchain is\Nlike an accounting book everyone can see, a distributed ledger.
Dialogue: 0,0:01:50.96,0:01:54.56,block05,NTP,0,0,0,!Effect,Blockchain is\Ndecentralized and distributed among a huge network of computers.
Dialogue: 0,0:01:54.56,0:01:58.24,block05,NTP,0,0,0,!Effect,Blockchain is\Nactually a concept, not an implementation or a single technology.
Dialogue: 0,0:01:58.24,0:02:02.00,block05,NTP,0,0,0,!Effect,Blockchain is\Nmuch more than the database ledger technology that powers bitcoin.
Dialogue: 0,0:02:02.00,0:02:05.80,block05,NTP,0,0,0,!Effect,Blockchain is\Nimmutable; it cannot be changed, so records are permanently stored,
Dialogue: 0,0:02:05.80,0:02:06.96,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed database.
Dialogue: 0,0:02:06.96,0:02:08.32,block05,NTP,0,0,0,!Effect,Blockchain is a\Nsingle source of truth.
Dialogue: 0,0:02:08.32,0:02:09.72,block05,NTP,0,0,0,!Effect,Blockchain is a\Nsingle system of record.
Dialogue: 0,0:02:09.72,0:02:11.12,block05,NTP,0,0,0,!Effect,Blockchain is a\Nshared ledger technology.
Dialogue: 0,0:02:11.12,0:02:12.60,block05,NTP,0,0,0,!Effect,Blockchain is a\Npublic distributed ledger.
Dialogue: 0,0:02:12.60,0:02:14.16,block05,NTP,0,0,0,!Effect,Blockchain is a\Nweb-based bitcoin platform.
Dialogue: 0,0:02:14.16,0:02:15.80,block05,NTP,0,0,0,!Effect,Blockchain is a\Nfast, reliable ledger system.
Dialogue: 0,0:02:15.80,0:02:17.40,block05,NTP,0,0,0,!Effect,Blockchain is a\Nsecured distributed database.
Dialogue: 0,0:02:17.40,0:02:19.08,block05,NTP,0,0,0,!Effect,Blockchain is a\Nchecksum/encapsulation method.
Dialogue: 0,0:02:19.08,0:02:20.76,block05,NTP,0,0,0,!Effect,Blockchain is a\Npublic record of transactions.
Dialogue: 0,0:02:20.76,0:02:22.44,block05,NTP,0,0,0,!Effect,Blockchain is a\Nstripped-down payments system.
Dialogue: 0,0:02:22.44,0:02:24.40,block05,NTP,0,0,0,!Effect,Blockchain is a\Nsecure, shared, distributed ledger.
Dialogue: 0,0:02:24.40,0:02:26.44,block05,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology for promoting user trust.

Dialogue: 0,0:02:26.44,0:02:28.52,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed digital ledger technology.
Dialogue: 0,0:02:28.52,0:02:30.68,block05,NTP,0,0,0,!Effect,Blockchain is a\Nrevolution in the flow of information.
Dialogue: 0,0:02:30.68,0:02:33.04,block05,NTP,0,0,0,!Effect,Blockchain is a\Ncollection of technologies – five or six,
Dialogue: 0,0:02:33.04,0:02:35.40,block05,NTP,0,0,0,!Effect,Blockchain is a\Nlayer under the hood of a cryptocurrency.
Dialogue: 0,0:02:35.40,0:02:38.08,block05,NTP,0,0,0,!Effect,Blockchain is a\Nmetonymy - a part used to refer to the whole.
Dialogue: 0,0:02:38.08,0:02:40.60,block05,NTP,0,0,0,!Effect,Blockchain is a\Ncollaborative environment; it needs nurturing.
Dialogue: 0,0:02:40.60,0:02:43.28,block05,NTP,0,0,0,!Effect,Blockchain is a\Nconfusion because there are so many variations.
Dialogue: 0,0:02:43.28,0:02:46.16,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed, validated data ledger, not a database.
Dialogue: 0,0:02:46.16,0:02:48.96,block05,NTP,0,0,0,!Effect,Blockchain is a\Nreplacement for bookkeeping and reconciliation work.
Dialogue: 0,0:02:48.96,0:02:51.76,block05,NTP,0,0,0,!Effect,Blockchain is a\Nnovel solution to the age-old human problem of trust.
Dialogue: 0,0:02:51.76,0:02:54.76,block05,NTP,0,0,0,!Effect,Blockchain is a\NPotential 'Truth Machine' For The World's Transactions
Dialogue: 0,0:02:54.76,0:02:57.72,block05,NTP,0,0,0,!Effect,Blockchain is a\Npublic distributed database holding encrypted ledgers.
Dialogue: 0,0:02:57.72,0:03:01.00,block05,NTP,0,0,0,!Effect,Blockchain is a\Ncritical part of the bitcoin peer-to-peer payment system.
Dialogue: 0,0:03:01.00,0:03:04.36,block05,NTP,0,0,0,!Effect,Blockchain is a\Nterm that has to come to mean many things to many people.
Dialogue: 0,0:03:04.36,0:03:07.68,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndigital ledger system used to securely record transactions.
Dialogue: 0,0:03:07.68,0:03:10.96,block05,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that facilitates trust between trading partners.
Dialogue: 0,0:03:10.96,0:03:14.48,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndigital record of data and transactions chronologically linked.
Dialogue: 0,0:03:14.48,0:03:18.08,block05,NTP,0,0,0,!Effect,Blockchain is a\Nversatile technology, capable of being used for many industries.
Dialogue: 0,0:03:18.08,0:03:21.92,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndigital ledger that up keeps a record of ever-growing set of data.
Dialogue: 0,0:03:21.92,0:03:25.72,block05,NTP,0,0,0,!Effect,Blockchain is a\Ndatabase that maintains a continuously growing set of data records.
Dialogue: 0,0:03:25.72,0:03:26.92,block05,NTP,0,0,0,!Effect,Blockchain is an\Naccounting technology.
Dialogue: 0,0:03:26.92,0:03:29.16,block05,NTP,0,0,0,!Effect,Blockchain is an\Nonline ledger that records transactions.
Dialogue: 0,0:03:29.16,0:03:31.72,block05,NTP,0,0,0,!Effect,Blockchain is an\Nimmutable, distributed record of transactions.
Dialogue: 0,0:03:31.72,0:03:34.60,block05,NTP,0,0,0,!Effect,Blockchain is an\Nopen decentralized database – a distributed ledger.
Dialogue: 0,0:03:34.60,0:03:36.04,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology behind bitcoin.
Dialogue: 0,0:03:36.04,0:03:37.64,block05,NTP,0,0,0,!Effect,Blockchain is the\Nmachine that produces trust.
Dialogue: 0,0:03:37.64,0:03:39.24,block05,NTP,0,0,0,!Effect,Blockchain is the\Nbackbone of cryptocurrencies.
Dialogue: 0,0:03:39.24,0:03:40.88,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that runs Bitcoin.
Dialogue: 0,0:03:40.88,0:03:43.04,block05,NTP,0,0,0,!Effect,Blockchain is the\Nbreakthrough technology behind bitcoin.
Dialogue: 0,0:03:43.04,0:03:45.44,block05,NTP,0,0,0,!Effect,Blockchain is the\Nconcept and Bitcoin is the implementation.
Dialogue: 0,0:03:45.44,0:03:48.08,block05,NTP,0,0,0,!Effect,Blockchain is the\Nbackbone of digital or cryptocurrency, Bitcoin.

Dialogue: 0,0:03:48.08,0:03:50.84,block05,NTP,0,0,0,!Effect,Blockchain is the\Ncore technology that is used to enable Bitcoins.
Dialogue: 0,0:03:50.84,0:03:53.60,block05,NTP,0,0,0,!Effect,Blockchain is the\Nbackbone behind peer-to-peer electronic payments.
Dialogue: 0,0:03:53.60,0:03:56.48,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology behind bitcoin and other cryptocurrencies
Dialogue: 0,0:03:56.48,0:03:59.36,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that enables cryptocurrency like bitcoin.
Dialogue: 0,0:03:59.36,0:04:02.40,block05,NTP,0,0,0,!Effect,Blockchain is the\Ncore system that underpins the cryptocurrency Bitcoin.
Dialogue: 0,0:04:02.40,0:04:05.44,block05,NTP,0,0,0,!Effect,Blockchain is the\NInfrastructure For a New Decentralized Sharing Economy
Dialogue: 0,0:04:05.44,0:04:08.80,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology behind bitcoin, but it has many other uses too.
Dialogue: 0,0:04:08.80,0:04:12.00,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that supports cryptocurrencies such as Bitcoin.
Dialogue: 0,0:04:12.00,0:04:15.28,block05,NTP,0,0,0,!Effect,Blockchain is the\Nunderlying technology of the cryptocurrency called bitcoin.
Dialogue: 0,0:04:15.28,0:04:18.64,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology behind cryptocurrencies like Bitcoin and Ethereum.
Dialogue: 0,0:04:18.64,0:04:22.16,block05,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology at the heart of bitcoin and other cryptocurrencies.
Dialogue: 0,0:04:22.16,0:04:25.68,block05,NTP,0,0,0,!Effect,Blockchain is the\Ndigital and decentralized ledger that records all transactions.
Dialogue: 0,0:04:25.68,0:04:29.16,block05,NTP,0,0,0,!Effect,Blockchain is the\Nfinancial technology underpinning the bitcoin digital currency.
Dialogue: 0,0:04:29.16,0:04:31.60,block05,NTP,0,0,0,!Effect,Blockchain technology is a\Ntype of Distributed Ledger Technology (DLT).
Dialogue: 0,0:04:31.60,0:04:32.36,block05,NTP,0,0,0,!Effect,A blockchain is\Njust a file.
Dialogue: 0,0:04:32.36,0:04:33.68,block05,NTP,0,0,0,!Effect,A blockchain is\Nintentionally immutable.
Dialogue: 0,0:04:33.68,0:04:35.20,block05,NTP,0,0,0,!Effect,A blockchain is\Ndistributed by its nature.
Dialogue: 0,0:04:35.20,0:04:37.08,block05,NTP,0,0,0,!Effect,A blockchain is\Nin short, an expensive radiator.
Dialogue: 0,0:04:37.08,0:04:39.92,block05,NTP,0,0,0,!Effect,A blockchain is\Ndifferent, as by design it is perfectly auditable.
Dialogue: 0,0:04:39.92,0:04:42.80,block05,NTP,0,0,0,!Effect,A blockchain is\Nessentially a shared database with no master copy.
Dialogue: 0,0:04:42.80,0:04:45.68,block05,NTP,0,0,0,!Effect,A blockchain is\Nbasically a distributed digital ledger or database.
Dialogue: 0,0:04:45.68,0:04:48.56,block05,NTP,0,0,0,!Effect,A blockchain is\Nessentially a continuously growing list of records.
Dialogue: 0,0:04:48.56,0:04:51.64,block05,NTP,0,0,0,!Effect,A blockchain is\Njust a new, more secure way of databasing information.
Dialogue: 0,0:04:51.64,0:04:54.76,block05,NTP,0,0,0,!Effect,A blockchain is\Nnot one global entity-there are several blockchains.
Dialogue: 0,0:04:54.76,0:04:57.92,block05,NTP,0,0,0,!Effect,A blockchain is\Ndesigned to keep an immutable log of every transaction.
Dialogue: 0,0:04:57.92,0:05:01.00,block05,NTP,0,0,0,!Effect,A blockchain is\Nessentially a secure, distributed, and shared database.
Dialogue: 0,0:05:01.00,0:05:04.20,block05,NTP,0,0,0,!Effect,A blockchain is\Ndistributed across and managed by peer-to-peer networks.
Dialogue: 0,0:05:04.20,0:05:07.40,block05,NTP,0,0,0,!Effect,A blockchain is\Nnothing more than lists of transactions chained together.
Dialogue: 0,0:05:07.40,0:05:10.84,block05,NTP,0,0,0,!Effect,A blockchain is\Nbuilt by running software and linking several nodes together.
Dialogue: 0,0:05:10.84,0:05:11.24,block05,NTP,0,0,0,!Effect,A blockchain is a\Nledger
Dialogue: 0,0:05:11.24,0:05:12.12,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndata structure.
Dialogue: 0,0:05:12.12,0:05:13.08,block05,NTP,0,0,0,!Effect,A blockchain is a\Nchain of blocks.
Dialogue: 0,0:05:13.08,0:05:14.16,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed ledger.
Dialogue: 0,0:05:14.16,0:05:15.72,block05,NTP,0,0,0,!Effect,A blockchain is a\Nchain of blocks, obviously.

Dialogue: 0,0:05:15.72,0:05:17.40,block05,NTP,0,0,0,!Effect,A blockchain is a\Nmassive, decentralized ledger.
Dialogue: 0,0:05:17.40,0:05:19.16,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndigital record of transactions.
Dialogue: 0,0:05:19.16,0:05:21.08,block05,NTP,0,0,0,!Effect,A blockchain is a\Nliteral technology, not a metaphor
Dialogue: 0,0:05:21.08,0:05:23.36,block05,NTP,0,0,0,!Effect,A blockchain is a\Nchain of blocks that contain information
Dialogue: 0,0:05:23.36,0:05:25.72,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndiary that is almost impossible to forge.
Dialogue: 0,0:05:25.72,0:05:28.12,block05,NTP,0,0,0,!Effect,A blockchain is a\Nchain of blocks which contain information.
Dialogue: 0,0:05:28.12,0:05:30.52,block05,NTP,0,0,0,!Effect,A blockchain is a\Npublic ledger of all Bitcoin transactions.
Dialogue: 0,0:05:30.52,0:05:32.92,block05,NTP,0,0,0,!Effect,A blockchain is a\Nsecure “ledger” or a list of transactions.
Dialogue: 0,0:05:32.92,0:05:36.20,block05,NTP,0,0,0,!Effect,A blockchain is a\Ntype of data store that stores anything of digital value.
Dialogue: 0,0:05:36.20,0:05:39.56,block05,NTP,0,0,0,!Effect,A blockchain is a\Nvirtual chain of blocks that is used to store information.
Dialogue: 0,0:05:39.56,0:05:42.96,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed ledger technology that forms a “chain of blocks.
Dialogue: 0,0:05:42.96,0:05:46.60,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database that acts as a peer-to-peer ledger system.
Dialogue: 0,0:05:46.60,0:05:50.40,block05,NTP,0,0,0,!Effect,A blockchain is a\Ndecentralized peer-to-peer system with no central authority figure.
Dialogue: 0,0:05:50.40,0:05:52.24,block05,NTP,0,0,0,!Effect,A blockchain is an\Nimmutable list of linked blocks.
Dialogue: 0,0:05:52.24,0:05:53.92,block05,NTP,0,0,0,!Effect,The blockchain is\Nlike a logbook, or a ledger.
Dialogue: 0,0:05:53.92,0:05:55.76,block05,NTP,0,0,0,!Effect,The blockchain is\Nalso a sort of assets exchange.
Dialogue: 0,0:05:55.76,0:05:57.60,block05,NTP,0,0,0,!Effect,The blockchain is\Nbasically a distributed database.
Dialogue: 0,0:05:57.60,0:05:59.52,block05,NTP,0,0,0,!Effect,The blockchain is\Noften described as digital ledger.
Dialogue: 0,0:05:59.52,0:06:01.48,block05,NTP,0,0,0,!Effect,The blockchain is\Nboth decentralized and transparent.
Dialogue: 0,0:06:01.48,0:06:03.48,block05,NTP,0,0,0,!Effect,The blockchain is\Nnot cryptocurrency, and vice versa.
Dialogue: 0,0:06:03.48,0:06:05.76,block05,NTP,0,0,0,!Effect,The blockchain is\Nbased on a computational sort of trust,
Dialogue: 0,0:06:05.76,0:06:08.08,block05,NTP,0,0,0,!Effect,The blockchain is\Njust that-a chain of multiple blocks.
Dialogue: 0,0:06:08.08,0:06:10.36,block05,NTP,0,0,0,!Effect,The blockchain is\Nwhat we call a “trustless” architecture.
Dialogue: 0,0:06:10.36,0:06:12.68,block05,NTP,0,0,0,!Effect,The blockchain is\Ndecentralized, incorruptible recordkeeping.
Dialogue: 0,0:06:12.68,0:06:15.36,block05,NTP,0,0,0,!Effect,The blockchain is\Nalso called a “public” or “distributed” ledger.
Dialogue: 0,0:06:15.36,0:06:18.12,block05,NTP,0,0,0,!Effect,The blockchain is\Nencrypted using a public key and a private key.
Dialogue: 0,0:06:18.12,0:06:20.76,block05,NTP,0,0,0,!Effect,The blockchain is\Nlike a huge, global, decentralized spreadsheet.
Dialogue: 0,0:06:20.76,0:06:23.52,block05,NTP,0,0,0,!Effect,The blockchain is\Nsustained by the volatile efforts of the miners.
Dialogue: 0,0:06:23.52,0:06:26.24,block05,NTP,0,0,0,!Effect,The blockchain is\Nmaintained by thousands of independent computers.
Dialogue: 0,0:06:26.24,0:06:29.12,block05,NTP,0,0,0,!Effect,The blockchain is\Njust an added layer for some additional functions.

Dialogue: 0,0:06:29.12,0:06:32.12,block05,NTP,0,0,0,!Effect,The blockchain is\Nnot Bitcoin, but it is the technology behind Bitcoin
Dialogue: 0,0:06:32.12,0:06:35.20,block05,NTP,0,0,0,!Effect,The blockchain is\Nalso known as a database and is a distributed ledger.
Dialogue: 0,0:06:35.20,0:06:38.28,block05,NTP,0,0,0,!Effect,The blockchain is\Nultimately a ledger that represents accounting entries.
Dialogue: 0,0:06:38.28,0:06:41.48,block05,NTP,0,0,0,!Effect,The blockchain is\Npermission-less, anyone can participate around the world.
Dialogue: 0,0:06:41.48,0:06:44.84,block05,NTP,0,0,0,!Effect,The blockchain is\Nultimately about solving society's ultimate challenge: trust.
Dialogue: 0,0:06:44.84,0:06:48.44,block05,NTP,0,0,0,!Effect,The blockchain is\Ncapable of time-stamping and recording a document for eternity.
Dialogue: 0,0:06:48.44,0:06:52.08,block05,NTP,0,0,0,!Effect,The blockchain is\Nresistant to compromise due to the nature of the linked blocks.
Dialogue: 0,0:06:52.08,0:06:55.80,block05,NTP,0,0,0,!Effect,The blockchain is\Ndecentralized so it can't be manipulated by one person or entity.
Dialogue: 0,0:06:55.80,0:06:59.48,block05,NTP,0,0,0,!Effect,The blockchain is\Nnot just about cryptocurrencies and faster peer-to-peer payments.
Dialogue: 0,0:06:59.48,0:07:03.24,block05,NTP,0,0,0,!Effect,The blockchain is\Nusually described as a distributed ledger but it's not even that.
Dialogue: 0,0:07:03.24,0:07:06.96,block05,NTP,0,0,0,!Effect,The blockchain is\Nthe record of the bitcoin amounts associated with those addresses.
Dialogue: 0,0:07:06.96,0:07:10.88,block05,NTP,0,0,0,!Effect,The blockchain is\Nbuilt on the precept that the majority of a crowd is always honest.
Dialogue: 0,0:07:10.88,0:07:11.88,block05,NTP,0,0,0,!Effect,The blockchain is a\NWorld Wide Ledger
Dialogue: 0,0:07:11.88,0:07:13.08,block05,NTP,0,0,0,!Effect,The blockchain is a\Nlong list of blocks.
Dialogue: 0,0:07:13.08,0:07:14.24,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized ledger.
Dialogue: 0,0:07:14.24,0:07:15.48,block05,NTP,0,0,0,!Effect,The blockchain is a\Nnew type of database.
Dialogue: 0,0:07:15.48,0:07:16.72,block05,NTP,0,0,0,!Effect,The blockchain is a\Nproof-of-work system.
Dialogue: 0,0:07:16.72,0:07:18.08,block05,NTP,0,0,0,!Effect,The blockchain is a\NNew Model of Governance
Dialogue: 0,0:07:18.08,0:07:19.52,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed public ledger.
Dialogue: 0,0:07:19.52,0:07:21.36,block05,NTP,0,0,0,!Effect,The blockchain is a\NCollaborative, Secure Data Ledger
Dialogue: 0,0:07:21.36,0:07:23.24,block05,NTP,0,0,0,!Effect,The blockchain is a\Nshared public ledger for Bitcoin.
Dialogue: 0,0:07:23.24,0:07:25.12,block05,NTP,0,0,0,!Effect,The blockchain is a\NTempting Target for Central Banks
Dialogue: 0,0:07:25.12,0:07:27.08,block05,NTP,0,0,0,!Effect,The blockchain is a\NReminder of the Internet's Failure
Dialogue: 0,0:07:27.08,0:07:29.12,block05,NTP,0,0,0,!Effect,The blockchain is a\Nrecord of every Bitcoin transaction.
Dialogue: 0,0:07:29.12,0:07:31.48,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndigital, decentralised, distributed ledger.
Dialogue: 0,0:07:31.48,0:07:33.96,block05,NTP,0,0,0,!Effect,The blockchain is a\Nsoftware protocol (like SMTP is for email).
Dialogue: 0,0:07:33.96,0:07:36.40,block05,NTP,0,0,0,!Effect,The blockchain is a\Ncloud venue for transnational organizations.
Dialogue: 0,0:07:36.40,0:07:39.08,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndatabase, which is distributed among all nodes.
Dialogue: 0,0:07:39.08,0:07:41.76,block05,NTP,0,0,0,!Effect,The blockchain is a\Npublic ledger that records bitcoin transactions.
Dialogue: 0,0:07:41.76,0:07:44.68,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndatabase of details about every Bitcoin transaction.
Dialogue: 0,0:07:44.68,0:07:47.60,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndistributed ledger book of all Bitcoin transactions.
Dialogue: 0,0:07:47.60,0:07:50.52,block05,NTP,0,0,0,!Effect,The blockchain is a\Ncontinually-growing digital register of transactions.
Dialogue: 0,0:07:50.52,0:07:53.56,block05,NTP,0,0,0,!Effect,The blockchain is a\Nledger of all transactions in the history of Bitcoin.

