Introduction to Blockchain

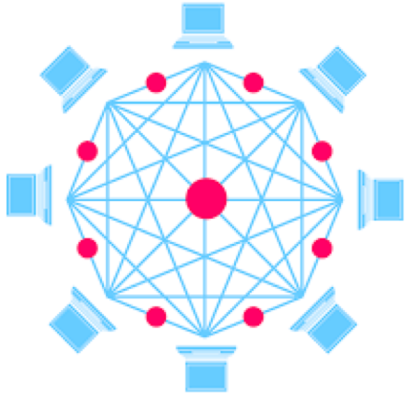
What is Blockchain?

Originally designed for...

What is Blockchain?

Distributed Database

There is no single entity that is controlling the system



In Traditional System...

ID	Name	Attendance ID
k1052280	Ali Shaikh	168
k1052280	Ali Shaikh	188
k1052287	McKenzie Roth	169
k1052288	Dacey Sullivan	170
k1052288	Dacey Sullivan	183
k1052294	Zelda Cantu	176
k1052295	Kimberley Melton	177
k1052296	Tatiana Cantrell	178
k1052297	Morgan Thornton	179
k1052298	Allistair Barlow	
k1052299	Troy Fulton	

There is always “someone” who controls data and logic.

In Blockchain...

ID	Name	Attendance ID
k1052280	Ali Shaikh	168
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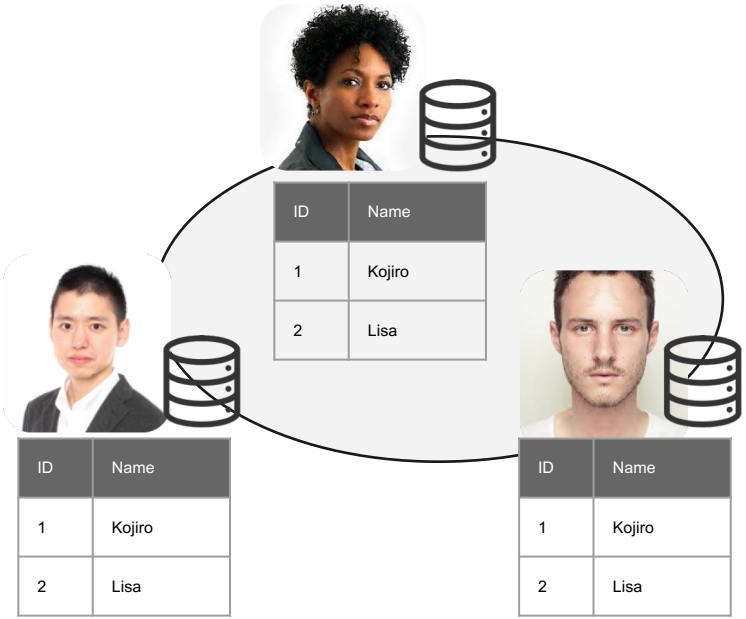
no single person

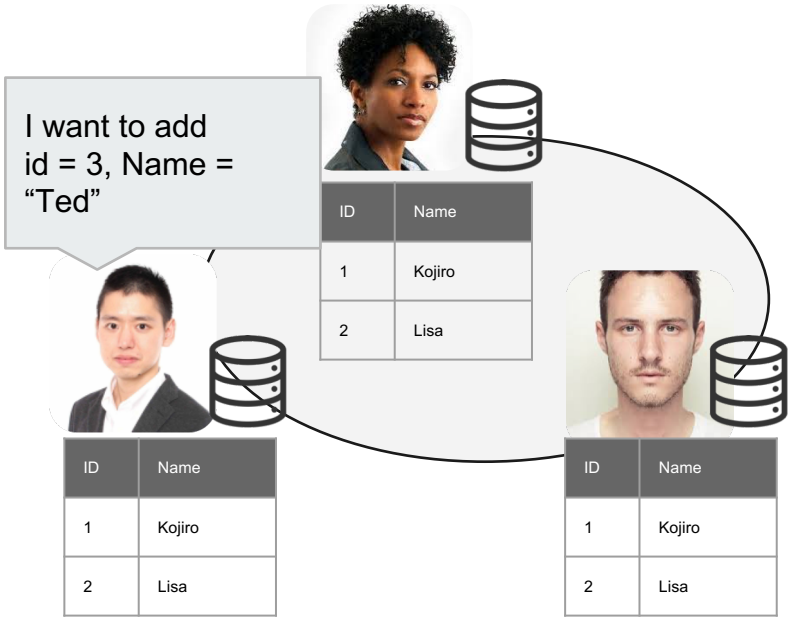
There is ~~always "someone"~~ who controls data and logic.

