Four Development Stages of the Blockchain Industry

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- Previously co-founded **coins.co.th**
- Thailand's Leading Bitcoin and Open Blockchain Expert
- **Board of Director** at **Thai Fintech Association**
- **Mphil in Economics** at **Oxford University, UK**

Blockchain Technology

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Disruptive Technologies

1975
Personal Computers

1990
Internet TCP/IP

2009
Blockchain

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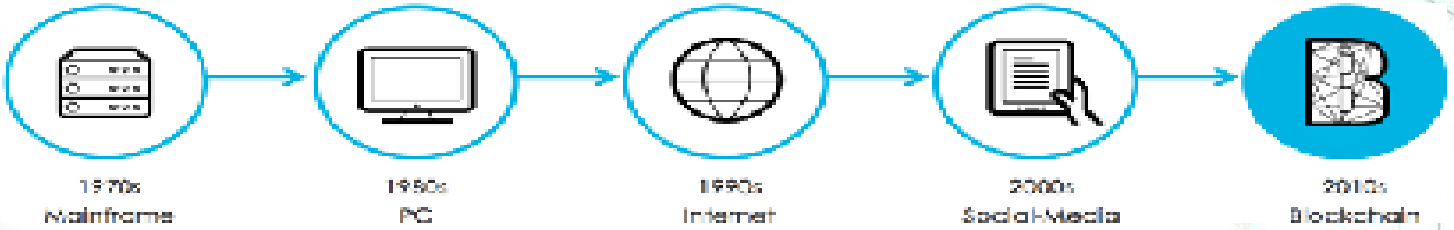
TCP/IP

- First layer of the internet
- Allows Instant information transfers
- **Internet of information**

Blockchain

- Second layer of the internet
- Allows Instant value transfers
- **Internet of Value**



Internet of Information

Internet of Value

Ctrl + C

Ctrl + V

Solved Double Spent Problem!

How Blockchain works?

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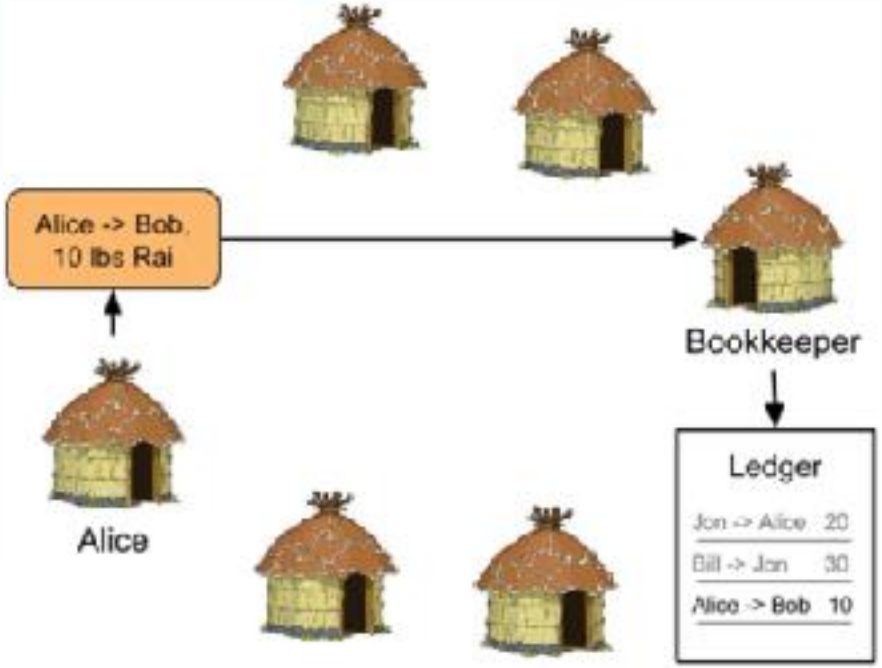
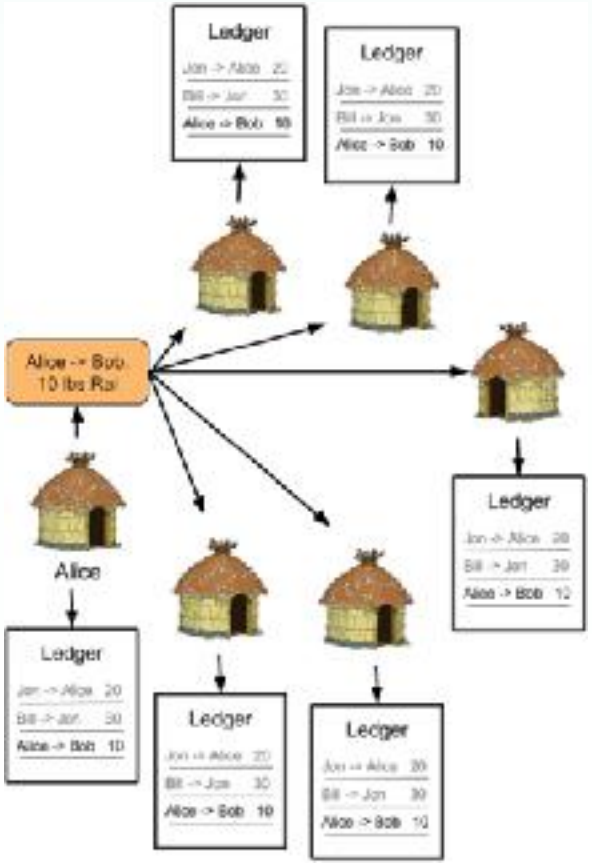
Decentralized money (analogy)