Dialogue: 0,0:07:53.56,0:07:56.64,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndigitized, decentralized, public ledger of transactions.
Dialogue: 0,0:07:56.64,0:07:59.96,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized group of blocks that is continuously growing.
Dialogue: 0,0:07:59.96,0:08:03.28,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized system, with no single entity controlling it.
Dialogue: 0,0:08:03.28,0:08:06.60,block05,NTP,0,0,0,!Effect,The blockchain is a\Ncryptographically secure index of every Bitcoin transaction.
Dialogue: 0,0:08:06.60,0:08:10.04,block05,NTP,0,0,0,!Effect,The blockchain is a\Npeer-to-peer distributed ledger of time-stamped transactions.
Dialogue: 0,0:08:10.04,0:08:13.60,block05,NTP,0,0,0,!Effect,The blockchain is a\Nperfect keeper of the chain of custody for any physical asset.
Dialogue: 0,0:08:13.60,0:08:17.24,block05,NTP,0,0,0,!Effect,The blockchain is a\Nbig file that keeps track of all Bitcoin transactions ever made
Dialogue: 0,0:08:17.24,0:08:20.88,block05,NTP,0,0,0,!Effect,The blockchain is a\Nshared public ledger on which the entire Bitcoin network relies.
Dialogue: 0,0:08:20.88,0:08:24.44,block05,NTP,0,0,0,!Effect,The blockchain is a\Ndecentralized ledger of transactions recorded using cryptography.
Dialogue: 0,0:08:24.44,0:08:28.16,block05,NTP,0,0,0,!Effect,The blockchain is a\Nfile that contains a list of every bitcoin transaction ever made.
Dialogue: 0,0:08:28.16,0:08:31.80,block05,NTP,0,0,0,!Effect,The blockchain is a\Nfoundational technology, like TCP/IP, which enables the Internet.
Dialogue: 0,0:08:31.80,0:08:33.16,block05,NTP,0,0,0,!Effect,The blockchain is an\Nopen distributed ledger.
Dialogue: 0,0:08:33.16,0:08:34.52,block05,NTP,0,0,0,!Effect,The blockchain is an\Ninstitutional technology.
Dialogue: 0,0:08:34.52,0:08:37.76,block05,NTP,0,0,0,!Effect,The blockchain is an\Nimmutable, anonymous, unhackable, and decentralized ledger.
Dialogue: 0,0:08:37.76,0:08:38.76,block05,NTP,0,0,0,!Effect,The blockchain is the\Nsystem of record.
Dialogue: 0,0:08:38.76,0:08:40.28,block05,NTP,0,0,0,!Effect,The blockchain is the\Ntechnology behind Bitcoins.
Dialogue: 0,0:08:40.28,0:08:42.12,block05,NTP,0,0,0,!Effect,The blockchain is the\Nfinancial challenge of our time.
Dialogue: 0,0:08:42.12,0:08:44.64,block05,NTP,0,0,0,!Effect,The blockchain is the\Nuniversal record of all bitcoin transactions.
Dialogue: 0,0:08:44.64,0:08:47.36,block05,NTP,0,0,0,!Effect,The blockchain is the\Nsystem that keeps track of bitcoin transactions.
Dialogue: 0,0:08:47.36,0:08:50.08,block05,NTP,0,0,0,!Effect,The blockchain is the\Nplatform which brings cryptocurrencies into play.
Dialogue: 0,0:08:50.08,0:08:53.12,block05,NTP,0,0,0,!Effect,The blockchain is the\Nunderlying technology of cryptocurrencies like bitcoin.
Dialogue: 0,0:08:53.12,0:08:56.48,block05,NTP,0,0,0,!Effect,The blockchain is the\Ndata structure that records the transfer of scarce objects.
Dialogue: 0,0:08:56.48,0:09:00.00,block05,NTP,0,0,0,!Effect,The blockchain is the\Nsoftware that both powers and regulates cryptocurrency bitcoin.
Dialogue: 0,0:00:00.00,0:00:00.44,block06,NTP,0,0,0,!Effect,[…]blockchain is\NBitcoin
Dialogue: 0,0:00:00.44,0:00:01.12,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nnot Bitcoin
Dialogue: 0,0:00:01.12,0:00:01.84,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nnot scalable
Dialogue: 0,0:00:01.84,0:00:02.56,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nopen source.
Dialogue: 0,0:00:02.56,0:00:03.36,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nkept in sync.
Dialogue: 0,0:00:03.36,0:00:04.24,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nconsidered safe
Dialogue: 0,0:00:04.24,0:00:05.16,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nabout integrity.
Dialogue: 0,0:00:05.16,0:00:06.20,block06,NTP,0,0,0,!Effect,[…]blockchain is\Neasy to integrate.
Dialogue: 0,0:00:06.20,0:00:07.24,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nincredibly secure.
Dialogue: 0,0:00:07.24,0:00:08.28,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nmore than Bitcoin.
Dialogue: 0,0:00:08.28,0:00:09.40,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nvery hard to hack.
Dialogue: 0,0:00:09.40,0:00:10.52,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nall about security.
Dialogue: 0,0:00:10.52,0:00:11.68,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nslow and inefficient
Dialogue: 0,0:00:11.68,0:00:12.92,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nlike a Bank Passbook.
Dialogue: 0,0:00:12.92,0:00:14.20,block06,NTP,0,0,0,!Effect,[…]blockchain is\N‘de-intermediarization.

Dialogue: 0,0:00:14.20,0:00:15.76,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nfast and powerful database.
Dialogue: 0,0:00:15.76,0:00:17.40,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nvirtually impossible to hack.
Dialogue: 0,0:00:17.40,0:00:19.16,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nsupposed to be self-governing.
Dialogue: 0,0:00:19.16,0:00:21.08,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nimmutable, secure and transparent.
Dialogue: 0,0:00:21.08,0:00:23.00,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nwhere anonymity meets transparency
Dialogue: 0,0:00:23.00,0:00:25.08,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nessentially a record of transactions.
Dialogue: 0,0:00:25.08,0:00:27.24,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nactually managed by distributed nodes.
Dialogue: 0,0:00:27.24,0:00:29.40,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nnot Bitcoin-Bitcoin is not Blockchain”
Dialogue: 0,0:00:29.40,0:00:31.64,block06,NTP,0,0,0,!Effect,[…]blockchain is\Njust a distributed database of records.
Dialogue: 0,0:00:31.64,0:00:34.04,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nnothing more than a glorified spreadsheet.
Dialogue: 0,0:00:34.04,0:00:36.52,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nbroadcasted to the everyone in the network.
Dialogue: 0,0:00:36.52,0:00:38.96,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nnot optimized for high transaction systems,
Dialogue: 0,0:00:38.96,0:00:41.48,block06,NTP,0,0,0,!Effect,[…]blockchain is\Ndecentralized and therefore is not developing
Dialogue: 0,0:00:41.48,0:00:44.28,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nrestricted to 7 tps and a max of 1mb per block
Dialogue: 0,0:00:44.28,0:00:46.84,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nrunning across countless numbers of computers.
Dialogue: 0,0:00:46.84,0:00:49.48,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nonly the underlying technology behind Bitcoins.
Dialogue: 0,0:00:49.48,0:00:52.28,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nsimply a tracking mechanism that is incorruptible.
Dialogue: 0,0:00:52.28,0:00:55.28,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nmore a design principle than a particular technology.
Dialogue: 0,0:00:55.28,0:00:58.40,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nbasically just a ledger, a system for keeping records.
Dialogue: 0,0:00:58.40,0:01:01.44,block06,NTP,0,0,0,!Effect,[…]blockchain is\Ndesigned to be immutable, tamper-proof and democratic.
Dialogue: 0,0:01:01.44,0:01:04.88,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nhacker-resistant due to the immutable nature of the records.
Dialogue: 0,0:01:04.88,0:01:08.32,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nsuited to storing small transaction records, not large files.
Dialogue: 0,0:01:08.32,0:01:11.96,block06,NTP,0,0,0,!Effect,[…]blockchain is\Nstill just a database, a distributed one with tamper protection.
Dialogue: 0,0:01:11.96,0:01:12.76,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nbetter ledger.
Dialogue: 0,0:01:12.76,0:01:13.88,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndatabase innovation.
Dialogue: 0,0:01:13.88,0:01:15.04,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nshared public chain.
Dialogue: 0,0:01:15.04,0:01:16.24,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nshared public ledger.
Dialogue: 0,0:01:16.24,0:01:18.04,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nfully redundant data repository.
Dialogue: 0,0:01:18.04,0:01:20.44,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nwrite-once, append-many electronic ledger.
Dialogue: 0,0:01:20.44,0:01:23.04,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nfully functional Distributed Ledger Technology.
Dialogue: 0,0:01:23.04,0:01:26.08,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndatabase, innovative and unique, but still a database.
Dialogue: 0,0:01:26.08,0:01:29.20,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized (peer-to-peer) network composed of nodes.

Dialogue: 0,0:01:29.20,0:01:32.32,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed database that has no single decision maker.
Dialogue: 0,0:01:32.32,0:01:35.36,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed system for maintaining distributed ledgers.
Dialogue: 0,0:01:35.36,0:01:38.56,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital platform for recording and verifying transactions.
Dialogue: 0,0:01:38.56,0:01:42.08,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nrecord-keeping system possessing a specific set of attributes.
Dialogue: 0,0:01:42.08,0:01:45.60,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nde-centralized or distributed self-governance community system.
Dialogue: 0,0:01:45.60,0:01:49.28,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed network performing certain actions programmed into it.
Dialogue: 0,0:01:49.28,0:01:53.04,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ngeneral technique, not a single product or software implementation.
Dialogue: 0,0:01:53.04,0:01:54.32,block06,NTP,0,0,0,!Effect,[…]blockchain is an\Nimmutable record book.
Dialogue: 0,0:01:54.32,0:01:55.92,block06,NTP,0,0,0,!Effect,[…]blockchain is an\NAppend-Only Chain of Blocks
Dialogue: 0,0:01:55.92,0:01:57.68,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Ntechnology backbone of Bitcoin.
Dialogue: 0,0:01:57.68,0:02:00.68,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nledger to keep track of who owns the digital tokens
Dialogue: 0,0:02:00.68,0:02:03.64,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Ntechnology upon which bitcoin transactions are built.
Dialogue: 0,0:02:03.64,0:02:06.96,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Ndecentralized ledger that tracks cryptocurrency transactions.
Dialogue: 0,0:02:06.96,0:02:08.36,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nthe “internet of value”.
Dialogue: 0,0:02:08.36,0:02:09.88,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nlarded through with trust.
Dialogue: 0,0:02:09.88,0:02:11.80,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nabout far more than just Bitcoin.
Dialogue: 0,0:02:11.80,0:02:14.72,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nessentially a new approach to database architecture.
Dialogue: 0,0:02:14.72,0:02:18.48,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nrooted in the world of cryptocurrencies, more specifically Bitcoin.
Dialogue: 0,0:02:18.48,0:02:19.28,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Ndecentralized.
Dialogue: 0,0:02:19.28,0:02:20.08,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Ndeterministic.
Dialogue: 0,0:02:20.08,0:02:21.20,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Njust a spreadsheet.
Dialogue: 0,0:02:21.20,0:02:22.92,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Njust a way to structure data.
Dialogue: 0,0:02:22.92,0:02:24.56,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Nrepresented as a spreadsheet.
Dialogue: 0,0:02:24.56,0:02:26.44,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Njust a special kind of database.
Dialogue: 0,0:02:26.44,0:02:30.20,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Ncomprised of a bunch of technologies that are actually pretty old.
Dialogue: 0,0:02:30.20,0:02:33.96,block06,NTP,0,0,0,!Effect,[…]a Blockchain is\Nsimply a distributed ledger that tracks transactions among parties.
Dialogue: 0,0:02:33.96,0:02:34.40,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Nledger.
Dialogue: 0,0:02:34.40,0:02:35.16,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Ntype of DLT.
Dialogue: 0,0:02:35.16,0:02:36.72,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndecentralized ledger system.
Dialogue: 0,0:02:36.72,0:02:38.36,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Nlist of records (or blocks).
Dialogue: 0,0:02:38.36,0:02:40.72,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndatabase, a database is not a blockchain.
Dialogue: 0,0:02:40.72,0:02:43.36,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndatabase that is copied across multiple nodes.
Dialogue: 0,0:02:43.36,0:02:46.00,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Nsurprisingly simple and elegant data structure.

Dialogue: 0,0:02:46.00,0:02:48.68,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Ncollection of information organized into blocks.
Dialogue: 0,0:02:48.68,0:02:51.48,block06,NTP,0,0,0,!Effect,[…]a blockchain is a\Nrecord of transactions, like a traditional ledger.
Dialogue: 0,0:02:51.48,0:02:53.08,block06,NTP,0,0,0,!Effect,[…]a blockchain is an\Nincorruptible digital ledger.
Dialogue: 0,0:02:53.08,0:02:54.96,block06,NTP,0,0,0,!Effect,[…]a blockchain is an\Never-growing set of data blocks.
Dialogue: 0,0:02:54.96,0:02:57.92,block06,NTP,0,0,0,!Effect,[…]a blockchain is an\Nimmutable, sequential chain of records called Blocks.
Dialogue: 0,0:02:57.92,0:03:01.36,block06,NTP,0,0,0,!Effect,[…]a blockchain is the\Nonly place where absence of evidence is evidence of absence.
Dialogue: 0,0:03:01.36,0:03:01.68,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ncode.
Dialogue: 0,0:03:01.68,0:03:02.24,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nimmutable.
Dialogue: 0,0:03:02.24,0:03:02.88,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ntamperproof
Dialogue: 0,0:03:02.88,0:03:03.68,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nincorruptible…
Dialogue: 0,0:03:03.68,0:03:04.64,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Njust a database.
Dialogue: 0,0:03:04.64,0:03:05.60,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nsimply a ledger.
Dialogue: 0,0:03:05.60,0:03:06.96,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nsecure and up-to-date.
Dialogue: 0,0:03:06.96,0:03:08.24,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ncompletely transparent.
Dialogue: 0,0:03:08.24,0:03:09.80,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ndistributed, digital ledger.
Dialogue: 0,0:03:09.80,0:03:11.44,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ntransparent and tamper-proof.
Dialogue: 0,0:03:11.44,0:03:13.12,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Npublic and distributed widely.
Dialogue: 0,0:03:13.12,0:03:15.12,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nmore like a journal than a ledger.
Dialogue: 0,0:03:15.12,0:03:17.12,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ncurrency that you're moving around.
Dialogue: 0,0:03:17.12,0:03:19.16,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ndistributed and decentralised ledger.
Dialogue: 0,0:03:19.16,0:03:21.40,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nwhat the word says; a chain of blocks.
Dialogue: 0,0:03:21.40,0:03:23.68,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ncompletely decentralized and open source.
Dialogue: 0,0:03:23.68,0:03:26.08,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Noften referred to as a distributed ledger.
Dialogue: 0,0:03:26.08,0:03:28.76,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Njust one particular type of distributed ledger.
Dialogue: 0,0:03:28.76,0:03:31.44,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nnothing more than a collection of transactions.
Dialogue: 0,0:03:31.44,0:03:34.16,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nsimply an online ledger shared by many parties.
Dialogue: 0,0:03:34.16,0:03:37.12,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nalso called a distributed or a decentralized ledger.
Dialogue: 0,0:03:37.12,0:03:40.16,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nbitcoin's essence and is owed credit for its success.
Dialogue: 0,0:03:40.16,0:03:43.12,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Ninclined to record formal agreements between parties.
Dialogue: 0,0:03:43.12,0:03:46.36,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nshared like a BitTorrent file across the bitcoin network.
Dialogue: 0,0:03:46.36,0:03:49.64,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nmaintained by, and visible to, anyone who trades bitcoins.
Dialogue: 0,0:03:49.64,0:03:53.08,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nas a journal or diary shared by people all over the world.
Dialogue: 0,0:03:53.08,0:03:56.52,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Njust a public ledger of transactions on the bitcoin network.
Dialogue: 0,0:03:56.52,0:03:59.88,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nactually composed of single transactions known as ""blocks."

Dialogue: 0,0:03:59.88,0:04:03.60,block06,NTP,0,0,0,!Effect,[…]the blockchain is\Nnever deleted, because it would have to be deleted by all nodes.
Dialogue: 0,0:04:03.60,0:04:04.04,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nledger.
Dialogue: 0,0:04:04.04,0:04:05.08,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nprotocol of trust.
Dialogue: 0,0:04:05.08,0:04:06.36,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nnew way to store data
Dialogue: 0,0:04:06.36,0:04:07.72,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nnetwork and a database.
Dialogue: 0,0:04:07.72,0:04:09.16,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nledger of data integrity.
Dialogue: 0,0:04:09.16,0:04:10.68,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Ngiant, distributed computer
Dialogue: 0,0:04:10.68,0:04:12.36,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nmagical database in the cloud
Dialogue: 0,0:04:12.36,0:04:14.00,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nnew “value exchange” network.
Dialogue: 0,0:04:14.00,0:04:15.88,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nlinear sequence of linked blocks.
Dialogue: 0,0:04:15.88,0:04:17.72,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndecentralised, distributed ledger.
Dialogue: 0,0:04:17.72,0:04:20.36,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nsystem of permanent record that keeps growing.
Dialogue: 0,0:04:20.36,0:04:23.24,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndecentralized, consensus-based, time-stamped ledger.
Dialogue: 0,0:04:23.24,0:04:26.48,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nlist of Bitcoin transfers with a 40 character memo line.
Dialogue: 0,0:04:26.48,0:04:29.84,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nrecord of who has owned every bitcoin since its inception.
Dialogue: 0,0:04:29.84,0:04:33.12,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nsystem for eliminating the need for trust in transactions.
Dialogue: 0,0:04:33.12,0:04:36.56,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Ngiant ledger that keeps track of who owns how much bitcoin.
Dialogue: 0,0:04:36.56,0:04:40.08,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndecentralized ledger for all of the transactions in a network.
Dialogue: 0,0:04:40.08,0:04:43.72,block06,NTP,0,0,0,!Effect,[…]the blockchain is a\Nshared public ledger on which the entire Bitcoin network relies.
Dialogue: 0,0:04:43.72,0:04:45.00,block06,NTP,0,0,0,!Effect,[…]the blockchain is an\Ninformation technology.
Dialogue: 0,0:04:45.00,0:04:46.76,block06,NTP,0,0,0,!Effect,[…]the blockchain is an\N“Inefficient, Imposing Mastodon”
Dialogue: 0,0:04:46.76,0:04:49.28,block06,NTP,0,0,0,!Effect,[…]the blockchain is an\Nintegral part of the world of crypto coins,
Dialogue: 0,0:04:49.28,0:04:52.44,block06,NTP,0,0,0,!Effect,[…]the blockchain is an\Ninherently feminine way to move value across the world.
Dialogue: 0,0:04:52.44,0:04:55.88,block06,NTP,0,0,0,!Effect,[…]the blockchain is an\Nauthority tied to mathematics, not the government or lawyers.
Dialogue: 0,0:04:55.88,0:04:59.36,block06,NTP,0,0,0,!Effect,[…]the blockchain is an\Never-growing database which will only grow bulkier with time.
Dialogue: 0,0:04:59.36,0:05:00.08,block06,NTP,0,0,0,!Effect,[…]the blockchain is the\Nnew database
Dialogue: 0,0:05:00.08,0:05:01.40,block06,NTP,0,0,0,!Effect,[…]the blockchain is the\Nultimate legal library.
Dialogue: 0,0:05:01.40,0:05:03.40,block06,NTP,0,0,0,!Effect,[…]the blockchain is the\Ntrust anchor for the world’s data.
Dialogue: 0,0:05:03.40,0:05:05.72,block06,NTP,0,0,0,!Effect,[…]the blockchain is the\Nunderlying technology that powers Bitcoin.
Dialogue: 0,0:05:05.72,0:05:09.44,block06,NTP,0,0,0,!Effect,[…]the blockchain is the\Nbeating heart of Bitcoin, the world's most popular cryptocurrency.
Dialogue: 0,0:05:09.44,0:05:09.84,block06,NTP,0,0,0,!Effect,[…]blockchain is a\NBubble
Dialogue: 0,0:05:09.84,0:05:10.40,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nbad idea.
Dialogue: 0,0:05:10.40,0:05:11.32,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nglobal endeavor.
Dialogue: 0,0:05:11.32,0:05:12.44,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nquick win if used.