How does it work?



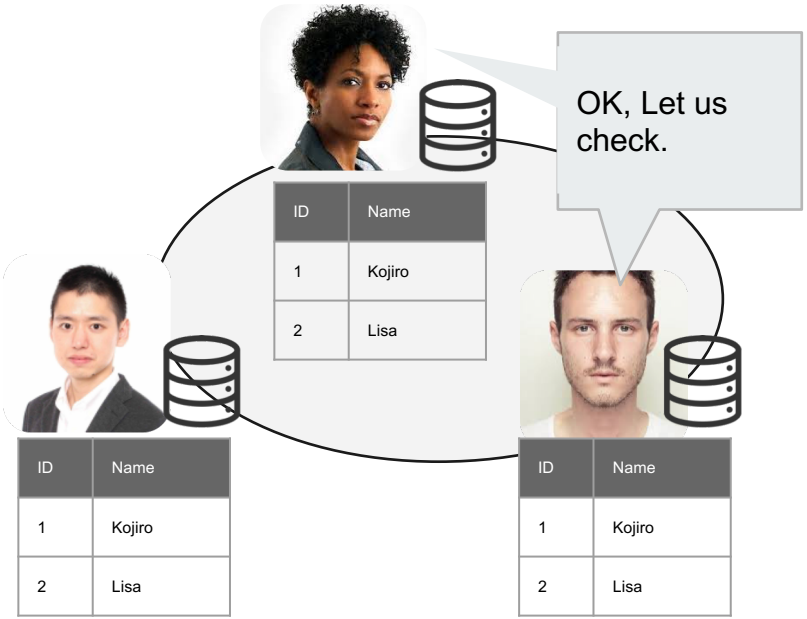
Everyone on the blockchain has the same information.

How does it work?



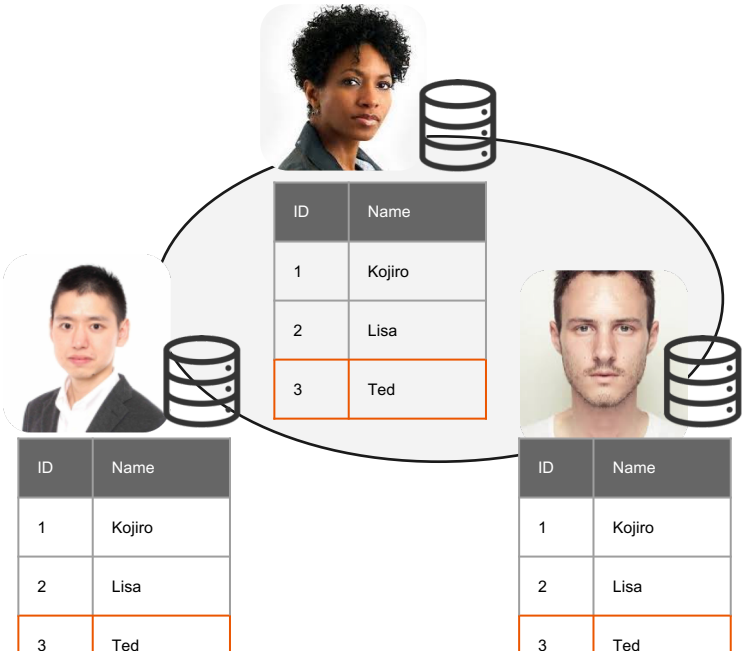
Someone wants to add data.

How does it work?



Other people will check the validity.

How does it work?



New data will be added if validated.

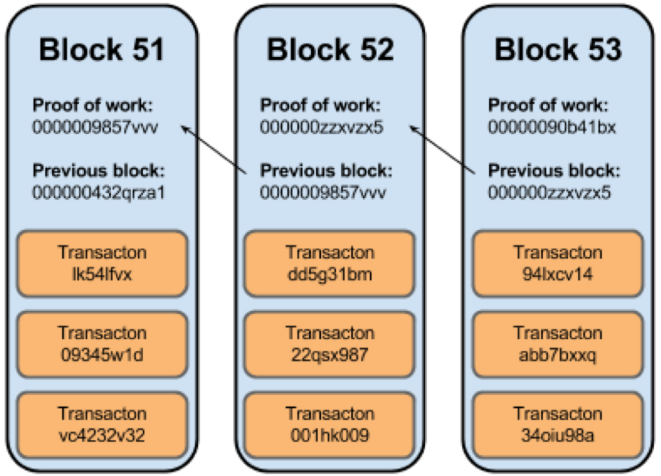
What is Blockchain?

