



TOISC

รุ่น 14 และ 15

หลักสูตร

“สร้างนักลงทุนไทยในต่างประเทศ”

เอกสารประกอบการบรรยาย

“การเงินในโลกดิจิทัลและโอกาสการลงทุน”

คุณจิรายุส ทรัพย์ศรีโสภา

ผู้เชี่ยวชาญด้านเทคโนโลยี Blockchain

วันที่ 20 ตุลาคม 2561

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กองส่งเสริมการลงทุนไทยในต่างประเทศ
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Cryptocurrency and Blockchain Technology

By Topp Jirayut Srupsrisopa



Topp Jirayut Srupsrisopa

- Previously Co-founder of coins.co.th
- Co-founder & CEO of bitkub.com
- Co-founder of bitkubblockchain.com
- MPhil Economics, *Oxford University*

Cars

Electricity

Bitcoin

What is Bitcoin?

Why is Bitcoin so
Disruptive?

Remittance

Micro-payments

Unbanked

Payments

Content Monetisation

Email Spam

Donation

Blockchain Technology

Disruptive Technologies

1975

Personal
Computers

1990

Internet
TCP/IP

2009

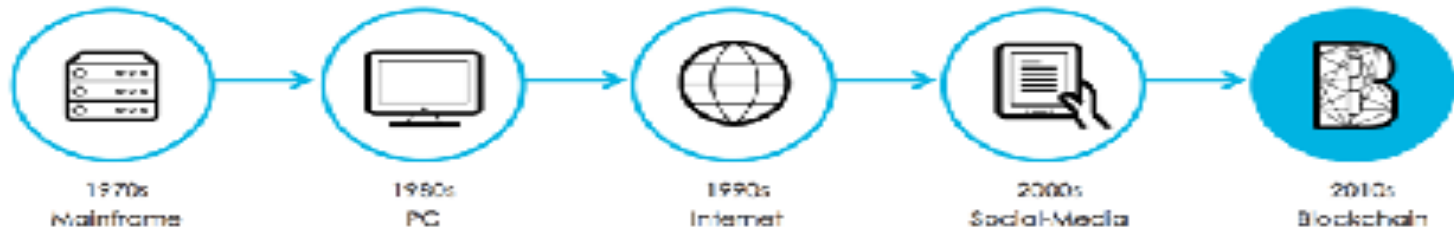
Blockchain

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



COPY

Internet of Value



Ctrl + C



Ctrl + V

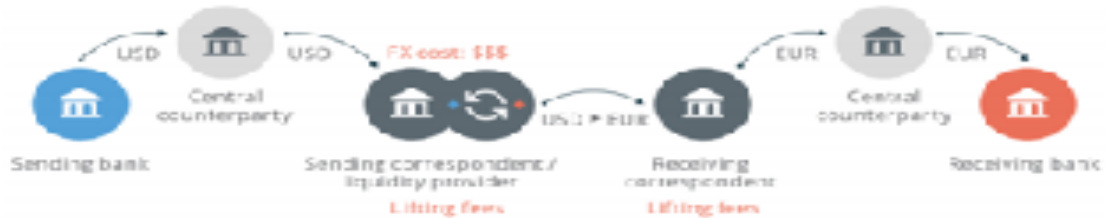
Solved Double Spent Problem!

How Blockchain works?