Decentralized money (analogy)

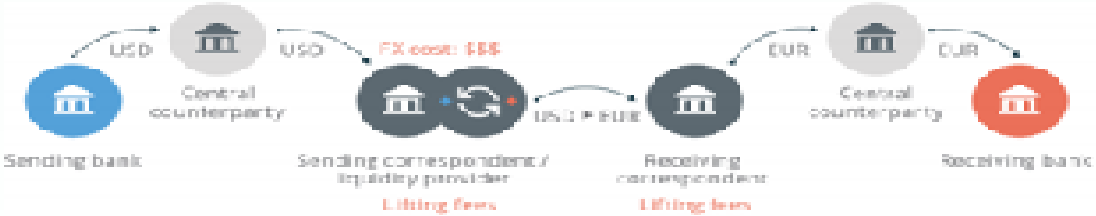


Decentralized money (analogy)

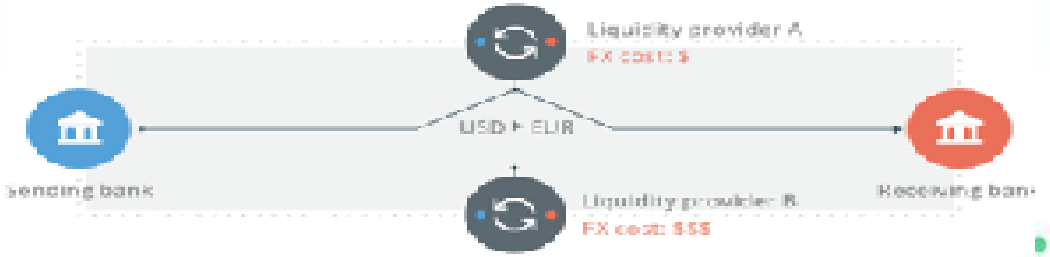
4 Development Stages

Internet of money

- Solve pain points in remittance, finance
- Bitcoin, Zcash, Litecoin, Monero



VS



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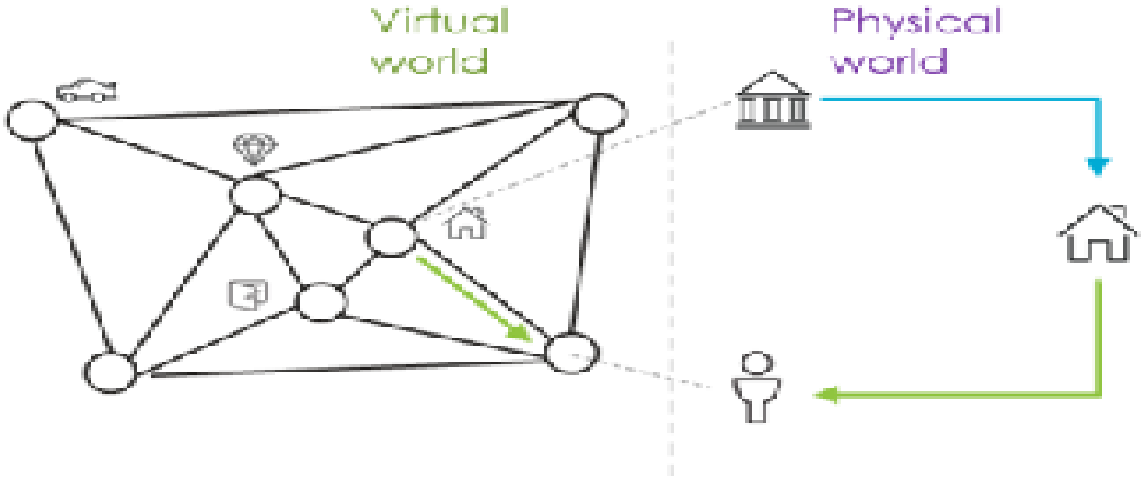
Internet of Assets = Value Registry

FACTOM

- Honduras country - History of land rights abuse/corruption on property rights
- Push blockchain beyond finance. (land, condos, gold etc..) - Register anything of value!
- Permanent record of important things. More efficiency in storying and sharing data.



Internet of Assets

- Painting,
- Diamonds (Everledger)
- Food traceability (Alibaba),
- E-KYC - Identity (Government of Estonia)
- Health care record
- Bond registry
- Stock registry
- Insurance industry
- Gambling
- Trade finance (Wave)
- VR

Internet of entities = Value Ecosystem

- Blockchain infrastructure that is as generalised as possible
- A platform easy to set up your own Blockchain
- Users can interact with other people's infrastructures sitting next to each other
- Facebook is a platform for you to set up your own group to market your products (You can also interact with other groups on the same Facebook platform)
- Amazon - platform that allows you to set up shop easily
- Wordpress - platform that allows you to set up website easily
- Ethereum - platform that allows you to make your own blockchain easily

ICO

Initial coins offering

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Interoperable Ledgers = Value Web

- Internet of money (cryptocurrencies) - **Phase 1**
- Internet of assets (Value registry) - **Phase 2**
- Internet of Entities (Value ecosystem) - **Phase 3**
- **Value web** = Interoperable blockchains **1 + 2 + 3**