Dialogue: 0,0:05:12.44,0:05:13.76,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nrelatively new concept.
Dialogue: 0,0:05:13.76,0:05:15.20,block06,NTP,0,0,0,!Effect,[…]blockchain is a\N‘Trend to Watch Out For’
Dialogue: 0,0:05:15.20,0:05:16.52,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nfoundational technology.
Dialogue: 0,0:05:16.52,0:05:18.08,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nnatural fit with telehealth
Dialogue: 0,0:05:18.08,0:05:19.76,block06,NTP,0,0,0,!Effect,[…]blockchain is a\NTerrible Idea for Applications
Dialogue: 0,0:05:19.76,0:05:21.68,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nnecessity for modern business now.
Dialogue: 0,0:05:21.68,0:05:23.60,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nrelatively straightforward concept.
Dialogue: 0,0:05:23.60,0:05:25.84,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nsolution looking for problems to solve.
Dialogue: 0,0:05:25.84,0:05:28.12,block06,NTP,0,0,0,!Effect,[…]blockchain is a\NGame Changer for Supply Chain Management
Dialogue: 0,0:05:28.12,0:05:30.48,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Npotential game-changer in the rail realm,
Dialogue: 0,0:05:30.48,0:05:32.92,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nmajor breakthrough and has great potential.
Dialogue: 0,0:05:32.92,0:05:35.88,block06,NTP,0,0,0,!Effect,[…]blockchain is a\NGame Changer for Supply Chain Management Transparency
Dialogue: 0,0:05:35.88,0:05:39.24,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nway to look like you’re on the leading edge of technology.
Dialogue: 0,0:05:39.24,0:05:42.68,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nfundamental part of the new operating system for the planet.
Dialogue: 0,0:05:42.68,0:05:46.04,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nfoundational technology that will require broad coordination.
Dialogue: 0,0:05:46.04,0:05:49.44,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ngame-changing innovation that will reshape entire industries.
Dialogue: 0,0:05:49.44,0:05:52.88,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Ntechnology with an exceptionally broad set of potential uses.
Dialogue: 0,0:05:52.88,0:05:56.40,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nsomewhat slow technology when compared to what already exists.
Dialogue: 0,0:05:56.40,0:06:00.24,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nfailure because it has been 10 years and not much has come of it?
Dialogue: 0,0:06:00.24,0:06:04.08,block06,NTP,0,0,0,!Effect,[…]blockchain is a\Nremarkable solution to problems that we have not even imagined yet.
Dialogue: 0,0:06:04.08,0:06:05.76,block06,NTP,0,0,0,!Effect,[…]blockchain is an\Nideal solution for businesses.
Dialogue: 0,0:06:05.76,0:06:08.52,block06,NTP,0,0,0,!Effect,[…]blockchain is an\Nideal solution for businesses in a lot of ways.
Dialogue: 0,0:06:08.52,0:06:11.28,block06,NTP,0,0,0,!Effect,[…]blockchain is an\Nideal solution for the global food supply chain.
Dialogue: 0,0:06:11.28,0:06:14.36,block06,NTP,0,0,0,!Effect,[…]blockchain is an\Nideal technological medium for the healthcare industry:
Dialogue: 0,0:06:14.36,0:06:18.04,block06,NTP,0,0,0,!Effect,[…]blockchain is an\Nenabler of new innovation and disruption of the tourism industry.
Dialogue: 0,0:06:18.04,0:06:18.36,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NTruth
Dialogue: 0,0:06:18.36,0:06:18.76,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NForest
Dialogue: 0,0:06:18.76,0:06:19.16,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NFuture
Dialogue: 0,0:06:19.16,0:06:19.72,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nnew black
Dialogue: 0,0:06:19.72,0:06:20.28,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nonly one.
Dialogue: 0,0:06:20.28,0:06:20.80,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nsolution.
Dialogue: 0,0:06:20.80,0:06:21.44,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Ninnovation.
Dialogue: 0,0:06:21.44,0:06:22.24,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nfuture of IoT
Dialogue: 0,0:06:22.24,0:06:23.24,block06,NTP,0,0,0,!Effect,[…]blockchain is the\N‘next big unlock’
Dialogue: 0,0:06:23.24,0:06:24.20,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nobvious solution.
Dialogue: 0,0:06:24.20,0:06:25.24,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nfuture of business
Dialogue: 0,0:06:25.24,0:06:26.28,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nlogical next step.
Dialogue: 0,0:06:26.28,0:06:27.44,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nfuture of purchasing
Dialogue: 0,0:06:27.44,0:06:28.60,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmost logical choice.
Dialogue: 0,0:06:28.60,0:06:29.88,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nsolution to your ills.

Dialogue: 0,0:06:29.88,0:06:31.20,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nrecord of transactions.
Dialogue: 0,0:06:31.20,0:06:32.56,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NBiggest Innovation Today
Dialogue: 0,0:06:32.56,0:06:33.96,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Ndigital medium of value.
Dialogue: 0,0:06:33.96,0:06:35.36,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NSolution to Banking Woes
Dialogue: 0,0:06:35.36,0:06:36.80,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nnext great database tech.
Dialogue: 0,0:06:36.80,0:06:38.32,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nnext phase of the Internet
Dialogue: 0,0:06:38.32,0:06:40.00,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NFuture Of The Sharing Economy
Dialogue: 0,0:06:40.00,0:06:41.76,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NGrownup in the Crypto Playroom
Dialogue: 0,0:06:41.76,0:06:43.52,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nnew business collaboration tool
Dialogue: 0,0:06:43.52,0:06:45.32,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nnext evolution of the internet.
Dialogue: 0,0:06:45.32,0:06:47.16,block06,NTP,0,0,0,!Effect,[…]blockchain is the\NRight Fit for Gold and Diamonds
Dialogue: 0,0:06:47.16,0:06:49.20,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Ndisruptive technology of the future.
Dialogue: 0,0:06:49.20,0:06:51.20,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmissing link to IoT transformations
Dialogue: 0,0:06:51.20,0:06:53.32,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nnext “big thing” in asset management.
Dialogue: 0,0:06:53.32,0:06:55.36,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nright technology for your situation,
Dialogue: 0,0:06:55.36,0:06:57.64,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmost important IT invention of our age,
Dialogue: 0,0:06:57.64,0:07:00.00,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmost popular digital wallet in the world.
Dialogue: 0,0:07:00.00,0:07:02.60,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmost secure paradigm the world has ever seen.
Dialogue: 0,0:07:02.60,0:07:05.44,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nright tool for the job when it comes to Bitcoin.
Dialogue: 0,0:07:05.44,0:07:08.20,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmissing link to transform electric power industry
Dialogue: 0,0:07:08.20,0:07:11.36,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nsolution to protecting from food fraud and adulteration.
Dialogue: 0,0:07:11.36,0:07:14.36,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nsafest and cheapest alternative to any company’s intranet.
Dialogue: 0,0:07:14.36,0:07:17.36,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nfirst native digital medium for peer-to-peer value exchange.
Dialogue: 0,0:07:17.36,0:07:21.12,block06,NTP,0,0,0,!Effect,[…]blockchain is the\Nmost over-hyped - and least useful - technology in human history,
Dialogue: 0,0:07:21.12,0:07:21.80,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nthe future.
Dialogue: 0,0:07:21.80,0:07:22.60,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nvery powerful…
Dialogue: 0,0:07:22.60,0:07:23.40,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nwell accepted.
Dialogue: 0,0:07:23.40,0:07:24.36,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nchanging rapidly.
Dialogue: 0,0:07:24.36,0:07:25.32,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nmaking headlines!
Dialogue: 0,0:07:25.32,0:07:26.36,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\NAffecting Humanity
Dialogue: 0,0:07:26.36,0:07:28.00,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nvaluable because it is open.
Dialogue: 0,0:07:28.00,0:07:29.72,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nnot a bubble, but Bitcoin is,

Dialogue: 0,0:07:29.72,0:07:31.52,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Na challenge and an opportunity.
Dialogue: 0,0:07:31.52,0:07:33.28,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\NTransforming the Legal Industry
Dialogue: 0,0:07:33.28,0:07:35.20,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nstill very much in the spotlight.
Dialogue: 0,0:07:35.20,0:07:37.12,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nlikely to be extremely disruptive.
Dialogue: 0,0:07:37.12,0:07:39.12,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Na more than commendable innovation.
Dialogue: 0,0:07:39.12,0:07:41.24,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Na threat to nations and corporations.
Dialogue: 0,0:07:41.24,0:07:43.56,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nstill a mystery to many business people.
Dialogue: 0,0:07:43.56,0:07:46.04,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\N'Disrupting' The Art Economy As We Know It
Dialogue: 0,0:07:46.04,0:07:48.48,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nmuch more than Bitcoin or cryptocurrencies.
Dialogue: 0,0:07:48.48,0:07:51.12,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nbringing a change in learning and development.
Dialogue: 0,0:07:51.12,0:07:53.92,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Ndifferent from what we are currently doing today.
Dialogue: 0,0:07:53.92,0:07:56.96,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Na profound solution to a seemingly impossible problem.
Dialogue: 0,0:07:56.96,0:08:00.72,block06,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nthe antidote for all the toxic ills unleashed by Internet anarchy.
Dialogue: 0,0:08:00.72,0:08:02.36,block06,NTP,0,0,0,!Effect,[…]blockchain technology is a\Nchallenge and an opportunity.
Dialogue: 0,0:08:02.36,0:08:04.20,block06,NTP,0,0,0,!Effect,[…]blockchain technology is a\Nmore than commendable innovation.
Dialogue: 0,0:08:04.20,0:08:06.20,block06,NTP,0,0,0,!Effect,[…]blockchain technology is a\Nthreat to nations and corporations.
Dialogue: 0,0:08:06.20,0:08:09.12,block06,NTP,0,0,0,!Effect,[…]blockchain technology is a\Nprofound solution to a seemingly impossible problem.
Dialogue: 0,0:08:09.12,0:08:11.96,block06,NTP,0,0,0,!Effect,[…]blockchain technology is a\Nsophisticated, interesting, and emerging technology.
Dialogue: 0,0:08:11.96,0:08:12.40,block06,NTP,0,0,0,!Effect,Blockchain is a\Nmiracle
Dialogue: 0,0:08:12.40,0:08:12.84,block06,NTP,0,0,0,!Effect,Blockchain is a\NUnicorn
Dialogue: 0,0:08:12.84,0:08:13.52,block06,NTP,0,0,0,!Effect,Blockchain is a\NPassing Fad
Dialogue: 0,0:08:13.52,0:08:14.28,block06,NTP,0,0,0,!Effect,Blockchain is a\Ngame changer,
Dialogue: 0,0:08:14.28,0:08:15.04,block06,NTP,0,0,0,!Effect,Blockchain is a\NPowerful Tool
Dialogue: 0,0:08:15.04,0:08:15.80,block06,NTP,0,0,0,!Effect,Blockchain is a\Ngame-changer,
Dialogue: 0,0:08:15.80,0:08:16.60,block06,NTP,0,0,0,!Effect,Blockchain is a\Nparadigm shift
Dialogue: 0,0:08:16.60,0:08:17.64,block06,NTP,0,0,0,!Effect,Blockchain is a\NSemantic Wasteland
Dialogue: 0,0:08:17.64,0:08:18.68,block06,NTP,0,0,0,!Effect,Blockchain is a\Nuseless technology
Dialogue: 0,0:08:18.68,0:08:19.88,block06,NTP,0,0,0,!Effect,Blockchain is a\Nkey part of Bitcoin.
Dialogue: 0,0:08:19.88,0:08:21.16,block06,NTP,0,0,0,!Effect,Blockchain is a\Nbig deal for Marketers
Dialogue: 0,0:08:21.16,0:08:22.36,block06,NTP,0,0,0,!Effect,Blockchain is a\Ndisruptive technology.
Dialogue: 0,0:08:22.36,0:08:23.64,block06,NTP,0,0,0,!Effect,Blockchain is a\Nmoney-burning disaster
Dialogue: 0,0:08:23.64,0:08:24.84,block06,NTP,0,0,0,!Effect,Blockchain is a\Nrevolutionary concept.
Dialogue: 0,0:08:24.84,0:08:26.16,block06,NTP,0,0,0,!Effect,Blockchain is a\Nfoundational technology:
Dialogue: 0,0:08:26.16,0:08:27.60,block06,NTP,0,0,0,!Effect,Blockchain is a\Nhot technology right now.
Dialogue: 0,0:08:27.60,0:08:29.16,block06,NTP,0,0,0,!Effect,Blockchain is a\Nhighly malleable technology.
Dialogue: 0,0:08:29.16,0:08:31.16,block06,NTP,0,0,0,!Effect,Blockchain is a\Nbuzzword in the financial industry,
Dialogue: 0,0:08:31.16,0:08:33.16,block06,NTP,0,0,0,!Effect,Blockchain is a\NGame-Changer for Online Advertising
Dialogue: 0,0:08:33.16,0:08:35.28,block06,NTP,0,0,0,!Effect,Blockchain is a\Npotentially transformative technology .
Dialogue: 0,0:08:35.28,0:08:37.88,block06,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that will change the world forever.

Dialogue: 0,0:08:37.88,0:08:40.52,block06,NTP,0,0,0,!Effect,Blockchain is a\Nyoung technology, first conceptualised in 2008.
Dialogue: 0,0:08:40.52,0:08:43.32,block06,NTP,0,0,0,!Effect,Blockchain is a\N4th Industrial Rev Tech for Next Gen Energy Grid
Dialogue: 0,0:08:43.32,0:08:46.08,block06,NTP,0,0,0,!Effect,Blockchain is a\NNew Model That Makes The Existing Model Obsolete
Dialogue: 0,0:08:46.08,0:08:49.16,block06,NTP,0,0,0,!Effect,Blockchain is a\Nwaste of time, energy and mental space-please stop.
Dialogue: 0,0:08:49.16,0:08:52.60,block06,NTP,0,0,0,!Effect,Blockchain is a\Ntruly extraordinary technology that does really mundane things
Dialogue: 0,0:08:52.60,0:08:56.20,block06,NTP,0,0,0,!Effect,Blockchain is a\Nrobust technology that resembles the internet in the early '90:
Dialogue: 0,0:08:56.20,0:09:00.00,block06,NTP,0,0,0,!Effect,Blockchain is a\Nnew foundational building block for doing business on the internet.
Dialogue: 0,0:00:00.00,0:00:03.92,block07,NTP,0,0,0,!Effect,Blockchain is\Noften defined as a ledger that enables secure, encrypted transactions.
Dialogue: 0,0:00:03.92,0:00:08.04,block07,NTP,0,0,0,!Effect,Blockchain is\Nall about how to store, share, and maintain data (transactions) securely.
Dialogue: 0,0:00:08.04,0:00:12.20,block07,NTP,0,0,0,!Effect,Blockchain is\Nbased on a simple idea, but built upon a complex technological framework.
Dialogue: 0,0:00:12.20,0:00:16.60,block07,NTP,0,0,0,!Effect,Blockchain is\Nhailed as a more secure, faster and highly flexible network to transmit data.
Dialogue: 0,0:00:16.60,0:00:21.00,block07,NTP,0,0,0,!Effect,Blockchain is\Ntamper-proof and immutable due to decentralization, cryptography and consensus.
Dialogue: 0,0:00:21.00,0:00:25.96,block07,NTP,0,0,0,!Effect,Blockchain is\N in simple terms, a digital ledger where transactions are made and recorded permanently.
Dialogue: 0,0:00:25.96,0:00:31.00,block07,NTP,0,0,0,!Effect,blockchain is\Ndigitally distributed across a number of computers in almost real-time: the blockchain is
Dialogue: 0,0:00:31.00,0:00:36.16,block07,NTP,0,0,0,!Effect,Blockchain is\Nessentially a large database, where querying a hotel in Berlin might return 800 properties.
Dialogue: 0,0:00:36.16,0:00:41.52,block07,NTP,0,0,0,!Effect,Blockchain is\Nabout using technology to create a shared sense of trust by a group of disparate participants.
Dialogue: 0,0:00:41.52,0:00:47.80,block07,NTP,0,0,0,!Effect,Blockchain is\Nessentially a ledger technology that uses cryptography to provide an authoritative record of secure transactions.
Dialogue: 0,0:00:47.80,0:00:54.36,block07,NTP,0,0,0,!Effect,Blockchain is\Nmost simply defined as a decentralized, distributed ledger technology that records the provenance of a digital asset.
Dialogue: 0,0:00:54.36,0:01:01.00,block07,NTP,0,0,0,!Effect,Blockchain is\Nlike a vast open-permissioned-interactive spreadsheet that everyone can access and update, but can’t change or delete.
Dialogue: 0,0:01:01.00,0:01:07.68,block07,NTP,0,0,0,!Effect,blockchain is\Ntime-stamped: transactions on the blockchain are time-stamped, making it useful for tracking and verifying information.
Dialogue: 0,0:01:07.68,0:01:15.08,block07,NTP,0,0,0,!Effect,Blockchain is\Nopen in the sense that it can be verified by any user, and access to it cannot be prevented by any central government authority.
Dialogue: 0,0:01:15.08,0:01:22.44,block07,NTP,0,0,0,!Effect,Blockchain is\Nat its core, a method for humans to conduct secure, verified, and recorded transactions online without the use of a middle party.
Dialogue: 0,0:01:22.44,0:01:29.88,block07,NTP,0,0,0,!Effect,Blockchain is\Nessentially a distributed database to which data can only be appended which means that historic data can't be lost nor corrupted
Dialogue: 0,0:01:29.88,0:01:37.40,block07,NTP,0,0,0,!Effect,Blockchain is\Nquite simply, a digital, decentralized ledger that keeps a record of all transactions that take place across a peer-to-peer network.
Dialogue: 0,0:01:37.40,0:01:41.80,block07,NTP,0,0,0,!Effect,Blockchain is a\Nbroad technology that is distinct from bitcoin and cryptocurrencies.
Dialogue: 0,0:01:41.80,0:01:46.20,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed database existing on multiple computers at the same time.
Dialogue: 0,0:01:46.20,0:01:50.12,block07,NTP,0,0,0,!Effect,Blockchain is a\Nlow-level, behind the scenes technology that creates secure databases.
Dialogue: 0,0:01:50.12,0:01:54.08,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that enables a convenient and secure exchange of information.
Dialogue: 0,0:01:54.08,0:01:58.08,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that was initially developed for Bitcoin, the cryptocurrency.
Dialogue: 0,0:01:58.08,0:02:02.20,block07,NTP,0,0,0,!Effect,Blockchain is a\Nmassive public ledger of every user activity across an extensive network.

Dialogue: 0,0:02:02.20,0:02:06.36,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology which is used to create crypto money like bitcoin or ethereum.
Dialogue: 0,0:02:06.36,0:02:10.52,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed technology for storing data as an immutable series of records.
Dialogue: 0,0:02:10.52,0:02:14.76,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology or an ecosystem, and it is not the same as blockchain software.
Dialogue: 0,0:02:14.76,0:02:19.00,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized, digitized public ledger of all transactions of cryptocurrency.
Dialogue: 0,0:02:19.00,0:02:23.40,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that originated out of a branch of mathematics called cryptography.
Dialogue: 0,0:02:23.40,0:02:27.80,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndigital log file, cryptographically protected, that secures online transactions.
Dialogue: 0,0:02:27.80,0:02:32.28,block07,NTP,0,0,0,!Effect,Blockchain is a\Ncloud-based, permanent, distributed digital ledger of activities between parties.
Dialogue: 0,0:02:32.28,0:02:37.04,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger, or database, shared across a public or private computing network.
Dialogue: 0,0:02:37.04,0:02:41.80,block07,NTP,0,0,0,!Effect,Blockchain is a\Nform of digital ledger technology based on the decentralised ideal of cryptocurrency.
Dialogue: 0,0:02:41.80,0:02:46.52,block07,NTP,0,0,0,!Effect,Blockchain is a\Nunique technology, capable of decentralizing networks and allowing people to connect.
Dialogue: 0,0:02:46.52,0:02:51.32,block07,NTP,0,0,0,!Effect,Blockchain is a\Nform of shared database originally developed to underpin the digital currency bitcoin.
Dialogue: 0,0:02:51.32,0:02:56.32,block07,NTP,0,0,0,!Effect,Blockchain is a\Nconcatenated list in which every list entry (block) can comprise one or more data sets.
Dialogue: 0,0:02:56.32,0:03:01.36,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed system, which means that there is no central source of processed data in it.
Dialogue: 0,0:03:01.36,0:03:06.28,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that uses distributed databases, math and cryptography to record transactions.
Dialogue: 0,0:03:06.28,0:03:11.40,block07,NTP,0,0,0,!Effect,Blockchain is a\Nfairly new technology platform that runs across millions of devices and is open to anyone.
Dialogue: 0,0:03:11.40,0:03:16.52,block07,NTP,0,0,0,!Effect,Blockchain is a\Nspace that allows a significant decrease in any sort of liable and responsible regulation.
Dialogue: 0,0:03:16.52,0:03:21.64,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntype of distributed ledger where all data is replicated for all participants in real-time.
Dialogue: 0,0:03:21.64,0:03:26.80,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed electronic ledger that keeps a verifiable and unalterable record of transactions.
Dialogue: 0,0:03:26.80,0:03:32.04,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed peer-to-peer network which records transactions and assets on a business network.
Dialogue: 0,0:03:32.04,0:03:37.20,block07,NTP,0,0,0,!Effect,Blockchain is a\Nhighly disruptive innovation that will transform financial systems and many other industries.
Dialogue: 0,0:03:37.20,0:03:42.56,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndocument of transactions, spreading throughout the web as extra individuals use cryptocurrencies.
Dialogue: 0,0:03:42.56,0:03:48.12,block07,NTP,0,0,0,!Effect,Blockchain is a\Nway of keeping track of stuff, without having a single party responsible for keeping track of it,
Dialogue: 0,0:03:48.12,0:03:53.56,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndigital ledger that records transactions between parties and requires consensus among all parties.
Dialogue: 0,0:03:53.56,0:03:59.24,block07,NTP,0,0,0,!Effect,Blockchain is a\Npublic ledger type database made up of records called blocks that are linked together like a chain.
Dialogue: 0,0:03:59.24,0:04:04.76,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntruly distributed system with built-in protections against losing communication with network nodes.
Dialogue: 0,0:04:04.76,0:04:10.28,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed database comprising records of transactions that are shared among participating parties.
Dialogue: 0,0:04:10.28,0:04:15.88,block07,NTP,0,0,0,!Effect,Blockchain is a\Nprogrammable, native digital technology that enables simple and immediate execution of complex tasks.
Dialogue: 0,0:04:15.88,0:04:21.56,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntype of distributed ledger for maintaining a permanent and tamper-proof record of transactional data.
Dialogue: 0,0:04:21.56,0:04:27.44,block07,NTP,0,0,0,!Effect,Blockchain is a\Nglobal online database that anyone with an internet connection can use, but it doesnt belong to anyone.
Dialogue: 0,0:04:27.44,0:04:33.48,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized database that maintains a continuously-growing list of records called blocks in a data chain.