- **Distributed Database**
  - **Consistent:** It cannot conflict with some other data that's already in the database
  - **Immutable:** It's append-only
  - **Canonical:** Everyone agrees on what the state of the things in the database are

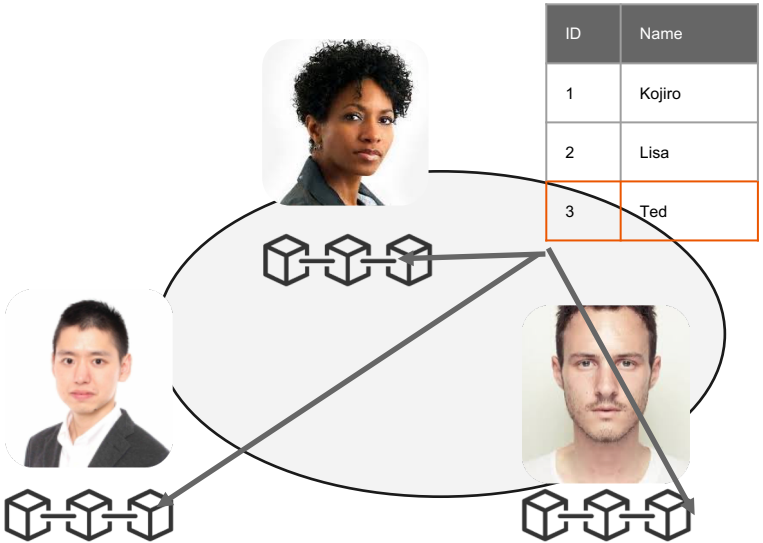
Source: https://medium.com/@jimmysong/why-blockchain-is-hard-60416ea4c5c

Block

- “Block” is something like space for data
- All data is saved into “block”
- New block gets generated periodically
- Each block is linked to the previous block



What is Blockchain?



Data is saved in a block.

In Blockchain...

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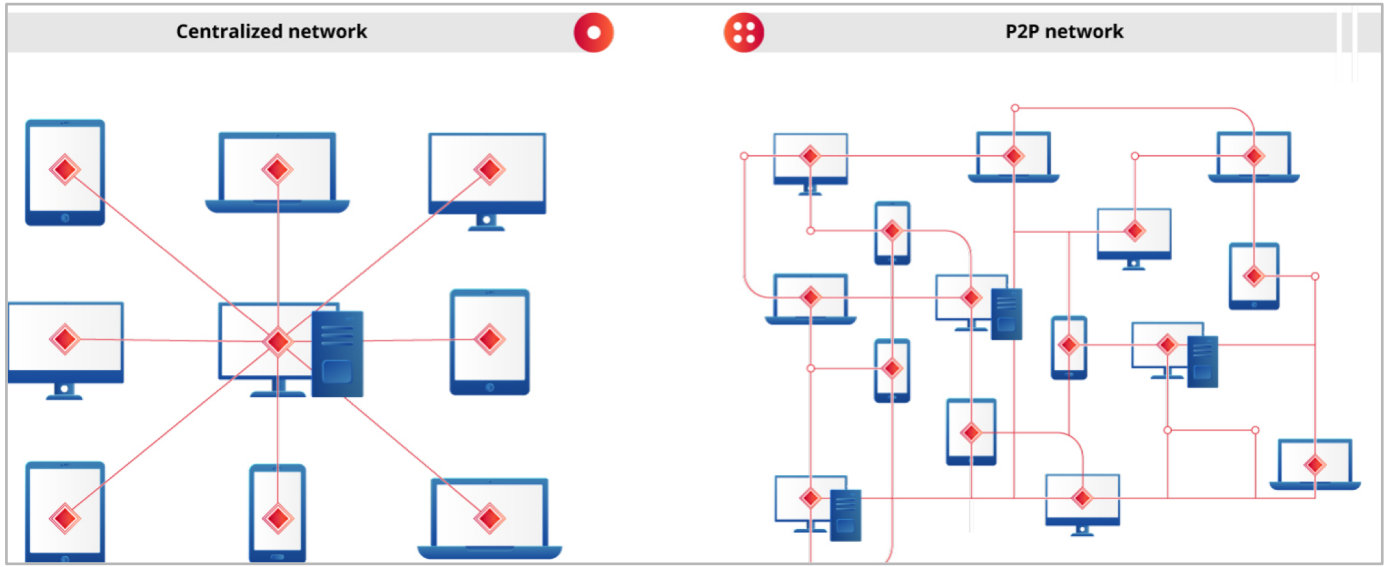
no single person