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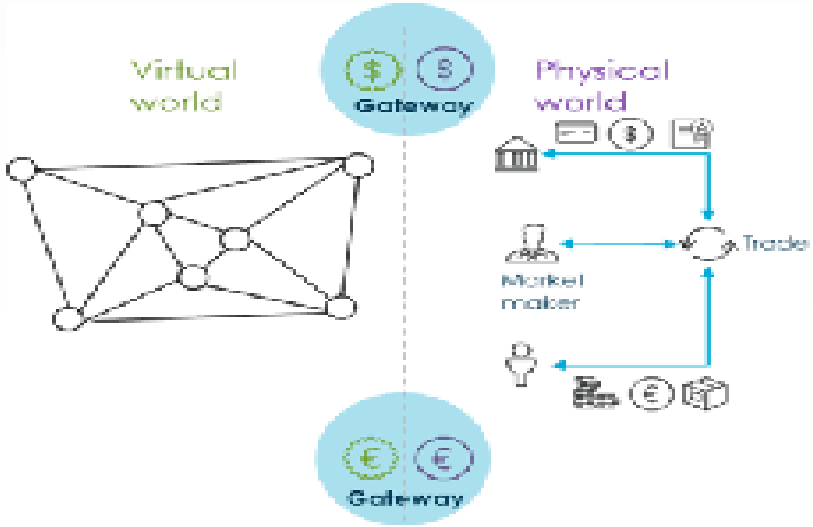
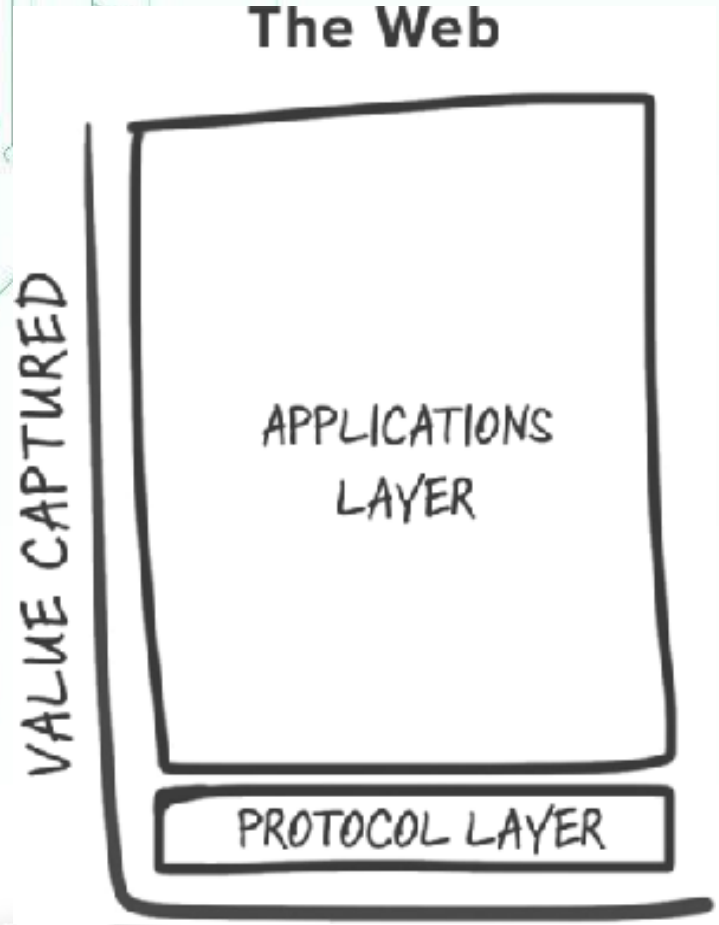
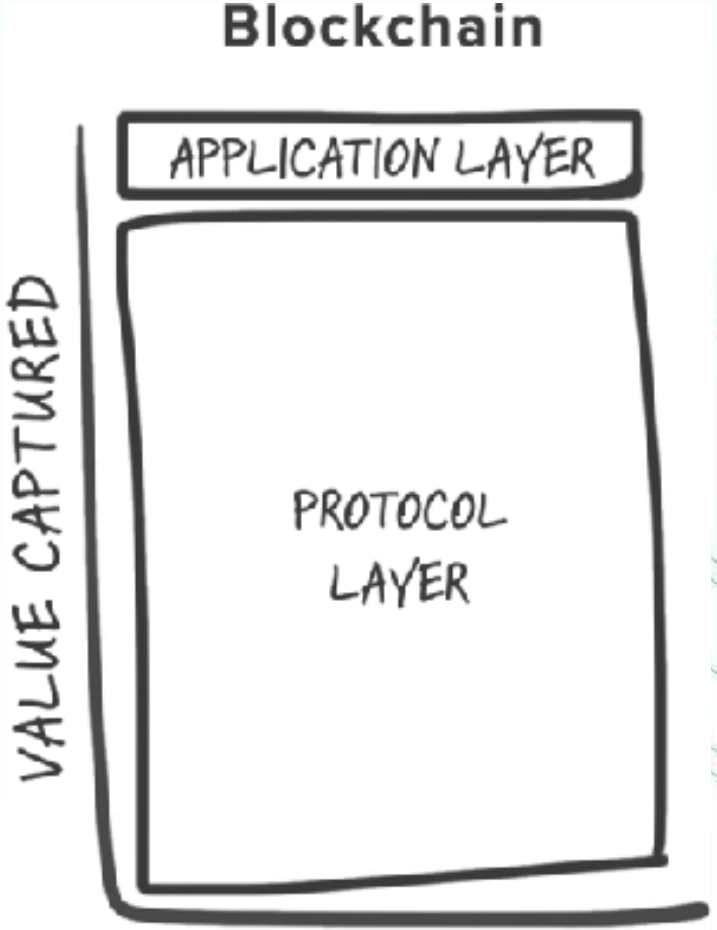
Value Web

- Value can be transferred between different types of blockchains.
- Devs are now working on the interoperable ledgers.
- Kyber Network, 0x, Airswap, OmiseGo, ICON, Wanchain etc..