Dialogue: 0,0:04:33.48,0:04:39.56,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology that allows peer-to-peer transactions to be recorded on a distributed ledger across the network.
Dialogue: 0,0:04:39.56,0:04:45.72,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed database that holds records of digital data or events in a way that makes them tamper-resistant.
Dialogue: 0,0:04:45.72,0:04:51.84,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger that captures transactions across a peer-to-peer network, which may be private or public.
Dialogue: 0,0:04:51.84,0:04:58.20,block07,NTP,0,0,0,!Effect,Blockchain is a\Nway of securing financial data which is flexible enough to make an entreaty with any high-stake record keeping.
Dialogue: 0,0:04:58.20,0:05:04.52,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed database that stores all the Bitcoin transactions that have ever happened in the history of Bitcoin.
Dialogue: 0,0:05:04.52,0:05:10.84,block07,NTP,0,0,0,!Effect,Blockchain is a\Nplatform that can securely verify transactions and identities through a network of multiple decentralized records.
Dialogue: 0,0:05:10.84,0:05:17.48,block07,NTP,0,0,0,!Effect,Blockchain is a\Nweb-based bitcoin platform that makes using bitcoin safe, easy, and secure for all consumers and businesses worldwide.
Dialogue: 0,0:05:17.48,0:05:24.16,block07,NTP,0,0,0,!Effect,Blockchain is a\Ntechnology to create and maintain cryptographically secure, shared, and distributed ledger (a database) for transactions.
Dialogue: 0,0:05:24.16,0:05:30.92,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized, trustless, distributed ledger technology that was popuarlized by the Bitcoin global cryptocurrency platform.
Dialogue: 0,0:05:30.92,0:05:37.96,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndigital ledger technology capable of recording transactions and storing data in immutable blocks across a distributed network.
Dialogue: 0,0:05:37.96,0:05:45.24,block07,NTP,0,0,0,!Effect,Blockchain is a\Np2p technology that uses its distributed ledger and advanced encryption to guarantee the provenance of every transaction.
Dialogue: 0,0:05:45.24,0:05:52.56,block07,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger technology that enables permissioned sharing of an immutable record among parties to create consensus and trust.
Dialogue: 0,0:05:52.56,0:05:56.40,block07,NTP,0,0,0,!Effect,Blockchain is an\Nimmutable, public, distributed ledger that anyone can read or write.
Dialogue: 0,0:05:56.40,0:06:01.24,block07,NTP,0,0,0,!Effect,Blockchain is an\Nopen, distributed ledger (in other words, a list of digital records) known as blocks.
Dialogue: 0,0:06:01.24,0:06:06.28,block07,NTP,0,0,0,!Effect,Blockchain is an\Nexample of a distributed computing system that incorporates high Byzantine fault tolerance
Dialogue: 0,0:06:06.28,0:06:12.72,block07,NTP,0,0,0,!Effect,Blockchain is an\Nopen-source, public, distributed computing technology, which is the basis of the well-known cryptocurrency bitcoin.
Dialogue: 0,0:06:12.72,0:06:19.24,block07,NTP,0,0,0,!Effect,Blockchain is an\Nopen, distributed ledger that can efficiently record transactions between two parties in a verifiable, permanent way.
Dialogue: 0,0:06:19.24,0:06:26.20,block07,NTP,0,0,0,!Effect,blockchain is an\Nopen, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.
Dialogue: 0,0:06:26.20,0:06:30.00,block07,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology stack or enabler behind cryptocurrencies such as Bitcoin.
Dialogue: 0,0:06:30.00,0:06:33.76,block07,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that tracks and authenticates cryptocurrency transactions.
Dialogue: 0,0:06:33.76,0:06:37.60,block07,NTP,0,0,0,!Effect,Blockchain is the\Nunderpinning technology that maintains the Bitcoin transaction ledger.
Dialogue: 0,0:06:37.60,0:06:41.76,block07,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that makes bitcoin and all the other cryptocurrencies possible.
Dialogue: 0,0:06:41.76,0:06:46.04,block07,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that enables the existence of cryptocurrency (among other things).
Dialogue: 0,0:06:46.04,0:06:50.64,block07,NTP,0,0,0,!Effect,Blockchain is the\Nunderlying technology ensuring transactions are accurate, transparent and immutable.
Dialogue: 0,0:06:50.64,0:06:55.44,block07,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology the underpins digital currency (Bitcoin, Litecoin, Ethereum, and the like).
Dialogue: 0,0:06:55.44,0:07:01.00,block07,NTP,0,0,0,!Effect,Blockchain is the\Nname for a digital ledger program that allows a network of verified users to update data quickly.
Dialogue: 0,0:07:01.00,0:07:07.32,block07,NTP,0,0,0,!Effect,Blockchain is the\Nunderlying technology to what is commonly known as Bitcoin, however, the technology is not exclusive to Bitcoin.
Dialogue: 0,0:07:07.32,0:07:14.08,block07,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology behind all cryptocurrencies such as ethereum and bitcoin, but the financial industry is only one applications.
Dialogue: 0,0:07:14.08,0:07:18.64,block07,NTP,0,0,0,!Effect,Blockchain technology is\Nsimply using a network of computers as a ledger system to keep perfect records.
Dialogue: 0,0:07:18.64,0:07:23.16,block07,NTP,0,0,0,!Effect,Blockchain technology is\Nnearly impossible to hack because of the decentralized nature of the technology.

Dialogue: 0,0:07:23.16,0:07:27.72,block07,NTP,0,0,0,!Effect,Blockchain technology is\Ncomprised of blocks that hold batches of time-stamped and encrypted transactions.
Dialogue: 0,0:07:27.72,0:07:33.16,block07,NTP,0,0,0,!Effect,Blockchain technology is\Nalso decentralized, which means there is no central point of failure and it displaces middlemen.
Dialogue: 0,0:07:33.16,0:07:39.00,block07,NTP,0,0,0,!Effect,Blockchain technology is\Nnot a company, nor is it an app, but rather an entirely new way of documenting data on the internet.
Dialogue: 0,0:07:39.00,0:07:44.80,block07,NTP,0,0,0,!Effect,Blockchain technology is\Nby nature decentralized and collaborative, and the value of cryptocurrency is decided by the community.
Dialogue: 0,0:07:44.80,0:07:51.36,block07,NTP,0,0,0,!Effect,Blockchain technology is\Nan invention that can be thought of as a ledger that keeps a record of economic transactions or anything of value.
Dialogue: 0,0:07:51.36,0:07:57.68,block07,NTP,0,0,0,!Effect,Blockchain technology is\Ntherefore well-suited for recording events, managing records, processing transactions, tracing assets, and voting.
Dialogue: 0,0:07:57.68,0:08:02.20,block07,NTP,0,0,0,!Effect,Blockchain technology is a\Ntool for the management of information, specifically the records of transactions.
Dialogue: 0,0:08:02.20,0:08:07.56,block07,NTP,0,0,0,!Effect,Blockchain technology is a\Ndecentralised digital ledger that enables the secure transfer of data, transactions and records.
Dialogue: 0,0:08:07.56,0:08:14.04,block07,NTP,0,0,0,!Effect,Blockchain technology is a\Ndigital, distributed transaction ledger with identical copies maintained on each of the network's members' computers.
Dialogue: 0,0:08:14.04,0:08:19.44,block07,NTP,0,0,0,!Effect,Blockchain technology is the\Nmissing link to settle scalability, privacy, and reliability concerns in the Internet of Things.
Dialogue: 0,0:08:19.44,0:08:25.12,block07,NTP,0,0,0,!Effect,Blockchain technology is the\Nbuilding blocks on which cryptocurrencies can function, but its potential use reaches far beyond that
Dialogue: 0,0:08:25.12,0:08:29.12,block07,NTP,0,0,0,!Effect,Blockchain is\None of the most misunderstood technologies in the history of mankind,
Dialogue: 0,0:08:29.12,0:08:33.28,block07,NTP,0,0,0,!Effect,Blockchain is\Nas safe as it is, because its security is based on raw computing power.
Dialogue: 0,0:08:33.28,0:08:37.32,block07,NTP,0,0,0,!Effect,Blockchain is\Nvery complicated to understand, especially for the non-technical person.
Dialogue: 0,0:08:37.32,0:08:41.60,block07,NTP,0,0,0,!Effect,Blockchain is\Ndifficult for many people to understand, but so was the Internet initially.
Dialogue: 0,0:08:41.60,0:08:46.32,block07,NTP,0,0,0,!Effect,Blockchain is\Nnothing new, but the combination of several existing technologies enables disruption.
Dialogue: 0,0:08:46.32,0:08:51.72,block07,NTP,0,0,0,!Effect,Blockchain is\Nconsidered as being able to change the world again just like what the Internet technology did.
Dialogue: 0,0:08:51.72,0:08:55.76,block07,NTP,0,0,0,!Effect,Blockchain is an\Nimportant step for businesses to achieve radical openness with security.
Dialogue: 0,0:08:55.76,0:09:00.00,block07,NTP,0,0,0,!Effect,Blockchain is an\Nelegant piece of technology that does something very complicated very well.
Dialogue: 0,0:00:00.00,0:00:00.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\NFine
Dialogue: 0,0:00:00.64,0:00:01.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfree
Dialogue: 0,0:00:01.28,0:00:01.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nreal
Dialogue: 0,0:00:01.92,0:00:02.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbulky
Dialogue: 0,0:00:02.60,0:00:03.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ncool.
Dialogue: 0,0:00:03.28,0:00:03.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nover.
Dialogue: 0,0:00:03.96,0:00:04.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\NBoring
Dialogue: 0,0:00:04.72,0:00:05.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\NCloud 2.
Dialogue: 0,0:00:05.60,0:00:06.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nprivate.
Dialogue: 0,0:00:06.44,0:00:07.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nuseless.
Dialogue: 0,0:00:07.28,0:00:08.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndemocracy
Dialogue: 0,0:00:08.16,0:00:09.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nimportant
Dialogue: 0,0:00:09.04,0:00:09.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ninclusive
Dialogue: 0,0:00:09.92,0:00:10.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\N"useless".
Dialogue: 0,0:00:10.84,0:00:11.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\None thing.
Dialogue: 0,0:00:11.84,0:00:12.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nvery limited.
Dialogue: 0,0:00:12.96,0:00:14.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nalready in use
Dialogue: 0,0:00:14.20,0:00:15.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfar from dead.
Dialogue: 0,0:00:15.44,0:00:16.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a solution.
Dialogue: 0,0:00:16.72,0:00:17.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot modifiable.
Dialogue: 0,0:00:17.96,0:00:19.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ntoo transparent
Dialogue: 0,0:00:19.20,0:00:20.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\N'Transformative'

Dialogue: 0,0:00:20.44,0:00:21.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging banking
Dialogue: 0,0:00:21.72,0:00:23.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging finance
Dialogue: 0,0:00:23.00,0:00:24.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging the IoT
Dialogue: 0,0:00:24.32,0:00:25.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging The Web
Dialogue: 0,0:00:25.64,0:00:26.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nconsidered best.
Dialogue: 0,0:00:26.92,0:00:28.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Neasier to track.
Dialogue: 0,0:00:28.24,0:00:29.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nhappening *now*.
Dialogue: 0,0:00:29.52,0:00:30.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging business
Dialogue: 0,0:00:30.84,0:00:32.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nconnecting humans
Dialogue: 0,0:00:32.16,0:00:33.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot for everyone.
Dialogue: 0,0:00:33.52,0:00:34.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nvery restrictive.
Dialogue: 0,0:00:34.84,0:00:36.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging Our World
Dialogue: 0,0:00:36.24,0:00:37.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\NDisrupting Fashion
Dialogue: 0,0:00:37.64,0:00:39.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisrupting loyalty
Dialogue: 0,0:00:39.04,0:00:40.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\NImpacting Industry
Dialogue: 0,0:00:40.44,0:00:41.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nactually very dull.
Dialogue: 0,0:00:41.92,0:00:43.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging the world.
Dialogue: 0,0:00:43.40,0:00:44.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nonly the beginning.
Dialogue: 0,0:00:44.88,0:00:46.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\NBanking the Unbanked
Dialogue: 0,0:00:46.40,0:00:47.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nhot, bitcoin is not.
Dialogue: 0,0:00:47.96,0:00:49.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging Gold Markets
Dialogue: 0,0:00:49.52,0:00:51.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ncompletely different.
Dialogue: 0,0:00:51.04,0:00:52.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nhardly revolutionary.
Dialogue: 0,0:00:52.56,0:00:54.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmost hyped tech ever,
Dialogue: 0,0:00:54.16,0:00:55.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a one-trick pony.
Dialogue: 0,0:00:55.80,0:00:57.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\Novershadowing Bitcoin
Dialogue: 0,0:00:57.32,0:00:58.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nrich with possibility
Dialogue: 0,0:00:58.88,0:01:00.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\NWorth Getting Excited
Dialogue: 0,0:01:00.44,0:01:02.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nworthy of investment.
Dialogue: 0,0:01:02.00,0:01:03.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\NComing for Agriculture
Dialogue: 0,0:01:03.64,0:01:05.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndangerous for business
Dialogue: 0,0:01:05.28,0:01:06.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfinally becoming real!
Dialogue: 0,0:01:06.92,0:01:08.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ngood for about a year.
Dialogue: 0,0:01:08.64,0:01:10.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\NImpacting Social Media
Dialogue: 0,0:01:10.28,0:01:11.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nimproving what you eat
Dialogue: 0,0:01:11.92,0:01:13.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nin every single place.
Dialogue: 0,0:01:13.56,0:01:14.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nitself being repaired.
Dialogue: 0,0:01:14.84,0:01:16.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ntransforming payments.
Dialogue: 0,0:01:16.32,0:01:17.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging the way we pay
Dialogue: 0,0:01:17.72,0:01:19.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nkey to future services.
Dialogue: 0,0:01:19.08,0:01:20.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmaking steady progress.
Dialogue: 0,0:01:20.40,0:01:21.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nrevolutionising careers
Dialogue: 0,0:01:21.68,0:01:23.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging Computer Gaming
Dialogue: 0,0:01:23.04,0:01:24.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging Money Transfers
Dialogue: 0,0:01:24.40,0:01:25.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\Neliminating online fraud
Dialogue: 0,0:01:25.76,0:01:27.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nonly a lunch discussion.
Dialogue: 0,0:01:27.16,0:01:28.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nquite popular on mobile.
Dialogue: 0,0:01:28.56,0:01:29.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\NTransforming Health Care
Dialogue: 0,0:01:29.92,0:01:31.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\NBoosting Renewable Energy
Dialogue: 0,0:01:31.32,0:01:32.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ngreat, but Bitcoin sucks!
Dialogue: 0,0:01:32.76,0:01:34.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\NHelping Genomics Research
Dialogue: 0,0:01:34.16,0:01:35.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nindeed a viable solution.
Dialogue: 0,0:01:35.60,0:01:37.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot such a bad technology
Dialogue: 0,0:01:37.08,0:01:38.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsupporting climate action
Dialogue: 0,0:01:38.48,0:01:40.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbeing used by governments.
Dialogue: 0,0:01:40.00,0:01:41.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging Digital Marketing

Dialogue: 0,0:01:41.44,0:01:42.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging the Mortgage Game
Dialogue: 0,0:01:42.96,0:01:44.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReady To Take Center Stage
Dialogue: 0,0:01:44.48,0:01:46.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReinventing Your News Feed
Dialogue: 0,0:01:46.00,0:01:47.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\NAbout More Than Just Crypto
Dialogue: 0,0:01:47.60,0:01:49.12,block08,NTP,0,0,0,!Effect,[…]blockchain is\NIndirectly Helping Insurers
Dialogue: 0,0:01:49.12,0:01:50.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot the be-all and end-all.
Dialogue: 0,0:01:50.80,0:01:52.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRevolutionizing Agriculture
Dialogue: 0,0:01:52.28,0:01:53.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstill in it’s early stages.
Dialogue: 0,0:01:53.88,0:01:55.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\NTotally Changing Healthcare
Dialogue: 0,0:01:55.40,0:01:56.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ntransforming energy systems
Dialogue: 0,0:01:56.92,0:01:58.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\NTransforming Health Records
Dialogue: 0,0:01:58.44,0:02:00.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NUseless, All ICOs Are Scams
Dialogue: 0,0:02:00.04,0:02:01.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nwhat we need for our life …
Dialogue: 0,0:02:01.72,0:02:03.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\NWorth Getting Excited About
Dialogue: 0,0:02:03.28,0:02:04.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Naltering data and analytics.
Dialogue: 0,0:02:04.88,0:02:06.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbringing staffing innovation
Dialogue: 0,0:02:06.44,0:02:08.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging money and business.
Dialogue: 0,0:02:08.04,0:02:09.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\Njust behind-the-scenes code.
Dialogue: 0,0:02:09.68,0:02:11.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nno 'magic wand' for security
Dialogue: 0,0:02:11.32,0:02:13.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReal And Bitcoin Is A Mirage
Dialogue: 0,0:02:13.00,0:02:14.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstill in its nascent stages.
Dialogue: 0,0:02:14.64,0:02:16.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\NAbout Growth Not Cost Savings
Dialogue: 0,0:02:16.32,0:02:17.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging the Banking Industry
Dialogue: 0,0:02:17.96,0:02:19.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndefinitely worth focusing on.
Dialogue: 0,0:02:19.60,0:02:21.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Neverything and is everywhere,
Dialogue: 0,0:02:21.24,0:02:22.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot the answer to everything.
Dialogue: 0,0:02:22.92,0:02:24.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Npart of the physical process.
Dialogue: 0,0:02:24.60,0:02:26.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRevolutionizing Cybersecurity
Dialogue: 0,0:02:26.16,0:02:27.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\NTransforming the Supply Chain
Dialogue: 0,0:02:27.80,0:02:29.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nused in media and advertising
Dialogue: 0,0:02:29.48,0:02:31.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\NHelping to Clean Up Our Oceans
Dialogue: 0,0:02:31.24,0:02:33.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmoving in the wrong direction.
Dialogue: 0,0:02:33.00,0:02:34.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\NPoised to Impact Supply Chains
Dialogue: 0,0:02:34.76,0:02:36.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nset to Revolutionize Elections

Dialogue: 0,0:02:36.44,0:02:38.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstill a decade from mainstream
Dialogue: 0,0:02:38.20,0:02:39.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nchanging Learning & Development
Dialogue: 0,0:02:39.92,0:02:41.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging the Financial Industry
Dialogue: 0,0:02:41.68,0:02:43.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisrupting the financial sector
Dialogue: 0,0:02:43.44,0:02:45.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndominating discussions in Davos
Dialogue: 0,0:02:45.20,0:02:47.12,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfor real, and it is a big deal.
Dialogue: 0,0:02:47.12,0:02:48.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\NInfluencing the Gaming Industry
Dialogue: 0,0:02:48.88,0:02:50.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\NPowering Up the Energy Industry
Dialogue: 0,0:02:50.68,0:02:52.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nreshaping the world of business
Dialogue: 0,0:02:52.48,0:02:54.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ntaking hold across Asia Pacific
Dialogue: 0,0:02:54.28,0:02:56.12,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ngrowing faster than the internet
Dialogue: 0,0:02:56.12,0:02:57.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nrevolutionising the legal sector
Dialogue: 0,0:02:57.92,0:02:59.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\NTransforming The Energy Industry
Dialogue: 0,0:02:59.72,0:03:01.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nalready transforming UAE industry
Dialogue: 0,0:03:01.56,0:03:03.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbuilding its own trading product.
Dialogue: 0,0:03:03.44,0:03:05.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisrupting finance and accounting
Dialogue: 0,0:03:05.28,0:03:07.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nno bubble but ‘Bitcoin likely is’
Dialogue: 0,0:03:07.20,0:03:09.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRedefining the Future of Commerce
Dialogue: 0,0:03:09.08,0:03:10.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstill an experimental technology.
Dialogue: 0,0:03:10.92,0:03:12.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\NStriving To Meet Its Expectations
Dialogue: 0,0:03:12.80,0:03:14.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nwhat the Internet was in the 90s.
Dialogue: 0,0:03:14.76,0:03:16.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\NDisrupting the Accounting Industry
Dialogue: 0,0:03:16.68,0:03:18.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisrupting the insurance industry.
Dialogue: 0,0:03:18.60,0:03:20.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfar from being the norm – for now.
Dialogue: 0,0:03:20.68,0:03:22.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\NNo Silver Bullet For Cyber Threats
Dialogue: 0,0:03:22.68,0:03:24.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nprobably the better long-term bet.
Dialogue: 0,0:03:24.68,0:03:26.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nreshaping the real estate industry
Dialogue: 0,0:03:26.60,0:03:28.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\NDisrupting Programmatic Advertising
Dialogue: 0,0:03:28.52,0:03:30.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nhelping investors value real estate
Dialogue: 0,0:03:30.52,0:03:32.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nlikely to transform IT and business
Dialogue: 0,0:03:32.56,0:03:34.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRevolutionizing The Gaming Industry