- There is ~~always “someone~~” who controls data and logic.
  - Insert => need to be approved
  - Update => impossible
  - Delete => impossible

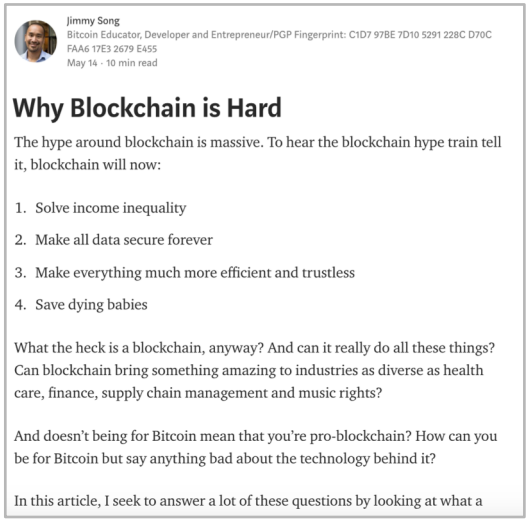
Comparison



SO WHAT?

WHO CARES?

Criticism on Blockchain



Jimmy Song
Bitcoin Educator, Developer and Entrepreneur/PGP Fingerprint: C1D7 97BE 7D10 5291 228C D70C FAA6 17E3 2679 E455
May 14 · 10 min read

Why Blockchain is Hard

The hype around blockchain is massive. To hear the blockchain hype train tell it, blockchain will now:

1. Solve income inequality
2. Make all data secure forever
3. Make everything much more efficient and trustless
4. Save dying babies

What the heck is a blockchain, anyway? And can it really do all these things? Can blockchain bring something amazing to industries as diverse as health care, finance, supply chain management and music rights?

And doesn't being for Bitcoin mean that you're pro-blockchain? How can you be for Bitcoin but say anything bad about the technology behind it?

In this article, I seek to answer a lot of these questions by looking at what a

Kai Stinchcombe Follow
Whatever the opposite of a futurist is
Dec 23, 2017 · 16 min read

Ten years in, nobody has come up with a use for blockchain

(Sequel here: *Blockchain is not only crappy technology but a bad vision for the future.*)

Everyone says the blockchain, the technology underpinning cryptocurrencies such as bitcoin, is going to change EVERYTHING. And yet, after years of tireless effort and billions of dollars invested, nobody has actually come up with a use for the blockchain—besides currency speculation and illegal transactions.

Each purported use case—from payments to legal documents, from escrow to voting systems—amounts to a set of contortions to add a distributed, encrypted, anonymous ledger where none was needed. What if there isn't actually any use for a distributed ledger at all? What if, ten years after it was invented, the reason nobody has adopted a distributed ledger at scale is because nobody wants it?

Source:
https://medium.com/@jimmysong/why-blockchain-is-hard-60416ea4c5c
https://hackernoon.com/ten-years-in-nobody-has-come-up-with-a-use-case-for-blockchain-ee98c180100