3 types of Blockchain

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Public Blockchain

- Validator/Nodes are public
- Users/Participants are public
- Bitcoin blockchain - The biggest blockchain
- **Internet of value**
- NASDAQ (coloured coins - Private market)

- Private Market (NASDAQ)
- **Bitcoin Blockchain** (Public Blockchain)
- Coloured coin innovation built by blockchain startup - chain.com (2015)
- Issue shares in the form of coloured coins - essentially a micro transaction (a hundred-millionth of a bitcoin)
  - Each transaction would only move a tiny fraction of bitcoin encoded with the number of shares
  - A currency custodian's wallet tasked to hold shares

Private Blockchain

- Validator are private - preselected (trusted groups)
- Users/Participants are private - preselected (trusted groups)
- **Intranet of value** (**Industry level systems of record**)
- R3CEV Groups (25 biggest banks, JP morgan, HSBC, Citi)
- No tokens needed to incentivise other actors to keep the system secured.
- Benefits
  - Cheaper/free transaction costs
  - Greater privacy/security (more than one single point of failure)
  - Faster validation process
  - Enhance Intra-bank infrastructure - reduce operating expenses

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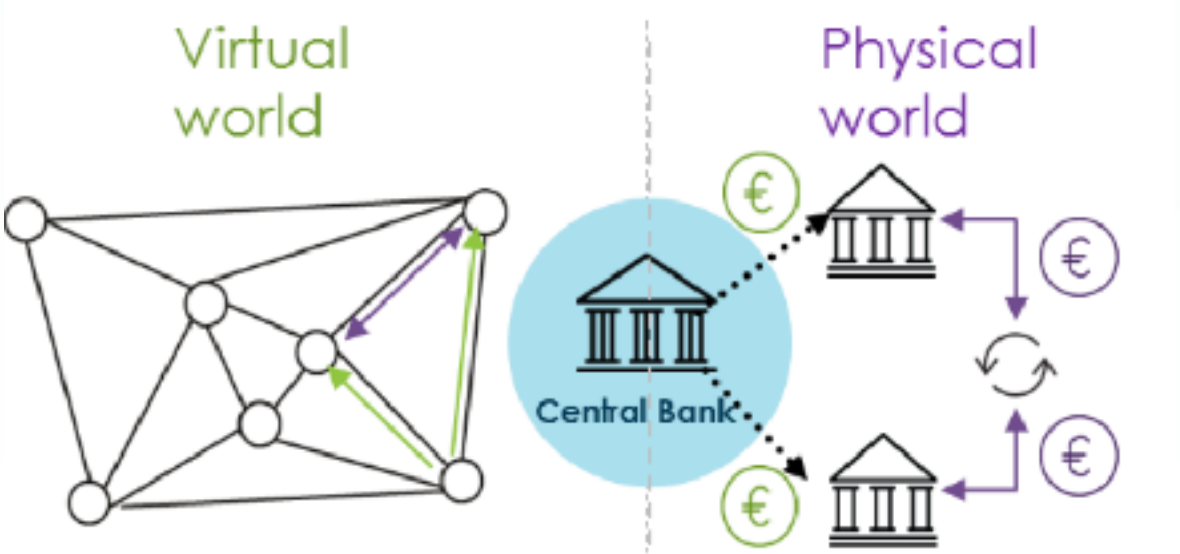
Partnerships of R3CEV

Central Banks Usecase

E.g. **BAHTNET**

- Inter-bank payment/clearing are resource-intensive steps between banks, clearing houses, and the central bank
- The next day transfer as a result of processing cycle, not executed at a constant basis.
- Cryptoeuro - blockchain solution where central bank issues allowing for real-time settlement between banks
- 1:1 cryptocurrency to thai baht representative (cash ledger) - control money flows
- Bank of England puts 10 million pounds into cryptocurrency research

Real time settlements between banks



Consortium Blockchain

- Validator/nodes/miners are preselected trusted groups
- Users/participants are public
- **Extranet of value**
- e.g. NASDAQ - LINQ

Capital Markets

- Asset ledger - Securities custodian: Licensed to create a certain asset (private)
- Cash ledger - Currencies custodian (1:1 ratio - safe liquidity provider) (Private)
- Trade - data available to the people (Public), transparency
- NASDAQ - LINQ (2016 - Consortium blockchain)

Towards the Digital Economy

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“The Electric light did not come from the continuous improvements of candles”

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