Dialogue: 0,0:03:34.52,0:03:36.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nset to shake up as much as banking.
Dialogue: 0,0:03:36.64,0:03:38.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\NHelping Democratize Access to Credit
Dialogue: 0,0:03:38.68,0:03:40.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\NHelping Technology Get Its Soul Back
Dialogue: 0,0:03:40.76,0:03:42.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\NImportant But “A Bit Of Distraction”
Dialogue: 0,0:03:42.84,0:03:44.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\NLined to Transform African Economies
Dialogue: 0,0:03:44.88,0:03:46.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a magic solution for everything.
Dialogue: 0,0:03:46.96,0:03:49.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReady to Break Out in the Enterprise
Dialogue: 0,0:03:49.08,0:03:51.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nreally about solving a data problem.
Dialogue: 0,0:03:51.16,0:03:53.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRedefining the Rules of Supply Chain
Dialogue: 0,0:03:53.24,0:03:55.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nrevolutionary and paradigm-shifting.
Dialogue: 0,0:03:55.24,0:03:57.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsecuring our expanding online world.
Dialogue: 0,0:03:57.28,0:03:59.36,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging the Social Media Environment
Dialogue: 0,0:03:59.36,0:04:01.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Neliminating cheating in online gaming
Dialogue: 0,0:04:01.44,0:04:03.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a solution for all your problems.
Dialogue: 0,0:04:03.60,0:04:05.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot subject to any unique regulation.
Dialogue: 0,0:04:05.72,0:04:07.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Non its way to Become the New Internet
Dialogue: 0,0:04:07.92,0:04:10.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nset to revolutionize mining for ever.
Dialogue: 0,0:04:10.04,0:04:12.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot all it promises to be for finance.
Dialogue: 0,0:04:12.28,0:04:14.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Npoised to transform the food industry.
Dialogue: 0,0:04:14.44,0:04:16.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRevolutionizing The Financial Industry
Dialogue: 0,0:04:16.52,0:04:18.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\NSet To Transform The Healthcare Sector
Dialogue: 0,0:04:18.68,0:04:20.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstill a secure thing if used properly.
Dialogue: 0,0:04:20.92,0:04:23.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nabout way more than just sending money.
Dialogue: 0,0:04:23.20,0:04:25.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\NBecoming the ‘New Normal’ In Enterprise
Dialogue: 0,0:04:25.44,0:04:27.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging Banking and Financial Services
Dialogue: 0,0:04:27.64,0:04:29.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging the Digital Marketing Industry
Dialogue: 0,0:04:29.84,0:04:32.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndesigned for Business interactions only
Dialogue: 0,0:04:32.04,0:04:34.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisrupting the digital marketing space.
Dialogue: 0,0:04:34.24,0:04:36.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\NMaking Waves In Media And Entertainment
Dialogue: 0,0:04:36.48,0:04:38.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nonly in the bottom of the first inning.

Dialogue: 0,0:04:38.80,0:04:41.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Noverhyped and top IT bods don't want it
Dialogue: 0,0:04:41.16,0:04:43.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReinventing Business Process Management
Dialogue: 0,0:04:43.32,0:04:45.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReplacing Branding As A Source Of Trust
Dialogue: 0,0:04:45.60,0:04:47.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nrevolutionizing supply chain management
Dialogue: 0,0:04:47.76,0:04:50.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\NSolving the Biggest Problems in Fintech
Dialogue: 0,0:04:50.00,0:04:52.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\Na bit of a distraction in the short term
Dialogue: 0,0:04:52.40,0:04:54.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfull of content that can land you in jail
Dialogue: 0,0:04:54.84,0:04:57.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\NImpacting Data and Processes in Insurance
Dialogue: 0,0:04:57.16,0:04:59.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nneither cheap nor efficient to run – yet.
Dialogue: 0,0:04:59.56,0:05:01.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot a financial services only technology.
Dialogue: 0,0:05:01.88,0:05:04.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nproving to be quite the disruptive force.
Dialogue: 0,0:05:04.24,0:05:06.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\N'10 Times More Valuable Than the Internet'
Dialogue: 0,0:05:06.64,0:05:09.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NFinding a Place at Your Thanksgiving Table
Dialogue: 0,0:05:09.04,0:05:11.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmaking an impact on the freelance economy.
Dialogue: 0,0:05:11.44,0:05:13.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReshaping The Advertising and Media Spaces
Dialogue: 0,0:05:13.84,0:05:16.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\NSimplifying Pharmaceutical Track And Trace
Dialogue: 0,0:05:16.16,0:05:18.56,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsteadily rippling out to other industries.
Dialogue: 0,0:05:18.56,0:05:21.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NCreating a New Future for Digital Marketing
Dialogue: 0,0:05:21.04,0:05:23.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\NEmpowering Cyberpunks and Governments Alike
Dialogue: 0,0:05:23.44,0:05:25.92,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnow being used in numerous different areas.
Dialogue: 0,0:05:25.92,0:05:28.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\None of the most overhyped technologies ever
Dialogue: 0,0:05:28.40,0:05:30.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nreal for many leading supply chain managers
Dialogue: 0,0:05:30.88,0:05:33.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\NThreatening to Kill the Traditional Utility
Dialogue: 0,0:05:33.32,0:05:35.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nused with more than just crypto currencies.
Dialogue: 0,0:05:35.80,0:05:38.36,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbecoming a C-suite issue for asset managers.
Dialogue: 0,0:05:38.36,0:05:40.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\NImpacting Healthcare And Life Sciences Today
Dialogue: 0,0:05:40.84,0:05:43.36,block08,NTP,0,0,0,!Effect,[…]blockchain is\None of the most overhyped technologies ever.
Dialogue: 0,0:05:43.36,0:05:45.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nactually extremely limited in what it can do.
Dialogue: 0,0:05:45.96,0:05:48.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnow moving out of the peak of the hype phase.
Dialogue: 0,0:05:48.64,0:05:51.20,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nso attractive to be used for cryptocurrencies

Dialogue: 0,0:05:51.20,0:05:53.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nto value what the internet is to information.
Dialogue: 0,0:05:53.80,0:05:56.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nviewed as an aid to wholesale energy traders.
Dialogue: 0,0:05:56.40,0:05:58.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfundamentally altering the business landscape.
Dialogue: 0,0:05:58.96,0:06:01.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\NGood For Business, But Not Great For Consumers
Dialogue: 0,0:06:01.60,0:06:04.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmost useful where there is no claims adjusting
Dialogue: 0,0:06:04.24,0:06:06.88,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnothing but useless and over-hyped technology.
Dialogue: 0,0:06:06.88,0:06:09.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nobscure and we need a better, friendlier word.
Dialogue: 0,0:06:09.52,0:06:12.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nonly used for very decentralized applications.
Dialogue: 0,0:06:12.08,0:06:14.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nset to change the way the world does business.
Dialogue: 0,0:06:14.80,0:06:17.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nspecifically designed to be easy to invest in.
Dialogue: 0,0:06:17.44,0:06:20.12,block08,NTP,0,0,0,!Effect,[…]blockchain is\NPerfect for Securing Our Expanding Online World
Dialogue: 0,0:06:20.12,0:06:22.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nredefining digital identities and data exchange
Dialogue: 0,0:06:22.76,0:06:25.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisrupting the insurance industry for the better
Dialogue: 0,0:06:25.48,0:06:28.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nabout to have an impact on nearly every industry.
Dialogue: 0,0:06:28.32,0:06:31.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NBringing Technology Conversations Back in Lending
Dialogue: 0,0:06:31.04,0:06:33.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nquickly emerging as legal technology's new black.
Dialogue: 0,0:06:33.80,0:06:36.52,block08,NTP,0,0,0,!Effect,[…]blockchain is\NReshaping Enterprise Software Development in 2018
Dialogue: 0,0:06:36.52,0:06:39.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\N'Biggest Threat' to Future of US National Security
Dialogue: 0,0:06:39.40,0:06:42.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbeing tested, but adoption is far from widespread.
Dialogue: 0,0:06:42.28,0:06:45.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nfeeding an appetite for transparent food supplies.
Dialogue: 0,0:06:45.08,0:06:47.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmaintained by a network of people known as miners.
Dialogue: 0,0:06:47.96,0:06:50.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\NMaking it Easier for Fintech Companies to Scale Up
Dialogue: 0,0:06:50.84,0:06:53.72,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nmost likely to change healthcare in the short-run.
Dialogue: 0,0:06:53.72,0:06:56.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstill five to 10 years away from going mainstream,
Dialogue: 0,0:06:56.60,0:06:59.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nused by Governments as a form of National Identity
Dialogue: 0,0:06:59.48,0:07:02.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nby definition independent, transparent, and secure.
Dialogue: 0,0:07:02.32,0:07:05.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nideal for transforming a host of digital processes.
Dialogue: 0,0:07:05.24,0:07:08.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nabstract, technical and happening behind the scenes.
Dialogue: 0,0:07:08.16,0:07:11.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbringing technology conversations back to the table.
Dialogue: 0,0:07:11.08,0:07:14.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NChanging The Face of Trucking, Logistics and Freight

Dialogue: 0,0:07:14.04,0:07:17.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nlike the electricity that is powering the lightbulb.
Dialogue: 0,0:07:17.00,0:07:19.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstuck in is actually holding global acceptance back.
Dialogue: 0,0:07:19.96,0:07:23.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nall talk and no show: great thunder, yet little rain.
Dialogue: 0,0:07:23.04,0:07:26.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\NEnabling the New Era of Digital Financial Investments
Dialogue: 0,0:07:26.04,0:07:29.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Neverywhere - and that includes media and advertising.
Dialogue: 0,0:07:29.04,0:07:31.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Npioneering transparent and secure business processes.
Dialogue: 0,0:07:31.96,0:07:35.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsolving industry problems, and this is the new world.
Dialogue: 0,0:07:35.00,0:07:38.08,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsomething that we will hear about more in the future.
Dialogue: 0,0:07:38.08,0:07:41.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nabout decentralized data, processes, and transactions.
Dialogue: 0,0:07:41.04,0:07:44.16,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nin its nascent phase -- think of the internet in 1996.
Dialogue: 0,0:07:44.16,0:07:47.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsurely going to rise significantly in the coming days.
Dialogue: 0,0:07:47.28,0:07:50.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\Naccelerating breakthroughs in its range of applications.
Dialogue: 0,0:07:50.40,0:07:53.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\NDisrupting Enterprise Finance And Accounting Departments
Dialogue: 0,0:07:53.48,0:07:56.64,block08,NTP,0,0,0,!Effect,[…]blockchain is\NEnabling the New Era of Digital Financial Investmentment
Dialogue: 0,0:07:56.64,0:07:59.84,block08,NTP,0,0,0,!Effect,[…]blockchain is\Namong the least exciting technologies making waves today.
Dialogue: 0,0:07:59.84,0:08:03.12,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nat the peak of inflated expectations on their hype cycle.
Dialogue: 0,0:08:03.12,0:08:06.44,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot the solution itself, and it comes with its own risks.
Dialogue: 0,0:08:06.44,0:08:09.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\NRevolutionizing The World Of Transportation And Logistics
Dialogue: 0,0:08:09.60,0:08:12.76,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nstrengthening tuna traceability to combat illegal fishing
Dialogue: 0,0:08:12.76,0:08:16.12,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndoing to trust what the early internet did to information.
Dialogue: 0,0:08:16.12,0:08:19.32,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nintroducing the second iteration of computation structure.
Dialogue: 0,0:08:19.32,0:08:22.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nleading the revolution in redefining the new-age internet.
Dialogue: 0,0:08:22.60,0:08:25.96,block08,NTP,0,0,0,!Effect,[…]blockchain is\Npoised to change how people do business by offering trust.
Dialogue: 0,0:08:25.96,0:08:29.24,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nsometimes portrayed as a magical solution to all problems.
Dialogue: 0,0:08:29.24,0:08:32.60,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nhaving a significant impact on many domains and industries.
Dialogue: 0,0:08:32.60,0:08:36.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nhere to stay and is transforming how our society functions.
Dialogue: 0,0:08:36.00,0:08:39.40,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nvery useful for proof-of-work, auditing and data integrity.
Dialogue: 0,0:08:39.40,0:08:42.80,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nbeing absorbed into the economy and global political system.
Dialogue: 0,0:08:42.80,0:08:46.28,block08,NTP,0,0,0,!Effect,[…]blockchain is\Ndisruptive, it's bound by the same rules as most businesses.
Dialogue: 0,0:08:46.28,0:08:49.68,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nnot about decentralisation and democracy; it is about greed.

Dialogue: 0,0:08:49.68,0:08:53.04,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nrife with possibilities for organizations, if not consumers.
Dialogue: 0,0:08:53.04,0:08:56.48,block08,NTP,0,0,0,!Effect,[…]blockchain is\None of the technologies used in cryptocurrencies like Bitcoin
Dialogue: 0,0:08:56.48,0:09:00.00,block08,NTP,0,0,0,!Effect,[…]blockchain is\Nseen as key to the digital transformation economy by so many.
Dialogue: 0,0:00:00.00,0:00:03.92,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nsome sort of distributed computer, performing distributed computations.
Dialogue: 0,0:00:03.92,0:00:08.08,block09,NTP,0,0,0,!Effect,[…]blockchain is\Ndistributed - it addresses the problem of lack of a trusted intermediary.
Dialogue: 0,0:00:08.08,0:00:12.32,block09,NTP,0,0,0,!Effect,[…]blockchain is\Njust a database with certain structure: it's an ordered, back-linked list.
Dialogue: 0,0:00:12.32,0:00:16.48,block09,NTP,0,0,0,!Effect,[…]blockchain is\Noften described as consisting of (among other things) an immutable ledger.
Dialogue: 0,0:00:16.48,0:00:20.80,block09,NTP,0,0,0,!Effect,[…]blockchain is\Njust a tamper-resistant way of recording transactions into a digital ledger.
Dialogue: 0,0:00:20.80,0:00:25.60,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nonly around 8GB so keeping that on a 16GB microSD card with the OS will work well.
Dialogue: 0,0:00:25.60,0:00:30.44,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nfull of transactions and not much else (and a bit of data that connect the blocks).
Dialogue: 0,0:00:30.44,0:00:35.48,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nbasically a public ledger of all cryptocurrency transactions that have ever been executed.
Dialogue: 0,0:00:35.48,0:00:40.52,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nboth transparent and immutable which helps in creating a permanent record of transactions.
Dialogue: 0,0:00:40.52,0:00:45.92,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nmore secure and transparent, while the privacy is not harmed and the risk lowers significantly.
Dialogue: 0,0:00:45.92,0:00:51.40,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nsimilar in potential to TCP/IP, the suite of network protocols that enabled the World Wide Web.
Dialogue: 0,0:00:51.40,0:00:56.72,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nsuperior to vulnerable data centres previously relied upon by transactions and cloud computing.
Dialogue: 0,0:00:56.72,0:01:02.12,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nindeed completely unscalable; adding resources does not affect the speed of transactions at all.
Dialogue: 0,0:01:02.12,0:01:07.44,block09,NTP,0,0,0,!Effect,[…]blockchain is\Njargon-heavy and intimidating: cryptocurrencies, ICOs, smart contracts, token sales, and mining.
Dialogue: 0,0:01:07.44,0:01:13.00,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nquite simple: a distributed database that maintains a continuously growing list of ordered records.
Dialogue: 0,0:01:13.00,0:01:18.84,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nconsensual, after a certain point of centralization, the rules of the system depend on very few users.
Dialogue: 0,0:01:18.84,0:01:25.16,block09,NTP,0,0,0,!Effect,[…]blockchain is\None thing that has come out of Bitcoin which provides a lot of flexibility in terms of financial transactions.
Dialogue: 0,0:01:25.16,0:01:31.72,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nnot viable at scale due to its energy consumption and transaction speed is a conflation of Bitcoin with blockchain.
Dialogue: 0,0:01:31.72,0:01:38.36,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nmore than just bitcoin; it's a method of tracking transactions using technology that could prove to be revolutionary.
Dialogue: 0,0:01:38.36,0:01:45.40,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nshorthand for a whole suite of distributed ledger technologies that can be programmed to record and track anything of value.
Dialogue: 0,0:01:45.40,0:01:52.68,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nmostly known as the backbone technology behind Bitcoin and is one of the hottest and most intriguing technologies in the market.
Dialogue: 0,0:01:52.68,0:01:59.96,block09,NTP,0,0,0,!Effect,[…]blockchain is\Nable to verify identity of IoT devices and the people interacting with them to prevent compromised devices usurping the platform.
Dialogue: 0,0:01:59.96,0:02:03.72,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized ledger that creates, verifies, and enforces contracts.
Dialogue: 0,0:02:03.72,0:02:07.68,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nshared, incorruptible ledger for recording the history of transactions.
Dialogue: 0,0:02:07.68,0:02:11.72,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndatabase of encrypted transactions stored across a network of computers.
Dialogue: 0,0:02:11.72,0:02:15.92,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndata-storage solution that does not directly address ad fraud in any way.
Dialogue: 0,0:02:15.92,0:02:20.16,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nreliable, difficult-to-hack record of transactions – and of who owns what.

Dialogue: 0,0:02:20.16,0:02:24.56,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized, transparent ledger of transactions across peer-to-peer networks.
Dialogue: 0,0:02:24.56,0:02:28.92,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital technology for securely recording, storing, and verifying transactions.
Dialogue: 0,0:02:28.92,0:02:33.36,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed database system that is continuously updated in chronological order.
Dialogue: 0,0:02:33.36,0:02:37.84,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized software mechanism that enables a public distributed ledger system.
Dialogue: 0,0:02:37.84,0:02:42.32,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed trustless verification system, something that didn't previously exist.
Dialogue: 0,0:02:42.32,0:02:47.04,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital ledger of transactions shared across a global network of powerful computers.
Dialogue: 0,0:02:47.04,0:02:51.84,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed record of transactions maintained by a decentralised network of computers.
Dialogue: 0,0:02:51.84,0:02:56.88,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ncontinuously updated record of transactions spread out across a vast network of computers.
Dialogue: 0,0:02:56.88,0:03:02.00,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nvalid technology to log and report on assets that are shared between non-trusting parties.
Dialogue: 0,0:03:02.00,0:03:07.20,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralised technology or distributed ledger on which transactions are anonymously recorded.
Dialogue: 0,0:03:07.20,0:03:12.64,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndistributed, decentralized ledger based on "blocks," each of which is a record of a transaction.
Dialogue: 0,0:03:12.64,0:03:18.00,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ntransaction ledger that maintains identical copies across each member computer within a network.
Dialogue: 0,0:03:18.00,0:03:23.36,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndatabase technology that leverages two unique features, namely transparency, and decentralization.
Dialogue: 0,0:03:23.36,0:03:28.72,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nmassive, decentralized ledger of transactions maintained by many different, decentralized sources.
Dialogue: 0,0:03:28.72,0:03:34.24,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nshared, digitized ledger that cannot be changed once a transaction has been recorded and verified.
Dialogue: 0,0:03:34.24,0:03:40.24,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nrecord-keeping mechanism that makes it easier and safer for businesses to work together over the internet.
Dialogue: 0,0:03:40.24,0:03:46.32,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nself-maintaining database which typically has a "functionality wrapper", or app development platform, on top.
Dialogue: 0,0:03:46.32,0:03:52.64,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized, public ledger that contains the details of every Bitcoin transaction that has ever been completed.
Dialogue: 0,0:03:52.64,0:03:59.00,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ncoordination mechanism, a technology that facilitates cooperation between individuals by lowering transaction costs.
Dialogue: 0,0:03:59.00,0:04:05.56,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nway for people to immediately share trusted information over a peer-to-peer network without a central administrator.
Dialogue: 0,0:04:05.56,0:04:12.08,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nway of structuring data by forming and linking blocks of cryptographically signed and time-stamped transaction data.
Dialogue: 0,0:04:12.08,0:04:18.72,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital ledger in which transactions made in Bitcoin or other cryptocurrency are recorded chronologically and publicly.
Dialogue: 0,0:04:18.72,0:04:25.52,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndigital ledger that allows people to record data securely, in a way that the data is both verifiable and decentralized.
Dialogue: 0,0:04:25.52,0:04:32.56,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndifferent way of keeping track of a normative set of information, instead of storing the information in one central location
Dialogue: 0,0:04:32.56,0:04:39.44,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Ndecentralized ledger that allows multiple parties to records transactions between them efficiently, securely and permanently.
Dialogue: 0,0:04:39.44,0:04:46.96,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nnetwork of computers, all of which must approve a transaction has taken place before it is recorded, in a "chain" of computer code.
Dialogue: 0,0:04:46.96,0:04:54.48,block09,NTP,0,0,0,!Effect,[…]blockchain is a\Nnetwork that utilizes cryptography to store records and information (the block) securely and link them with other records (the chain).
Dialogue: 0,0:04:54.48,0:04:59.60,block09,NTP,0,0,0,!Effect,[…]blockchain is an\Nopen, distributed ledger that records transactions safely, permanently, and very efficiently.
Dialogue: 0,0:04:59.60,0:05:06.48,block09,NTP,0,0,0,!Effect,[…]blockchain is an\Nincorruptible ledger or record book; therefore, the technology can be used to securely store data in decentralized blocks.
Dialogue: 0,0:05:06.48,0:05:11.12,block09,NTP,0,0,0,!Effect,[…]blockchain is the\Ntech supporting Bitcoin- a currency attempting its own form of financial disruption.