Challenge1: Slow

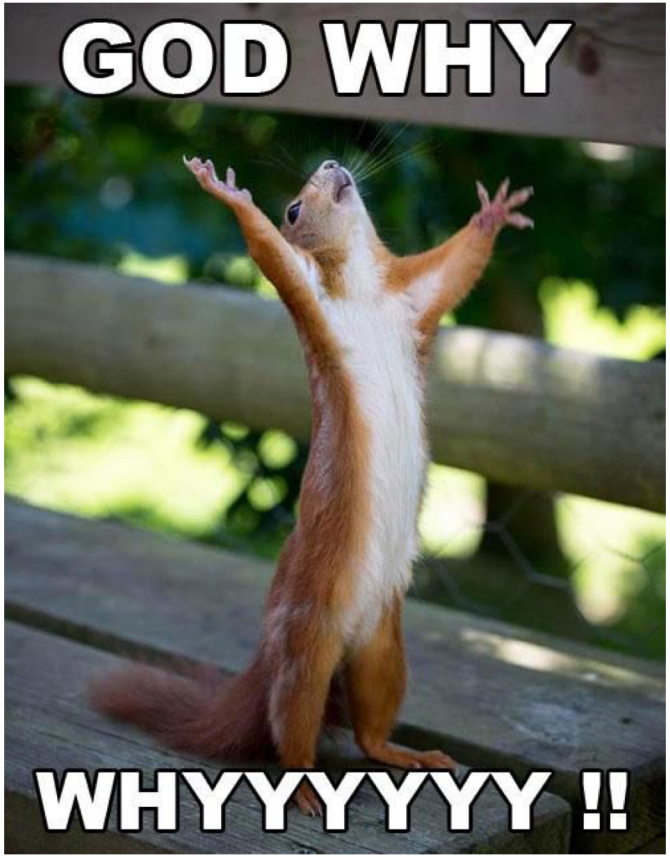
7 transactions / second

20 transactions / second

<

2,000 transactions / second

Challenge2: Difficult to Upgrade


GOD WHY
WHYYYYYYY !!

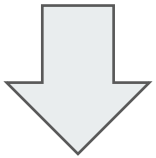
Blockchain will allow you to **collaborate with an entity that you cannot completely rely on.**

Four Major Benefits (in my opinions!)

1. Distributed Data Management
2. Logic Reliability
3. Digital Scarcity
4. Incentive Mechanism

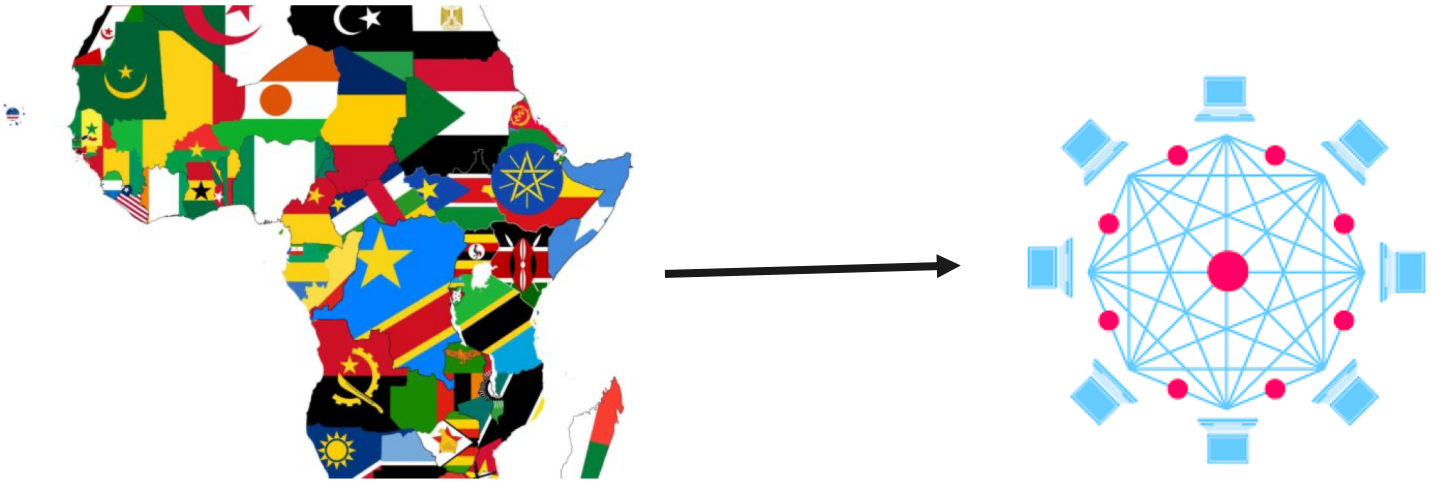
1. Distributed Data Management

Once data is saved into blockchain, no one can change it.



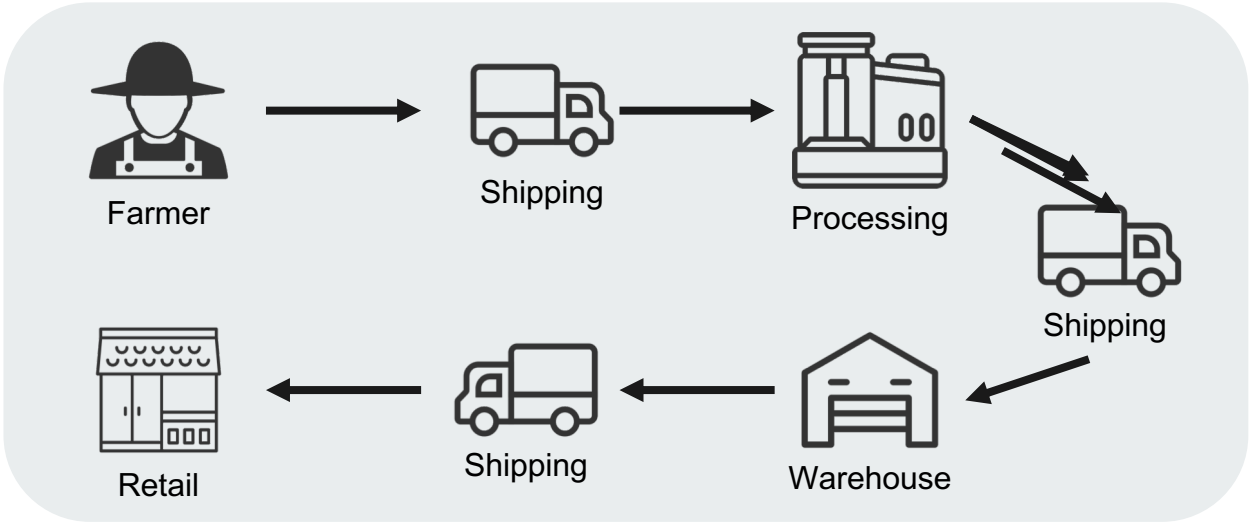
This will remove intermediaries and **solve ”who gonna manage the data”** problem.

1. Distributed Data Management



1. Distributed Data Management

Supply Chain

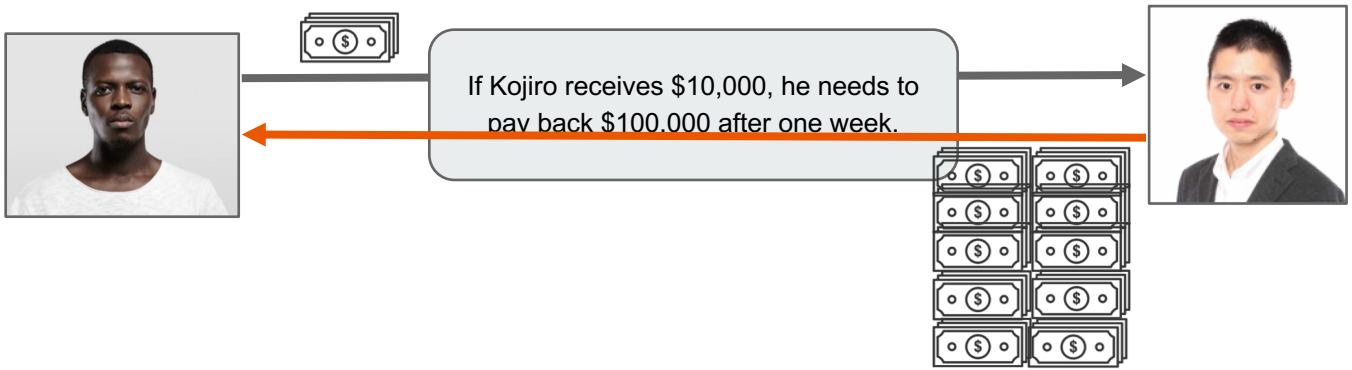


2. Logic Reliability

Before Blockchain, **Promise and Execution** were two separate things.

2. Logic Reliability

Once logic is implemented into blockchain, no single entity can change it.



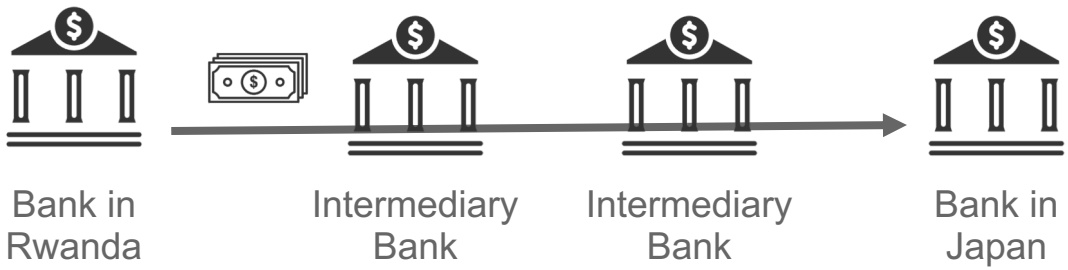
2. Logic Reliability

It will allows stakeholders to have one shared protocol.