Dialogue: 0,0:05:11.12,0:05:17.80,block09,NTP,0,0,0,!Effect,[…]blockchain is the\Ntechnology behind bitcoin, a distributed and tamper-proof database which could be leveraged in many other applications.
Dialogue: 0,0:05:17.80,0:05:24.76,block09,NTP,0,0,0,!Effect,[…]blockchain is the\Nplatform on which cryptocurrency is built, helping facilitate and enforce the transfer and record keeping of the currencies.
Dialogue: 0,0:05:24.76,0:05:31.80,block09,NTP,0,0,0,!Effect,[…]blockchain is the\Ntechnology backbone of the network and provides a tamper-proof data structure, providing a shared public ledger open to all.
Dialogue: 0,0:05:31.80,0:05:38.84,block09,NTP,0,0,0,!Effect,[…]blockchain is the\Ndigital global ledger that not only records cryptocurrency transactions, but also provides a home for documents of all sorts.
Dialogue: 0,0:05:38.84,0:05:42.84,block09,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nsimply too slow and that it is a shortcoming that cannot be overcome.
Dialogue: 0,0:05:42.84,0:05:47.32,block09,NTP,0,0,0,!Effect,[…]Blockchain technology is\Na way to transfer any kind of information in a fast, tracked, and secure way.
Dialogue: 0,0:05:47.32,0:05:52.20,block09,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nnot patch-based, making it more secure than many of today's cybersecurity initiatives,
Dialogue: 0,0:05:52.20,0:05:57.16,block09,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nused in a peer-to-peer network of parties, who all participate in a given transaction.
Dialogue: 0,0:05:57.16,0:06:02.44,block09,NTP,0,0,0,!Effect,[…]Blockchain technology is\None of the foundational concepts in the bitcoin system (and most other cryptocurrency systems)
Dialogue: 0,0:06:02.44,0:06:08.00,block09,NTP,0,0,0,!Effect,[…]Blockchain technology is\Nthe essence of Bitcoin and the fundamental innovation with which many processes can be overhauled.
Dialogue: 0,0:06:08.00,0:06:12.08,block09,NTP,0,0,0,!Effect,[…]a Blockchain is\Nsimilar to a type of database, electronic ledger or transaction history.
Dialogue: 0,0:06:12.08,0:06:17.92,block09,NTP,0,0,0,!Effect,[…]a Blockchain is\Nprogrammed so that when a new block is accepted, it automatically releases cryptocurrency to the miner.
Dialogue: 0,0:06:17.92,0:06:23.96,block09,NTP,0,0,0,!Effect,[…]a Blockchain is\Nlike a mathematical formula, like the quadratic equation or the formula to change Fahrenheit to Centigrade.
Dialogue: 0,0:06:23.96,0:06:30.12,block09,NTP,0,0,0,!Effect,[…]a blockchain is\Nin its essence, a decentralized and more secure database and there are multiple forms of its implementations.
Dialogue: 0,0:06:30.12,0:06:36.80,block09,NTP,0,0,0,!Effect,[…]a Blockchain is\Nlike an application server: it hosts business logic and ensures it runs at the right time and for the right reasons.
Dialogue: 0,0:06:36.80,0:06:44.12,block09,NTP,0,0,0,!Effect,[…]a Blockchain is\Njust another type of database for recording transactions – one that is copied to all of the computers in a participating network
Dialogue: 0,0:06:44.12,0:06:51.52,block09,NTP,0,0,0,!Effect,[…]a Blockchain is\Nsupposed to be set up so that entries are only posted by authorized users and that, once posted, they're verified to be correct.
Dialogue: 0,0:06:51.52,0:06:55.52,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nlinked list of blocks and a block is a group of ordered transactions.
Dialogue: 0,0:06:55.52,0:06:59.68,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nkind of ledger, a table that businesses use to track credits and debits.
Dialogue: 0,0:06:59.68,0:07:03.80,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nsequence of blocks, but distributed ledgers do not require such a chain.
Dialogue: 0,0:07:03.80,0:07:07.92,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndigitized, decentralized, public ledger of all cryptocurrency transactions.
Dialogue: 0,0:07:07.92,0:07:12.28,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndistributed database of transactions with safeguards against malicious attacks.
Dialogue: 0,0:07:12.28,0:07:16.84,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nglobal online database which anyone anywhere with an internet connection can use.
Dialogue: 0,0:07:16.84,0:07:21.48,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndistributed database that maintains an ever-growing list of records called blocks.
Dialogue: 0,0:07:21.48,0:07:26.40,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ntruly distributed, peer-to-peer database that does not require a central administrator.
Dialogue: 0,0:07:26.40,0:07:31.44,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nprotocol that describes how transactions are defined, connected, transmitted and collected.
Dialogue: 0,0:07:31.44,0:07:36.60,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndecentralized, incorruptible digital ledger that can be programmed to record nearly anything.
Dialogue: 0,0:07:36.60,0:07:42.24,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ncontinuously growing list of records, called blocks, which are linked and secured using cryptography.
Dialogue: 0,0:07:42.24,0:07:47.88,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nneutral, transparent and unalterable database living in multiple locations and shared by a community.
Dialogue: 0,0:07:47.88,0:07:53.72,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndigital ledger, secured by cryptography so powerful that tampering with it is dismissed as "impossible".

Dialogue: 0,0:07:53.72,0:07:59.96,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Ndistributed open ledger that can record transactions between parties quickly in a verifiable and permanent way.
Dialogue: 0,0:07:59.96,0:08:06.44,block09,NTP,0,0,0,!Effect,[…]a blockchain is a\Nkind of independent, transparent, and permanent database coexisting in multiple locations and shared by a community.
Dialogue: 0,0:08:06.44,0:08:12.52,block09,NTP,0,0,0,!Effect,[…]a blockchain is an\Nencrypted and immutable linked list, meaning that it is very difficult to insert or delete blocks from it.
Dialogue: 0,0:08:12.52,0:08:19.08,block09,NTP,0,0,0,!Effect,[…]a blockchain is an\Nimmutable digital public ledger that is a continuously growing distributed database that is cryptographically secured.
Dialogue: 0,0:08:19.08,0:08:25.88,block09,NTP,0,0,0,!Effect,[…]a blockchain is an\Nopen database maintained by a network of independent participants who get paid in cryptocurrency (tokens) for their work.
Dialogue: 0,0:08:25.88,0:08:30.72,block09,NTP,0,0,0,!Effect,[…]the blockchain is the\Nframework facilitating transaction processing and coordination among interacting devices.
Dialogue: 0,0:08:30.72,0:08:36.00,block09,NTP,0,0,0,!Effect,[…]the blockchain is the\Nonly place that bitcoins can be said to exist in the form of unspent outputs of transactions.
Dialogue: 0,0:08:36.00,0:08:41.60,block09,NTP,0,0,0,!Effect,[…]the blockchain is the\Nfoundation upon which applications, such a cryptocurrencies (like Bitcoin) and platforms can be built.
Dialogue: 0,0:08:41.60,0:08:47.20,block09,NTP,0,0,0,!Effect,[…]the blockchain is the\Nmechanism which keeps everyone on the same page and prevents accounting errors, accidental or deliberate.
Dialogue: 0,0:08:47.20,0:08:53.20,block09,NTP,0,0,0,!Effect,[…]the blockchain is the\Nshared data layer and the bitcoin protocol is a decentralized protocol that's part of the shared protocol Layer.
Dialogue: 0,0:08:53.20,0:09:00.00,block09,NTP,0,0,0,!Effect,[…]the blockchain is the\Nbackbone of newer distribution technologies, and an "auditable record of actions" will follow that information wherever it goes.
Dialogue: 0,0:00:00.00,0:00:08.08,block10,NTP,0,0,0,!Effect,Blockchain is\Ndesigned to store information in a way that makes it virtually impossible to add, remove or change data without being detected by other users.
Dialogue: 0,0:00:08.08,0:00:16.24,block10,NTP,0,0,0,!Effect,Blockchain is\Nessentially a global public ledger capable of automatically recording and verifying a high volume of digital transactions, regardless of location.
Dialogue: 0,0:00:16.24,0:00:24.56,block10,NTP,0,0,0,!Effect,Blockchain is\Nessentially a large immutable database which, due to its security features and decentralized nature, can pose a threat to traditional intermediaries.
Dialogue: 0,0:00:24.56,0:00:33.04,block10,NTP,0,0,0,!Effect,Blockchain is\Nperhaps best understood as a decentralized ledger that can diminish costs by removing intermediaries such as banks and effectively decentralizing trust.
Dialogue: 0,0:00:33.04,0:00:41.80,block10,NTP,0,0,0,!Effect,Blockchain is\Njust a digital ledger, a digitized record of whatever data is added by its members, with no ability to verify the accuracy of the underlying data itself.
Dialogue: 0,0:00:41.80,0:00:50.20,block10,NTP,0,0,0,!Effect,Blockchain is\Nnot a distributed database replacement: blockchain complements distributed database technology, with appropriate information partitioning between the two.
Dialogue: 0,0:00:50.20,0:00:59.40,block10,NTP,0,0,0,!Effect,Blockchain is\Nin effect a single federated ledger that everybody who uses and touches that engine could use it as a single point of truth of what has happened to the engine,
Dialogue: 0,0:00:59.40,0:01:08.40,block10,NTP,0,0,0,!Effect,Blockchain is\Ndistributed, decentralised database technology that maintains a growing list of transactions and, through encryption and other activity, verifies their permanence,
Dialogue: 0,0:01:08.40,0:01:17.92,block10,NTP,0,0,0,!Effect,Blockchain is\Nencrypted: it uses heavy-duty encryption involving public and private keys (rather like the two-key system to access a safety deposit box) to maintain virtual security.
Dialogue: 0,0:01:17.92,0:01:27.84,block10,NTP,0,0,0,!Effect,Blockchain is\Nsignificantly worse then a bank and there will be significantt destruction caused by the ignorant who push it and their irrational fear of the effective and progressive Banks.
Dialogue: 0,0:01:27.84,0:01:37.84,block10,NTP,0,0,0,!Effect,Blockchain is\Nbeing used to help track, in real time, millions of shipping containers across the world by providing a trusted, tamper-proof, cross-border system for digitized trade documents.
Dialogue: 0,0:01:37.84,0:01:48.24,block10,NTP,0,0,0,!Effect,Blockchain is\Nwithout a doubt one of the most-hyped technologies this year with people working in the industry seeing it as a silver bullet solution to many processes, which indeed it may not be.
Dialogue: 0,0:01:48.24,0:01:58.72,block10,NTP,0,0,0,!Effect,Blockchain is\Nchallenging the current status quo of innovation by letting companies experiment with groundbreaking technology like p2p energy distribution or decentralized forms for news media.

Dialogue: 0,0:01:58.72,0:02:09.56,block10,NTP,0,0,0,!Effect,Blockchain is\Nbest known as the technology behind the cryptocurrency bitcoin -- a digital currency whose value soared above $19,000 over the last year before slumping to half that when the frenzy subsided.
Dialogue: 0,0:02:09.56,0:02:20.52,block10,NTP,0,0,0,!Effect,Blockchain is\Nnow a familiar term to many, though in most cases, its meaning will be inextricably linked to bitcoin after a 10-fold price surge in 2017 valued this cryptocurrency at more than $180 billion.
Dialogue: 0,0:02:20.52,0:02:31.36,block10,NTP,0,0,0,!Effect,Blockchain is\Nhere and now, and it will continue to gain traction as it provides transparency to the supply chain–especially in complex supply chain industries, such as the automotive and retail industries.
Dialogue: 0,0:02:31.36,0:02:42.44,block10,NTP,0,0,0,!Effect,Blockchain is\Neither a word you have heard of, and ignored, because you are intimidated by technology and have no idea how it applies to your life OR it is something with which you are completely fascinated.
Dialogue: 0,0:02:42.44,0:02:53.48,block10,NTP,0,0,0,!Effect,Blockchain is\Nhere and now, and it will continue to gain traction as it provides transparency to the supply chain – especially in complex supply chain industries, such as the automotive and retail industries.
Dialogue: 0,0:02:53.48,0:03:04.28,block10,NTP,0,0,0,!Effect,Blockchain is\None innovation whose architectural properties increasingly provide essential foundations to the digital landscape where there is an appetite to define greater levels of autonomy and attribution.
Dialogue: 0,0:03:04.28,0:03:11.84,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndigital ledger of transactions that can be programmed to\Nrecord not just cryptocurrency transactions\Nbut virtually everything of value.
Dialogue: 0,0:03:11.84,0:03:19.48,block10,NTP,0,0,0,!Effect,Blockchain is a\Nledger can be written onto with new information, but the previous information, stored in blocks, cannot be edited, adjusted or changed.
Dialogue: 0,0:03:19.48,0:03:27.08,block10,NTP,0,0,0,!Effect,Blockchain is a\Nledger of records structured into blocks of data, which are connected using secure cryptographic validation to form a continuous chain.
Dialogue: 0,0:03:27.08,0:03:34.72,block10,NTP,0,0,0,!Effect,Blockchain is a\Nnew class of information technology that combines cryptography with distributed computing both of which existed for a number of decades.
Dialogue: 0,0:03:34.72,0:03:42.44,block10,NTP,0,0,0,!Effect,Blockchain is a\Nsimple digital platform for recording and verifying transactions so that other people can't erase them later -- and anyone can see them.
Dialogue: 0,0:03:42.44,0:03:49.96,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger technology that provides consensus, provenance, finality, and immutabilty of business transactions and digital assets.
Dialogue: 0,0:03:49.96,0:03:57.92,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger – multiple copies of the same information – in a decentralized manner – with multiple locations and a copy of that list.
Dialogue: 0,0:03:57.92,0:04:05.64,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger of transactions-like financial invoices, work orders, and delivery records-maintained by interested parties in a network.
Dialogue: 0,0:04:05.64,0:04:13.48,block10,NTP,0,0,0,!Effect,Blockchain is a\Nsecure platform, ledger, or database where buyers and sellers could store and exchange value without the need for traditional intermediaries
Dialogue: 0,0:04:13.48,0:04:21.60,block10,NTP,0,0,0,!Effect,Blockchain is a\Npublic register in which transactions between multiple users belonging to the same network are stored in a secure, verifiable and permanent way.
Dialogue: 0,0:04:21.60,0:04:29.80,block10,NTP,0,0,0,!Effect,Blockchain is a\Nshared, public ledger of records or transactions that is open to inspection by every participant but not subject to any form of central control.
Dialogue: 0,0:04:29.80,0:04:37.84,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized record and it is changeless, straightforward and effortlessly auditable that empower clients to have control over their information
Dialogue: 0,0:04:37.84,0:04:45.84,block10,NTP,0,0,0,!Effect,Blockchain is a\Nmathematically ensured cyber security technology for rapid and immutable identification of modifications in digital data and intelligent devices.
Dialogue: 0,0:04:45.84,0:04:54.16,block10,NTP,0,0,0,!Effect,Blockchain is a\Nnew way of storing data in a distributed ledger that allows multiple stakeholders to confidently and securely share access to the same information.
Dialogue: 0,0:04:54.16,0:05:02.68,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized, peer to peer, immutable storage network which is censor free and regulator free because of the absence of one single controlling entity.

Dialogue: 0,0:05:02.68,0:05:11.52,block10,NTP,0,0,0,!Effect,Blockchain is a\Nvast, globally distributed ledger where anyone, anywhere can move, store and manage any kind of asset, from money and securities to intellectual property and votes
Dialogue: 0,0:05:11.52,0:05:20.92,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed ledger, which simply means that a ledger is spread across the network among all peers in the network, and each peer holds a copy of the complete ledger.
Dialogue: 0,0:05:20.92,0:05:30.28,block10,NTP,0,0,0,!Effect,Blockchain is a\Ntype of distributed ledger that can be used to create an authoritative record of events, which in turn can be used to provide trust within an untrusted environment.
Dialogue: 0,0:05:30.28,0:05:39.56,block10,NTP,0,0,0,!Effect,Blockchain is a\Nversatile technology that can record financial transactions, store medical records, or even track the flow of goods, information, and payments through a supply chain.
Dialogue: 0,0:05:39.56,0:05:48.96,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized, peer-to-peer network that provides insurers and stakeholders a way of “producing, storing, managing and sharing data as a secure record of transactions,
Dialogue: 0,0:05:48.96,0:05:58.28,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed deployment and real-time synchronization system, allows participants from different parties to create and maintain the data through mechanism for consensus.
Dialogue: 0,0:05:58.28,0:06:07.76,block10,NTP,0,0,0,!Effect,Blockchain is a\Ntransparent ledger that provides proof of ownership and allows for the efficient exchange of ownership in a way that is historically unprecedented in terms of security.
Dialogue: 0,0:06:07.76,0:06:17.24,block10,NTP,0,0,0,!Effect,Blockchain is a\Nstandard global platform allows multiple participants to connect at the same time and records all digital objects, users, and their relative operations on this platform.
Dialogue: 0,0:06:17.24,0:06:27.24,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndigital ledger that provides a secure way of making and recording transactions, agreements and contracts – anything that needs to be recorded and verified as having taken place.
Dialogue: 0,0:06:27.24,0:06:37.16,block10,NTP,0,0,0,!Effect,Blockchain is a\Nstorage mechanism for information, most often associated with cryptocurrency like bitcoin, but you can use it for any information, from financial transactions to medical records.
Dialogue: 0,0:06:37.16,0:06:47.20,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndisruptive technology that is not limited to any particular field, and it has a wide range of applications including finance, logistics, medicine and intellectual property rights.
Dialogue: 0,0:06:47.20,0:06:57.40,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndecentralized electronic, encrypted ledger or database platform -- in other words, a way to immutably store digital data so that it can be securely shared across networks and users.
Dialogue: 0,0:06:57.40,0:07:07.60,block10,NTP,0,0,0,!Effect,Blockchain is a\Ntype of data structure that enables identifying and tracking transactions digitally and sharing this information across a distributed network of computers, creating a trusted network.
Dialogue: 0,0:07:07.60,0:07:18.04,block10,NTP,0,0,0,!Effect,Blockchain is a\Nunique record storage technology which allows contributors to directly enter information into the chain before it is locked in by other computers who are also contributing to the chain.
Dialogue: 0,0:07:18.04,0:07:28.60,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndistributed, secure ledger (database) that uses cryptography over a peer-to-peer network technology to group transactions into BLOCKS and store them in a tamper-evident, interlinked CHAIN.
Dialogue: 0,0:07:28.60,0:07:39.80,block10,NTP,0,0,0,!Effect,Blockchain is a\Ndisruptive technology in a sense that it can be used to store any value information like money, goods, property, work, or even votes without the need of a central authority to verify or prove it.
Dialogue: 0,0:07:39.80,0:07:47.48,block10,NTP,0,0,0,!Effect,Blockchain is an\Nopen source value transfer protocol that runs on a distributed peer to peer network and secures transaction records through cryptography.
Dialogue: 0,0:07:47.48,0:07:55.76,block10,NTP,0,0,0,!Effect,Blockchain is an\Nimmutable and cryptographically secure archive of records stored on a distributed ledger, which uses smart contracts built on the Ethereum platform.
Dialogue: 0,0:07:55.76,0:08:04.36,block10,NTP,0,0,0,!Effect,Blockchain is an\Nincorruptible real-time ledger of economics that can be encoded to record not just the history of financial transactions but nearly everything of value.
Dialogue: 0,0:08:04.36,0:08:12.36,block10,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that underpins cryptocurrencies like bitcoin; it’s essentially a massive Excel sheet that operates in a decentralized network format.