- Reduce cost.
- Improve operational efficiency.

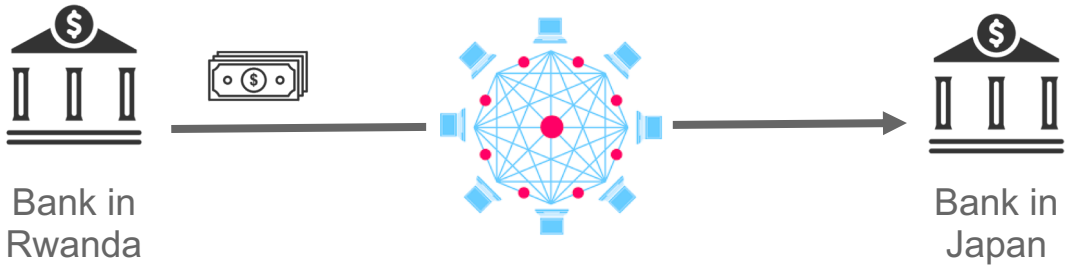
2. Logic Reliability

International Transfer with Intermediaries



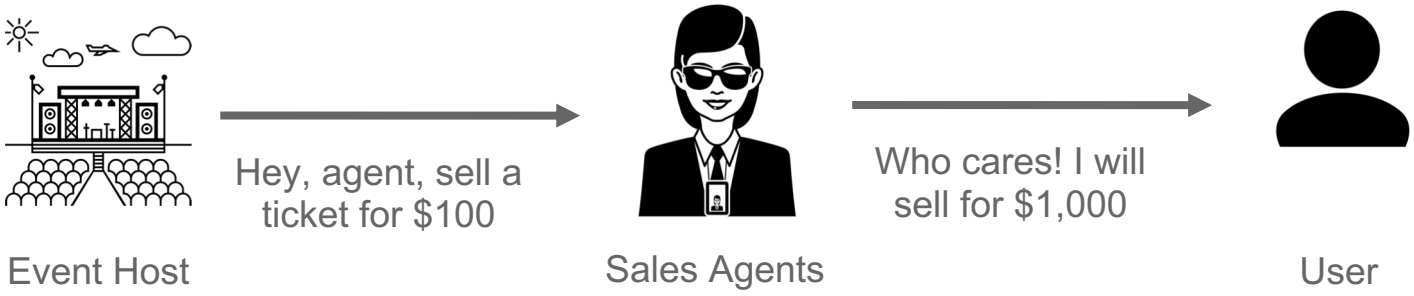
2. Logic Reliability

Money Transfer with Blockchain



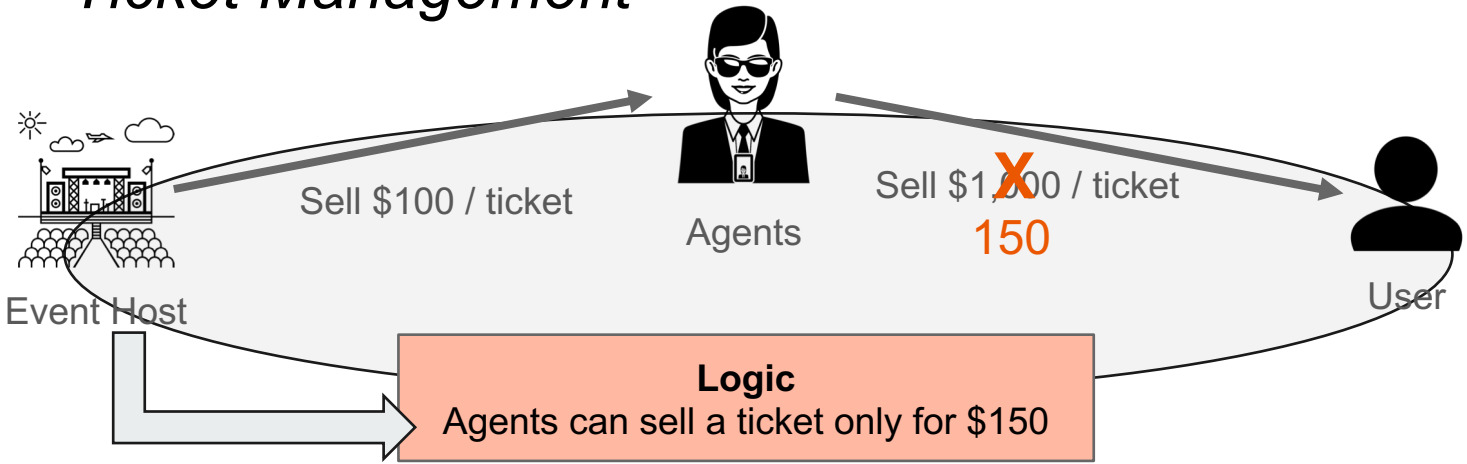
2. Logic Reliability

Ticket Management



2. Logic Reliability

Ticket Management



3. Digital Scarcity

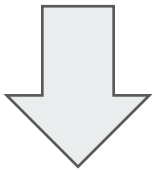
People tend to give value to things which is scarce.