Dialogue: 0,0:08:12.36,0:08:21.40,block10,NTP,0,0,0,!Effect,Blockchain is the\Ningeniously simple, revolutionary protocol that allows transactions to be simultaneously anonymous and secure by maintaining a tamperproof public ledger of value.
Dialogue: 0,0:08:21.40,0:08:30.76,block10,NTP,0,0,0,!Effect,Blockchain is the\Ndistributed ledger technology underlying bitcoin that uses software algorithms to record transactions or any digital interaction with reliability, security and anonymity.
Dialogue: 0,0:08:30.76,0:08:41.16,block10,NTP,0,0,0,!Effect,Blockchain is the\Ntechnology that supports the use of vast distributed ledgers to record any transaction and track the movement of any asset, whether tangible, intangible, or digital and open to anyone.
Dialogue: 0,0:08:41.16,0:08:51.20,block10,NTP,0,0,0,!Effect,Blockchain technology is\Ndesigned to store pieces of information inside blocks, not as a killer apps but as a layer to empower trustless features that really matter and create values in this ecosystem.
Dialogue: 0,0:08:51.20,0:09:00.00,block10,NTP,0,0,0,!Effect,A blockchain is an\Nalternative to classical financial ledgers by providing a new way to create, exchange, and track information pertaining to the ownership of financial assets.
Dialogue: 0,0:00:00.00,0:00:04.24,block11,NTP,0,0,0,!Effect,A blockchain is\Nusually managed by a second-layer network of peer-to-peer computing nodes.
Dialogue: 0,0:00:04.24,0:00:08.68,block11,NTP,0,0,0,!Effect,A blockchain is\Nwhat allows Bitcoin and hundreds of other cryptocurrencies to record transfers.
Dialogue: 0,0:00:08.68,0:00:13.28,block11,NTP,0,0,0,!Effect,A blockchain is\Nfor making sure that you have a reliable and immutable audit trail of something.
Dialogue: 0,0:00:13.28,0:00:18.40,block11,NTP,0,0,0,!Effect,A blockchain is\Ntransparent and the data is available to anyone who has software that needs to access it.
Dialogue: 0,0:00:18.40,0:00:23.72,block11,NTP,0,0,0,!Effect,A blockchain is\Nlike a place where you store any data semi-publicly in a linear container space (the block).
Dialogue: 0,0:00:23.72,0:00:29.24,block11,NTP,0,0,0,!Effect,A blockchain is\Ndecentralized, so no single authority has the discretion to approve the transactions or set rules.
Dialogue: 0,0:00:29.24,0:00:35.28,block11,NTP,0,0,0,!Effect,A blockchain is\Ndesigned to be immutable; once a piece of information goes in there, you can depend on it never changing.
Dialogue: 0,0:00:35.28,0:00:41.40,block11,NTP,0,0,0,!Effect,A blockchain is\Nactually a database because it is a digital ledger that stores information in data structures called blocks.
Dialogue: 0,0:00:41.40,0:00:48.00,block11,NTP,0,0,0,!Effect,A blockchain is\Nsimilar to this: it can have numerous connected nodes, but remain totally separate and unique from other blockchains.
Dialogue: 0,0:00:48.00,0:00:54.64,block11,NTP,0,0,0,!Effect,A blockchain is\Nmade up of individual blocks of data involving a series of related transactions, linked together in consecutive order.
Dialogue: 0,0:00:54.64,0:01:01.40,block11,NTP,0,0,0,!Effect,A blockchain is\Nessentially a ledger that has records (like the details of a digital money transaction) locked in groups called blocks.
Dialogue: 0,0:01:01.40,0:01:08.08,block11,NTP,0,0,0,!Effect,A blockchain is\Ndistributed ledger technology that digitally and chronlogically records transactions that take place between two parties.
Dialogue: 0,0:01:08.08,0:01:14.96,block11,NTP,0,0,0,!Effect,A blockchain is\Nimplemented via software, and there are various software projects that have been written to create and manage blockchains.
Dialogue: 0,0:01:14.96,0:01:22.48,block11,NTP,0,0,0,!Effect,A blockchain is\Nhighly fault tolerant since if one or more nodes are down, there will always be other nodes available that will run the blockchain.
Dialogue: 0,0:01:22.48,0:01:29.96,block11,NTP,0,0,0,!Effect,A blockchain is\Ndecentralized, so there is no single authority that can approve the transactions or set specific rules to have transactions accepted.
Dialogue: 0,0:01:29.96,0:01:33.84,block11,NTP,0,0,0,!Effect,A blockchain is a\Npublic cloud and also a transparent and tamper-proof digital ledger.
Dialogue: 0,0:01:33.84,0:01:37.84,block11,NTP,0,0,0,!Effect,A blockchain is a\Nshared, encrypted set of records maintained by a network of computers.
Dialogue: 0,0:01:37.84,0:01:41.88,block11,NTP,0,0,0,!Effect,A blockchain is a\Nglobal online database that anyone with an internet connection can use.
Dialogue: 0,0:01:41.88,0:01:45.84,block11,NTP,0,0,0,!Effect,A blockchain is a\Ntype of diary or spreadsheet containing information about transactions.
Dialogue: 0,0:01:45.84,0:01:50.04,block11,NTP,0,0,0,!Effect,A blockchain is a\Ncontinuously growing list of records that are linked together in sequence.
Dialogue: 0,0:01:50.04,0:01:54.28,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndigital ledger of records that’s arranged in chunks of data called blocks.
Dialogue: 0,0:01:54.28,0:01:58.68,block11,NTP,0,0,0,!Effect,A blockchain is a\Nkind of "public ledger," a transparent record of transactions between parties.
Dialogue: 0,0:01:58.68,0:02:03.04,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndigital ledger that is distributed, decentralised, verifiable and irreversible.

Dialogue: 0,0:02:03.04,0:02:07.48,block11,NTP,0,0,0,!Effect,A blockchain is a\Nprotocol and ledger for building an immutable historical record of transactions
Dialogue: 0,0:02:07.48,0:02:12.20,block11,NTP,0,0,0,!Effect,A blockchain is a\Npublic ledger of all transactions that have ever been executed within an ecosystem.
Dialogue: 0,0:02:12.20,0:02:16.92,block11,NTP,0,0,0,!Effect,A blockchain is a\Nsequence of records, shared among a network, that are both accessible and immutable
Dialogue: 0,0:02:16.92,0:02:21.64,block11,NTP,0,0,0,!Effect,A blockchain is a\Nsecure distributed immutable database shared by all parties in a distributed network
Dialogue: 0,0:02:21.64,0:02:26.72,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndata structure made up of blocks of data, and they are linked together; hence the chain.
Dialogue: 0,0:02:26.72,0:02:31.56,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndecentralized, distributed, public ledger of transactional data secured by cryptography.
Dialogue: 0,0:02:31.56,0:02:36.40,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database platform utilizing chronologically linked segments known as blocks.
Dialogue: 0,0:02:36.40,0:02:41.44,block11,NTP,0,0,0,!Effect,A blockchain is a\Nledger of facts, replicated across several computers assembled in a peer-to-peer network.
Dialogue: 0,0:02:41.44,0:02:46.56,block11,NTP,0,0,0,!Effect,A blockchain is a\Npublic ledger of information collected through a network that sits on top of the internet.
Dialogue: 0,0:02:46.56,0:02:51.68,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndigital ledger designed to keep an accessible, verifiable, distributed record of data sets.
Dialogue: 0,0:02:51.68,0:02:56.84,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed, decentralized ledger that lets information be viewed but not copied or altered.
Dialogue: 0,0:02:56.84,0:03:02.12,block11,NTP,0,0,0,!Effect,A blockchain is a\Nappend-only database (where past records after confirmations cannot be altered in the future).
Dialogue: 0,0:03:02.12,0:03:07.64,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed ledger database that uses a cryptographic network to provide a single source of truth.
Dialogue: 0,0:03:07.64,0:03:13.32,block11,NTP,0,0,0,!Effect,A blockchain is a\Nrecords holder, a place where all data entered is kept safe and sound for you to read and analyse.
Dialogue: 0,0:03:13.32,0:03:19.00,block11,NTP,0,0,0,!Effect,A blockchain is a\Nnetwork of computers that stores transactional data in replica across every PC (node) in the system.
Dialogue: 0,0:03:19.00,0:03:24.72,block11,NTP,0,0,0,!Effect,A blockchain is a\Nsystem of computers, in which information is stored and shared among all participants of the network.
Dialogue: 0,0:03:24.72,0:03:30.80,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database that keeps a continuously-growing list of records protected from revision and tampering.
Dialogue: 0,0:03:30.80,0:03:36.96,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndigital, decentralized ledger that keeps a history of all transactions that occur on the blockchain’s network.
Dialogue: 0,0:03:36.96,0:03:42.96,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database maintaining a constantly-growing list of data records secured from tampering and revision.
Dialogue: 0,0:03:42.96,0:03:48.96,block11,NTP,0,0,0,!Effect,A blockchain is a\Nledger of lists or blocks of data transactions that constantly grows as new transactions or data sets are added.
Dialogue: 0,0:03:48.96,0:03:55.52,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database, meaning that the storage devices for the database are not all connected to a common processor.
Dialogue: 0,0:03:55.52,0:04:02.12,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndecentralized ledger of sorts; code which doesn’t live on any single computer but rather is distributed across nodes.
Dialogue: 0,0:04:02.12,0:04:08.80,block11,NTP,0,0,0,!Effect,A blockchain is a\Nledger of records arranged in data batches called blocks that use cryptographic validation to link themselves together.
Dialogue: 0,0:04:08.80,0:04:15.56,block11,NTP,0,0,0,!Effect,A blockchain is a\Nshared, distributed ledger - really a new type of database structure - that runs without a single centralized operator.
Dialogue: 0,0:04:15.56,0:04:22.32,block11,NTP,0,0,0,!Effect,A blockchain is a\Ncryptographic, or encoded, ledger comprising of a digital log of transactions shared across a public or private network.
Dialogue: 0,0:04:22.32,0:04:29.00,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed database that maintains a continuously growing list of data records hardened against tampering and revision,
Dialogue: 0,0:04:29.00,0:04:35.76,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed ledger that maintains a continuously growing list of data records on decentralized servers, working as nodes.
Dialogue: 0,0:04:35.76,0:04:42.56,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndistributed ledger technology secured by cryptography, used to maintain a continuously growing list of records, called blocks.
Dialogue: 0,0:04:42.56,0:04:49.16,block11,NTP,0,0,0,!Effect,A blockchain is a\Ndatabase run by software that bundles information, protects it using cryptography, and stores it on the computers of participants.
Dialogue: 0,0:04:49.16,0:04:56.16,block11,NTP,0,0,0,!Effect,A blockchain is a\Npeer-to-peer distributed ledger forged by consensus, combined with a system for “smart contracts” and other assistive technologies.

Dialogue: 0,0:04:56.16,0:05:00.08,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Ndistributed across many computers and transparent for everyone to see.
Dialogue: 0,0:05:00.08,0:05:04.16,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nprogrammed to follow a model of democratic governance, aka the majority.
Dialogue: 0,0:05:04.16,0:05:08.32,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Ncapable of securely storing self-identifying data that knows who owns it.
Dialogue: 0,0:05:08.32,0:05:12.84,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nblocks of data cleverly chained together and distributed across lots of servers.
Dialogue: 0,0:05:12.84,0:05:17.72,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nactually a way to structure data, and the foundation of cryptocurrencies like Bitcoin.
Dialogue: 0,0:05:17.72,0:05:22.72,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Njust one type of public, permissionless, proof-of-work, peer-to-peer distributed ledger.
Dialogue: 0,0:05:22.72,0:05:28.20,block11,NTP,0,0,0,!Effect,[…]the blockchain is\N“a technology that allows people who don’t know each other to trust a shared record of events”.
Dialogue: 0,0:05:28.20,0:05:33.64,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Ndistributed as the ledger itself that is shared with everyone using the same blockchain network.
Dialogue: 0,0:05:33.64,0:05:39.56,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nstored locally on the computer hard drive of every user running a full version of the Bitcoin software.
Dialogue: 0,0:05:39.56,0:05:45.56,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nnothing more than a long string of transactions, each of which refers to an earlier record in the chain.
Dialogue: 0,0:05:45.56,0:05:51.56,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nvalidated across the distributed network, before including the transaction as the next block on the chain.
Dialogue: 0,0:05:51.56,0:05:57.68,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nthe mechanism which keeps everyone on the same page and prevents accounting errors, accidental or deliberate.
Dialogue: 0,0:05:57.68,0:06:04.16,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nmaintained by the participants collectively and potentially enabling third-party delegates, participants or providers.
Dialogue: 0,0:06:04.16,0:06:11.04,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nremarkably durable, stored digitally on the local computers of all users operating a full version of the Bitcoin software;
Dialogue: 0,0:06:11.04,0:06:18.08,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nstored in a decentralized manner and secured so that no-one can modify transactions after they are added to the blockchain.
Dialogue: 0,0:06:18.08,0:06:25.08,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nwhere all transaction data is stored, what wallets check to confirm ownership of bitcoin, and is how new bitcoins are created.
Dialogue: 0,0:06:25.08,0:06:32.48,block11,NTP,0,0,0,!Effect,[…]the blockchain is\Nfully transparent and available to all-but only the miners that are the first to process an individual transaction are compensated.
Dialogue: 0,0:06:32.48,0:06:36.28,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nconstantly updated public ledger of\Ntransactions in a given system.
Dialogue: 0,0:06:36.28,0:06:40.20,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nledger that stores data that has been verified as true and accurate.
Dialogue: 0,0:06:40.20,0:06:44.00,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Npublic immutable and decentralized global ledger powered by Bitcoin.
Dialogue: 0,0:06:44.00,0:06:48.04,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndecentralized ledger of all transactions across a peer-to-peer network.
Dialogue: 0,0:06:48.04,0:06:52.12,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nlog of all transactions that were ever verified on the Bitcoin network.
Dialogue: 0,0:06:52.12,0:06:56.36,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nglobal system of checks and balances that creates trust among all parties.
Dialogue: 0,0:06:56.36,0:07:00.64,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Ntransparent record of all transactions between users on the Bitcoin Network.
Dialogue: 0,0:07:00.64,0:07:05.64,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nway for everyone in a cryptocurrency network to store the current state of the network.
Dialogue: 0,0:07:05.64,0:07:10.68,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndecentralized ledger, that is, a list of all transactions across a peer-to-peer network.
Dialogue: 0,0:07:10.68,0:07:15.76,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndistributed database, where every unit of transaction contains its own transaction history.
Dialogue: 0,0:07:15.76,0:07:20.84,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nshared virtual public ledger where encrypted transactions are confirmed by outside parties.
Dialogue: 0,0:07:20.84,0:07:26.20,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndistributed ledger representing a network consensus of every transaction that has ever occurred.
Dialogue: 0,0:07:26.20,0:07:32.16,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Ndistributed ledger, shared by untrusted participants, with strong guarantees about accuracy and consistency.

Dialogue: 0,0:07:32.16,0:07:39.16,block11,NTP,0,0,0,!Effect,[…]the blockchain is a\Nplatform technology that benefits from efficiently linking a large number of participants and users and offering easy access.
Dialogue: 0,0:07:39.16,0:07:43.88,block11,NTP,0,0,0,!Effect,[…]the blockchain is an\Nanonymous peer-to-peer payment system that relies on secure cryptographic protocols.
Dialogue: 0,0:07:43.88,0:07:48.80,block11,NTP,0,0,0,!Effect,[…]the blockchain is an\Nopen, global infrastructure upon which other technologies and applications can be built.
Dialogue: 0,0:07:48.80,0:07:55.88,block11,NTP,0,0,0,!Effect,[…]the blockchain technology is\Nfundamentally an open distributed network, and efforts to create private Blockchains should not even be considered Blockchains.
Dialogue: 0,0:07:55.88,0:07:59.72,block11,NTP,0,0,0,!Effect,[…]the blockchain technology is a\Npublic ledger that records all transactions that have ever occurred.
Dialogue: 0,0:07:59.72,0:08:03.56,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nhope-a legitimate hope-for the very real struggles in Latin America.
Dialogue: 0,0:08:03.56,0:08:08.20,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Ntechnology and highly technical to grasp but there is more to it than just that.
Dialogue: 0,0:08:08.20,0:08:12.92,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nbubble, on par with the dotcom bubble that occurred at the turn of the millennium.
Dialogue: 0,0:08:12.92,0:08:17.80,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nbreakthrough technology that is expected to alter most industries in the coming years.
Dialogue: 0,0:08:17.80,0:08:23.44,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nmuch better solution to storing and exchanging digital value than anything that has come before it.
Dialogue: 0,0:08:23.44,0:08:29.12,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nfoundational technology, with the potential to create new foundations for economic and social systems,
Dialogue: 0,0:08:29.12,0:08:35.24,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Ntechnology that is worth getting to know, as it may very well spark a revolution across various industries.
Dialogue: 0,0:08:35.24,0:08:41.68,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nrelatively new tool that will undoubtedly see the development of guidelines and guardrails from federal regulators.
Dialogue: 0,0:08:41.68,0:08:48.48,block11,NTP,0,0,0,!Effect,[…]blockchain is a\Nnetwork business, just like the telephone: the more participants in a network, the greater its potential usefulness to each member.
Dialogue: 0,0:08:48.48,0:08:53.80,block11,NTP,0,0,0,!Effect,The blockchain is the\Nlatest in a series of technologies to make headline news and turn heads at its mere mention.
Dialogue: 0,0:08:53.80,0:09:00.00,block11,NTP,0,0,0,!Effect,The blockchain is the\Ntechnology and the system that could enable the global-scale coordination of seven billion intelligent agents.

free/libre content

blockchain will…

blockchain is… and *blockchain will...* are two distinct collaborative works by peers at httpdot.net. they are built on a concept for a body of work called *blockchain is*, which is in continuous translation and manifesting in various forms.

blockchain will... is a two-channel sound installation of spoken sentences starting with or including the phrases “blockchain will”, “the blockchain will”, “blockchain is going to” and “blockchain technology will”, which are aggregated from all results supplied by three web search services for these search queries at a time for an anonymous web user. these web pages are downloaded and parsed to aggregate and organize the sentences spoken and recorded for the work.

the audio is edited as a fully panned stereo mix so that one sentence is spoken from only one channel and the next sentence is spoken only from the other channel. the duration of the silence between two sentences varies but average is approximately 20 seconds and 420 sentences are spoken in 171 minutes.

the work is constructed as a sound installation to be experienced in a non-dedicated space where sentences about the future and blockchain technology heard from opposite corners of the space one at a time with long gaps in-between should distract the agenda of the space.

downloads

listen online or download the work and source content in free file formats to build on and appropriate the work

audio file, preservation master
flac, lossless compressed, 48kHz, 16-bit, vbr379kbps, stereo, 171', 486MB
https://httpdot.net/peers/BlockchainIs/blockchainWill_StFLAC16bit48kHz.flac
flac is a free/libre lossless audio coding and compression format. also suitable for listening online, if your browser supports free file formats for html5 audio.

audio file, lossy compressed for online html5 browser playback
ogg vorbis, lossy compressed, 48kHz, vbr160kbps (q5), stereo, 171', 136MB
https://httpdot.net/peers/BlockchainIs/blockchainWill_StVorbisQ5Ogg.ogg
if your web browser does not support html5 audio element in flac or ogg free/libre file formats for listening online, consider switching to a free/libre software web browser

source text file, all the sentences used in the work, but in an arbitrary order.
txt file, utf8, lf, 125.4kB
https://httpdot.net/peers/BlockchainIs/blockchainWill-sourceText_txt-lf-utf8.txt
also available in this document under the section *source text - blockchainWill-sourceText_txt-lf-utf8.txt*

source text file, list of web pages used for aggregating the source texts for *blockchain is... and blockchain will*
txt file, utf8, lf, 26.8kB
https://httpdot.net/peers/BlockchainIs/BlockchainIs-BlockchainWill_sourceUrls_txt-lf_utf8.txt
also available in this document under the section *source urls - BlockchainIs-BlockchainWill_sourceUrls_txt-lf_utf8.txt*

source text
sentences used in the audio

all text used for the audio *blockchain will…*, in an arbitrary order

Blockchain Will Change Everything

the blockchain will set us free.

blockchain will be the end of poverty.

blockchain will solve climate change.

Blockchain will transform society.

blockchain will liberate lawyers

Blockchain will track how meat gets from Australian farms to Chinese tables

Blockchain Will Help to Explore Space

The blockchain is going to be the next thing.

Blockchain will Change Winnipeg

Blockchain will remain a solution looking for a problem

blockchain will save the universe

blockchain will revolutionize sports.

blockchain will change intellectual property

Blockchain will be the most overused and misunderstood term in 2018.

blockchain will have a huge impact on our future.

Blockchain Will Help Counter the Problem of Deforestation

Blockchain Will Disrupt Your Business

Blockchain Will Change the World

blockchain will radically change our lives

blockchain will no longer be a buzzword; it will be as ubiquitous as the internet.

Blockchain will change the way we shop

blockchain will influence open source

Blockchain Will Redefine Business

Blockchain Will Change Photography

Blockchain Will Make Advertising Better.

Blockchain will penetrate society more than the Internet.

Blockchain Will Stop Spam Calls In India;

blockchain will become 'obsolete'

Blockchain will protect us

Blockchain will influence your Business

blockchain will create winners and losers.

Blockchain Will Transform Business in 3 to 5 Years

Blockchain Will Save Our Salad

blockchain will disrupt the art market:

blockchain will make no difference.

Blockchain will move beyond cryptocurrency.

Blockchain Will Not Save The World

Blockchain will offer a solution by being able to store information about your artwork in its distributed ledger.

blockchain will soon transform every institution—in some ways more than the internet did.

the Blockchain Will Make the World a Better Place

Blockchain Will Be Ours!

blockchain will profoundly change how records are kept and transactions are processed.

the blockchain will transform housing markets

Blockchain Will Trump Populism

Blockchain will further establish a sense of democracy and equality through its disruptive power.

blockchain will fundamentally change our lives in future

Blockchain will usher in the era of decentralised computing blogs.