Salt

Gold

3. Digital Scarcity

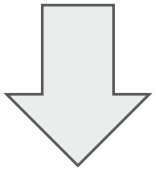
Digital data can been easily modified.



It was **impossible to create “scarcity”** in digital data.

3. Digital Scarcity

With Blockchain, no one, even service provider cannot change the data or logic.



This creates scarcity and allows us to **treat digital data as financial assets.**

3. Digital Scarcity

- Bitcoin’s total supply is 21 million BTC
- The can not be changed even by the creator of Bitcoin.

3. Digital Scarcity

Decentraland

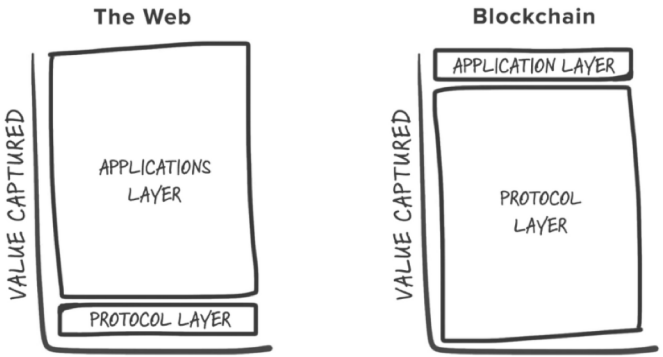
Decentraland creates digital scarcity of virtual land.

https://www.youtube.com/watch?time_continue=39&v=-HmXrOTEmxg

4. Incentive Mechanism

Create **a new economy** that incentivizes people to behave in a new way.

4. Incentive Mechanism



Fat Protocol

Contribute to protocol development

⇩

Receive token as a return

⇩

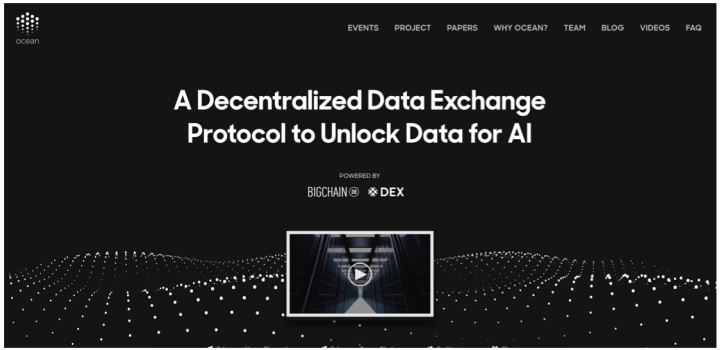
The value of the token appreciate

⇩

Convert to fiat currency

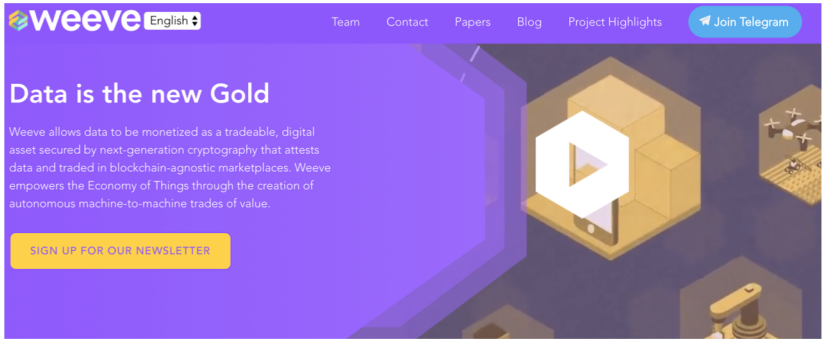
Source: http://www.usv.com/blog/fat-protocols

4. Incentive Mechanism



Ocean Protocol

https://oceanprotocol.com/



Weeve

Source: https://weeve.network/

Blockchain is the technology for collaboration.