Blockchain will aid in the authorization and identification of people.

Blockchain will enable banks to preserve their investment in legacy systems

blockchain will be a significant technology for advancing productivity in business processes and business platforms

Blockchain Will Transform The Insurance Industry

blockchain will add value to your company.

Blockchain Will Kill Traditional Ecommerce

Blockchain Will Revolutionize Mortgages

blockchain will transform our cities

blockchain will smash hierarchies

Blockchain will secure the internet of things

Blockchain will transform the upcoming digital world and IT to the new levels.

the blockchain will reduce back office costs.

blockchain will move on to the Plateau of Productivity and become an established part of the industry.

Blockchain will change the way goverments are run

the Blockchain will be another network technology that changes everything.

Blockchain Will Change the Real Estate Industry Forever

The Blockchain will also make money laundering much more difficult.

Blockchain will continue to see “significant attention” in the US and Canada in particular.

the Blockchain will change gaming forever

blockchain will reshape the financial services industry

the Blockchain will reach into the very depths of our personal lives.

Blockchain Will Be An Engine For Inclusion

Blockchain will change the tourism industry

The Blockchain will allow all of us to vote with a click.

Blockchain will disrupt customer marketing like no other technology.

the Blockchain will guarantee that we are who we say we are.

blockchain will power the new energy network

the blockchain will radically alter our future

Blockchain Will Disrupt the Healthcare Industry

the blockchain will propel a services revolution

Blockchain Will Replace Traditional Payment Systems

Blockchain will impact relations between various actors in the tourism network.

blockchain technology will soon be an integral part of our lives.

Blockchain Will Fundamentally Change Corporate Finance

Blockchain will revolutionize the music industry

Blockchain will also end cash counterfeiting.

the blockchain will cut trade finance costs up to $20 billion.

blockchain will change the future of the freelancer industry

blockchain will cut the costs of financial intermediaries by $20 billion a year.

blockchain will arguably make voting much more secure than paper ballot voting.

Blockchain Will Transform the Asset Management Industry

Blockchain will be Adopted Within Five Years

Blockchain Will Transform the Agriculture Industry

Blockchain will do to banking what internet did to media

Blockchain Will Make the Biggest Difference in Developing Countries

blockchain will be the one greater differentiator.

Blockchain will Transform Digital Advertising, Media & Entertainment

Blockchain Will Be 10 Times More Valuable Than the Internet

Blockchain Will Bring Back Data Ownership to Consumers

Blockchain Will Drive the Need for Change

Blockchain will change the pharma industry

blockchain will be actively used within six years.

blockchain will decentralize healthcare

Blockchain will be able to boost global trade volumes by more than $1 trillion in 2026,

blockchain will transform the utilities industry

Blockchain Will Turn Your 20 Phone Apps Into One

blockchain will be tracking syndicate loans by the second quarter of 2016 at latest.

blockchain will serve as the basis for most of the world’s transactions and communications in the future.

Blockchain will also mature over a period.

Blockchain Will Change the Auto Industry

Blockchain will link payer, provider, patient data like never before

blockchain will have a significant influence on finance, and most of all, on the invoice.

Blockchain will make the supply chain, food distribution and energy more efficient

Blockchain Will Be Responsible

Blockchain Will Change Your Future Browser Experience

Blockchain will replace egaming in Gibraltar,

blockchain will impact the mobile gaming industry globally as well as what could be the next big junior investing wave in Canada after cannabis.

Blockchain Will Secure Our Digital Lives

blockchain will be the second generation of the internet.

blockchain will help brokers bypass traditional insurers

blockchain will transform our world

blockchain will build a completely new foundation of digital trust for organizations, transforming operations as well as business relationships.

blockchain will transform retail lending

Blockchain will Go Far Beyond its Origins to Create Industries of the Future

blockchain will help spot fake news

Blockchain will Disrupt Facilities Management in Australia

Blockchain Will Eliminate Poverty

Blockchain Will Drive the Next Industrial Revolution

Blockchain will transform how the economy works

blockchain will be a huge threat for many jobs in the financial sector.

blockchain will be much more impactful when it is adopted at scale, across the network

blockchain will revolutionise your education

Blockchain Will Underpin the Financial Industry ‘In Five Years’

the blockchain will transform the stock market

Blockchain will be to transactions what the internet was to communication

blockchain will impact on many areas of our lives

blockchain will support a broad array of new IT initiatives.

Blockchain Will Disrupt the Marketing Industry Forever

Blockchain Will Eliminate Banks and Democratize Money

blockchain will herald the internet of value.

blockchain will enable pay-as-you-go insurance

blockchain will cut index-fund costs

blockchain will disrupt systems.

The blockchain will protect the data from security breaches.

blockchain will impact the way we use the web,

Blockchain Will Transform Higher Education in the Next Decade

blockchain will bring transparency to the capital raising process

blockchain will disrupt the energy sector

Blockchain will Transform Financial Services

the blockchain will radically transform the economy

Blockchain will enable new data analytics use cases.

blockchain will not only benefit the asset management industry, but will also mean obsolescence for certain intermediary roles,

Blockchain will return financial power to the people

Blockchain will shape the future of banking, putting power back into consumers' hands,

Blockchain Will Revolutionize Payment Speed and Compliance

the blockchain will be used for online transactions.

Blockchain will transform the role for audit

Blockchain will do to corporate reporting and financial transactions, what the internet did for knowledge.

Blockchain Will Become a Reality in 2016

blockchain will create a new wave of major disruption in media-content distribution.

Blockchain Will Make Carbon Visible for Everybody

Blockchain will enable a near real-time and immutable version of truth for transaction records and will issue in a new era of green finance.

Blockchain Will Come

blockchain will help automate all sorts of transactions.

Blockchain Will Transform The Retail Sector

Blockchain will enable faster settlement at lower costs while simultaneously reducing the risk of fraud.

Blockchain Will Have Profound Impact on Lives

Blockchain will free international trade from paper nightmare

Blockchain will do to Technology what the Internet did to Communication.

blockchain will trigger substantial transformation in the industry in the long run.

Blockchain Will Disrupt Cloud Storage

Blockchain Will Bring Transparency Back To Real Estate

blockchain will be the expected minimum technology, required of any company that expects to be taken seriously by its customers and potential investors.

Blockchain Will Impact Your Clients

blockchain will start to transform fraud management and identity verification.

Blockchain will solve everything

blockchain will be used widely in healthcare, finance, travel, insurance, and a raft of other industries.

Blockchain Will Revolutionize Commercial Transactions

blockchain will make travel smarter, greener and low impact

blockchain will transform education and employment

blockchain will provide a highly secure supply chain management system that is resistant to fraud.

blockchain will shake up insurance

blockchain will speed processes and lower costs for both providers and payers.

blockchain will transform the mining and metals industry

the blockchain will forever change how we use money

blockchain will be a force to reckon with.

The blockchain will make it easier for you to make payments, transfer money, or buy and sell goods.

blockchain will be some kind of miracle cure.

blockchain will allow for fewer counterfeit goods and faster product recalls

Blockchain will make it easier for stores to know what they have in stock.

Blockchain Will Disrupt Every Industry

Blockchain will make gaming economies real

Blockchain Will Eventually Impact Every Financial Transaction

Blockchain Will Impact The World Beyond Cryptocurrency

Blockchain will increase the velocity of money, which will increase cash flow and capital investments.

blockchain will dramatically reduce inefficiencies in the financial marketplace.

blockchain will have a fundamental shift.

Blockchain will play a major role in gaming payments

blockchain will be a part of most financial transactions within five years,

The Blockchain Will Change The Car Industry

Blockchain Will Transform Sports

blockchain will open up the world of professional sports to the “wisdom of the crowd,” or a sort-of fan-based decision making that could further engage fans and improve the game.

Blockchain will Radically Transform Businesses

Blockchain Will Be Brought Onto Satellites by Cryptocurrency Exchange to Help Adoption in Developing Countries

Blockchain Will Disrupt the Disruptors

Blockchain will dominate emerging tech in 2019

Blockchain Will Revolutionize Future Cars

blockchain will disrupt your industry

Blockchain Will Change Organizations

blockchain will become a part of our business landscape.

Blockchain will Revolutionize Voting

Blockchain will lead to increased efficiency and reduction in errors which will eventually lead towards cost reduction.

blockchain will belong to Russia

Blockchain Will Change the Way We Do Business

blockchain will not replace, but strengthen existing institutions.

Blockchain Will Impact Social Media

Blockchain will be key to security for 'smart cities' of the future

The blockchain will disrupt the music business and beyond

Blockchain Will Enable a Virtual Reality Renaissance

Blockchain will change how people look at data

Blockchain will lead to evolution in accounting,

Blockchain will make a great contribution to donation payments

Blockchain will allow users to rank content and to receive rewards for it.

Blockchain will Transform Recruitment

blockchain will play a significant role.

blockchain will revolutionize travel distribution.

blockchain will play a vital role in how content, and resulting actions/shares/influence, is tracked, recorded and compensated.

blockchain will end data breaches

Blockchain Will Revolutionize the Medical Industry

Blockchain will replace existing data management technologies

blockchain will become a disruptive force in the healthcare industry,

Blockchain will enable social currencies to be used in a way that people can be rewarded for what they do in the relationship.

blockchain will fundamentally transform the economy or government.

blockchain will democratize the real estate industry

Blockchain Will Revolutionize Digital Marketing

blockchain will reduce costs and improve security.

The Blockchain Will Change The Legal Profession

Blockchain will support a large variety of applications.

Blockchain Will Disrupt the Future of Social Media Influencers

Blockchain will Drive Digital Transformation

Blockchain will enhance your asset management efforts

Blockchain Will Change The Face Of Retail

blockchain will have a huge and significant impact on web design and web development.

Blockchain Will Free You to Control Your Financial Destiny

Blockchain is going to change everything we know over the next five to 10 years,

Blockchain Will Transform Your World

Blockchain will also be used to help decide how the ships will be insured if they sail through war zones.

Blockchain Will Revolutionize Supplier Management

blockchain will penetrate our entire economy.

Blockchain Will Be a Top Investing Theme in 2018

Blockchain will change almost all industries by lowering costs in mid and back offices.

Blockchain Will Disrupt Metals & Mining

the blockchain will transform how we exchange value and whom we trust.

blockchain will transform every business process and sector in the Digital Age.

blockchain will be the backbone of a new more secure, more democratic internet.

blockchain will require foundational change,

Blockchain Will Transform the Healthcare Industry

blockchain will be “more meaningful than the internet” in the next decade.

Blockchain will change Artificial Intelligence

blockchain will reshape the foundation of business as we know it.

Blockchain will be bigger than Robots for the Shared Services industry!

blockchain will transform finance in the same way that the internet revolutionized communications.

Blockchain Will Transform Dating Apps

Blockchain will completely revolutionize how we mine gold and precious metals

Blockchain Will Severely Disrupt Retail and E-Commerce

Blockchain Will Impact the Gaming World

the Blockchain will be a part of everyday life by 2026.

Blockchain will enable secure transactions in currencies, as well as data.

Blockchain Will Revolutionize Industry

Blockchain Will Upend Society’s Most Sacred Institutions.

Blockchain Will Change Global Commerce

blockchain will ‘cross the chasm’ in 2024,

blockchain will remove the need for a carrier in between just about any method of communication.

Blockchain will link everything

Blockchain will do for transactions what the internet did for information.

The Blockchain Will Be a Major Part of Any Business

Blockchain will change our Life, Economy and the World

Blockchain will own proof of ownership of the creator.

blockchain technology will be the answer to securing future elections, allowing them to be audited in real time.

Blockchain Will Revolutionize Sweden's Mutual Fund Industry

Blockchain technology will be as important to the world as Gutenburg’s printing press

blockchain will have an important role in the Internet of Things.

blockchain will change the legal industry forever

the blockchain will make a big impact on the legal world.

Blockchain will force businesses to become more transparent about their operations.

Blockchain Will Come Of Age In 2019

Blockchain Will Improve International Dispute Resolution,

Blockchain will enable the development of new exchanges that facilitate the trade of a wide variety of assets, not only financial instruments.

Blockchain will speed up overseas shipping

Blockchain Will Transform Customer Loyalty Programs

blockchain will remain a buzzword used to boost a company’s stock price rather than a viable solution for our electoral system.

Blockchain Will Save the World

blockchain will change the way we do everything, from financial markets to health records to supply chain management, and so much more.

Blockchain will begin to change lives

Blockchain will help musicians earn royalties without going through a record label.

Blockchain Will Revolutionize How We Mine Precious Metals

Blockchain Will Disrupt the World

blockchain will change the economy and society.

Blockchain Will Revolutionize Supply Chain

the blockchain will be used in all areas of public services in the future.

blockchain will provide firms with transparency and security.

blockchain will rebuild the world

blockchain will transform the tax and accounting industry

blockchain will lead to a reduction in insurance fraud.

blockchain will change social media sooner rather than later.

Blockchain will drive the future of practical digital applications

Blockchain will change the fashion industry

Blockchain Will Transform Credentialing (and Education)

Blockchain will end paper based certificates, automate the award, recognition and transfer of credits, increase learner ownership and control over their own data, reduce institutional data costs and risk–but only if open standards are adopted.

blockchain will disrupt the current status quo in investment banking.

blockchain will eventually take over and disrupt the entire banking industry.

Blockchain Will Impact the World

Blockchain will Disrupt Digital Identity

Blockchain Will Transform Customer Experiences

blockchain will lead to major changes in the underlying technologies and methodologies of many industries.

Blockchain Will Be Fast Enough To Manage Digital Ads

blockchain will impact food and farming.

blockchain will change your life

blockchain will enhance both AI and cloud computing

Blockchain will disrupt the Healthcare business model through the network effects of a decentralized economy

blockchain will influence search marketing

Blockchain Will Completely Revolutionize How We Run the World

blockchain will need experts, advocates, and partners at every level to help usher in a future that is more inclusive, open, and just.

blockchain will have a profound impact on the economy

blockchain will underpin the new trust economy

blockchain will transform how businesses are organized and managed.

the blockchain will allow companies to engage with individual customers on a peer-to-peer basis.

Blockchain will automate taxes and make them more accurate

Blockchain will streamline routine tasks

The blockchain will be as significant as the internet

Blockchain Will Transform the Gaming Industry

Blockchain will empower the people and break barriers to information

Blockchain will be mainstream.

Blockchain Will Fuel Transformation in The E-Commerce Industry

blockchain will reshape the future

Blockchain Will Make Payments More Secure

Blockchain Will Replace Existing Technology

Blockchain will allow us to verify who, how and where ads run.

Blockchain will save your business.

Blockchain will require fewer people to perform the same job and make time for professionals to utilize their audit skills to improve efficiencies across their client's organizations.

The Blockchain Will Secure Your Online Identity

Blockchain Will Disrupt Book Publishing

Blockchain will Intersect with the Wholesale Distribution Industry

blockchain will transform big data analytics

Blockchain Will Create More Wealth and Radically Change the Society

Blockchain technology will power Web 3.

Blockchain will change the face of iGaming

Blockchain Will Transform Everything from Banking to Government to our Identities

Blockchain will unlock data silos of individual patient health information and give consumers ownership of their digital health identity.

blockchain will be transformative long term

Blockchain Will Change The Way We Communicate

Blockchain will make it so any entrepreneur from any location in the world can, at a minimum, gain access to capital.

Blockchain will remove the need for traditional banking and financial institutions by replacing back-office systems with a P2P system.

the blockchain will revolutionize the world of money

Blockchain Will Fulfill the Broken Promise of the Internet For Creatives,

Blockchain Will Evolve In 2017

the blockchain will give rise to new business models and ideas that may still be invisible.

Blockchain will make AI smarter by feeding it better data

Blockchain Technology will Change Blockchain:

Blockchain will fundamentally alter the way financial institutions do business around the world,

blockchain will bring transparency in operations

Blockchain will kill the traditional firm

blockchain will fit into your company in less than ten years from now.

blockchain will affect your company.

Blockchain will have a large impact on the way organizations engage with one another.

blockchain will change major industries

blockchain will be an enabler.

blockchain technology will be huge and revolutionary.

the blockchain will become history itself.

Blockchain Will Solve Most Real-World Problems

Blockchain Will Disrupt Traditional Business And Impact Marketing In 2018

blockchain Will Build Trust In The Food Industry

blockchain will affect transport in the 21st century

blockchain will generate an annual business value of more than $3 trillion by 2030,

blockchain will be used by central banks to create national currencies, by private banks and companies to expedite settlements and by cooperatives for internal payments and transactions.

Blockchain will have a truly positive impact on society in the philanthropic sector.

Blockchain Will Change the Way We Live

blockchain will be as big as the internet is in our lives

Blockchain Will Revolutionize Healthcare

Blockchain will continue to be hyped as a panacea.

Blockchain will transform the platform economy

Blockchain will be here for a long time,

Blockchain Will Be Used To Protect 2018 Presidential Exit Poll Data

blockchain will revolutionize finance

Blockchain will positively impact the disenfranchised by being a catalyst for financial, racial and gender inclusion.

Blockchain Will Reorganize Society

Blockchain will be the future of finance.

the blockchain will ultimately define the future of finance.

blockchain will help make energy systems more efficient and profitable.

the blockchain will give the middle class more ways to invest their money.

blockchain will reduce back office costs.

Blockchain will revolutionize the manufacturing process.

the Blockchain Will Run the Cities

Blockchain will allow electricity producers to trade energy peer-to-peer, allowing them to sell in real time, get paid instantly.

blockchain will transform artificial intelligence.

blockchain technology will be critical for B2B.

blockchain will become pervasive in the future development of all industries.

blockchain technology will be ubiquitous in the future.

blockchain will radically change our world,

blockchain technology will benefit several parties:

Blockchain will transform how people collect, track, and share their health data around the globe.

the blockchain will do to the financial system what internet did to the media.

Blockchain will implicate some routine and basic contract work,

The Blockchain Is Going To Dramatically Improve Our Sharing Economy.

blockchain will eventually transform your business.

Blockchain technology will allow companies to create platforms that allow job seekers and companies to connect, making the industry more efficient and secure.

blockchain will be embedded in our day-to-day lives in ways that, today, we can't even imagine.

Blockchain will generate $5 billion worth of business value in 2018,

blockchain will revolutionize the medical industry by removing the need for doctors completely through self-diagnosis.

blockchain will disrupt traditional computing

blockchain technology will bring changes to business models

Blockchain Will Protect Self-Driving Cars:

blockchain will have a profound transformative impact on every industry.

the blockchain will cause a revolution similar to what Internet provoked.

blockchain will be one of the standard technologies available.

blockchain technology will become as pervasive and important as the internet was.

Blockchain Will Revolutionize Data Science

blockchain is going to fix everything.

Blockchain Will Transform The Supply Chain And Logistics Industry

the blockchain will likely be bigger than the internet itself,

blockchain will revolutionize the business world

Blockchain Will Revolutionize the Art Industry

source urls
BlockchainIs-BlockchainWill_sourceUrls_txt-lf_utf8.txt

list of web pages used for aggregating the source texts for *blockchain is...* and *blockchain will…*

http://101blockchains.com
https://101blockchains.com/web-3-0-examples/
http://99bitcoins.com
https://99bitcoins.com/blockchain-technology-how-does-the-future-looks-like/
https://99bitcoins.com/how-to-read-a-bitcoin-transaction/
https://99bitcoins.com/what-is-blockchain/
http://www.aaeri.org/
http://www.abc.net.au/news/2016-06-14/its-called-blockchain-and-it-could-be-a-game-changer/7501514
http://www.abc.net.au/news/2018-01-22/how-blockchain-is-being-used-to-combat-illegal-fishing/9344376
https://about.bgov.com/blog/blockchain-empowering-cyberpunks-governments-alike/
https://abovethelaw.com/2017/08/in-legal-blockchain-is-the-new-black/
https://abovethelaw.com/2018/11/ibm-and-columbia-university-to-accelerate-blockchain-ventures/
https://www.accenture.com/us-en/insight-highlights-cgs-blockchain-cpg-and-retail-industries
https://www.accenture.com/us-en/insight-investment-bank-challenges-blockchain-technology
https://www.accenture.com/us-en/insights/blockchain-index
https://www.accountingtoday.com/opinion/blockchain-is-already-changing-accounting
https://www.acfe.com/fraud-examiner.aspx?id=4294992645
https://www.achieversklub.com/
https://adexchanger.com/online-advertising/blockchain-bubbling-solution-supply-chains-transparency-woes/
https://www.adweek.com/digital/3-questions-to-ask-when-determining-if-using-blockchain-is-right-for-your-brand/
https://www.adweek.com/digital/blockchain-is-magic-for-influencer-marketing-but-in-a-bad-way/
http://www.aei.org/publication/blockchain-is-more-than-just-the-technology-behind-bitcoin/
https://www.afr.com/technology/herbert-smith-freehills-joins-forces-with-ibm-and-data61-for-blockchain-project-20180827-h14ksn
https://agfundernews.com/blockchain-is-coming-for-agriculture.html/
https://www.agriculture.com/blockchain-is-coming-for-agriculture-and-you-might-not-even-notice
https://www.agweb.com/article/steve-cubbage-are-you-ready-for-the-blockchain-bandwagon/
https://www.aier.org/article/future-blockchain-our-hands
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Version 3, 29 June 2007

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