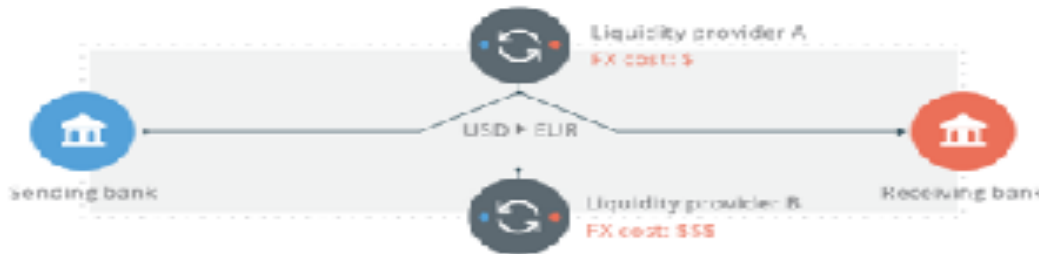
4 Development Stages

Internet of money

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



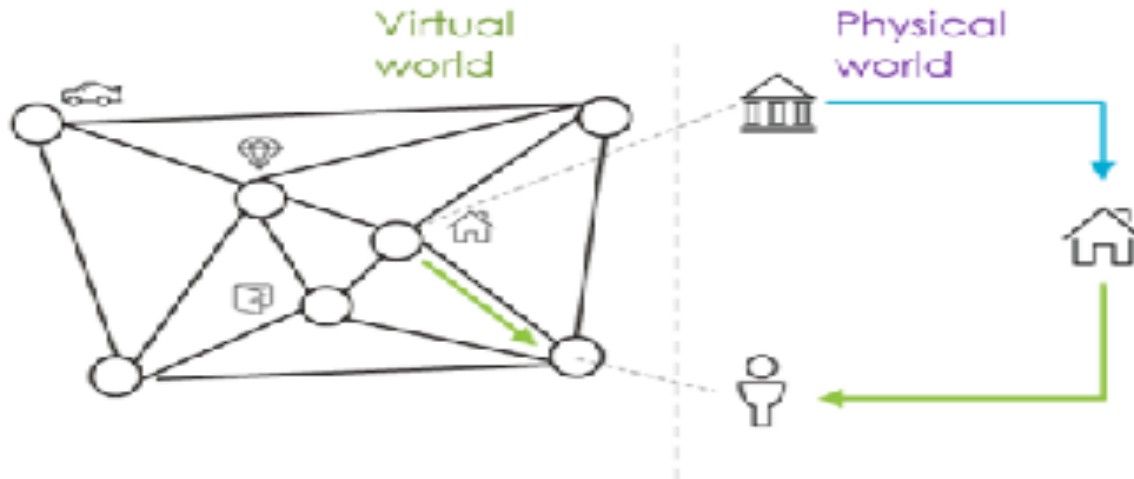
VS



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 storing 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

Fractional Ownership of properties

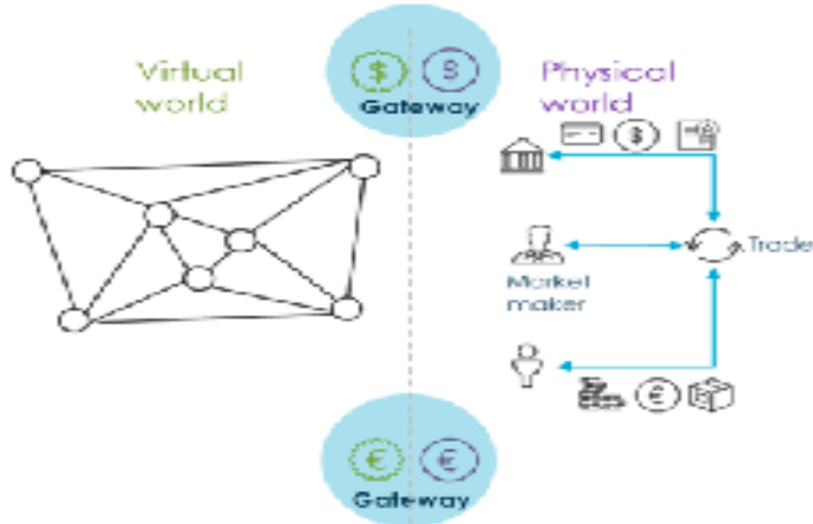
- Ownership
- Rental
- Internet of things
- Tokenisation & Secondary Exchange Platform

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**

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..



The Web

VALUE CAPTURED

APPLICATIONS
LAYER

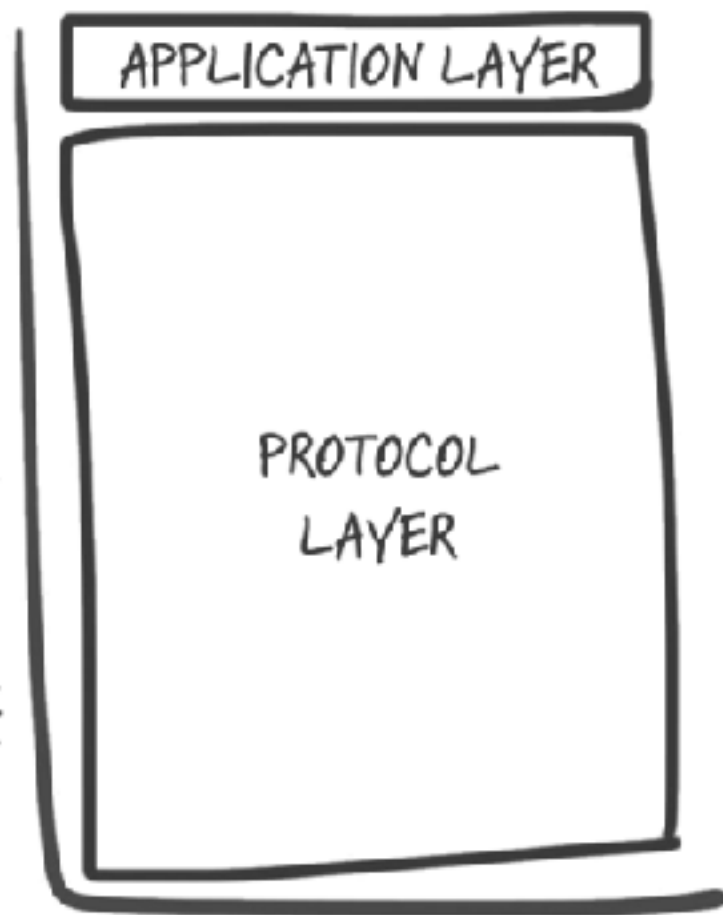
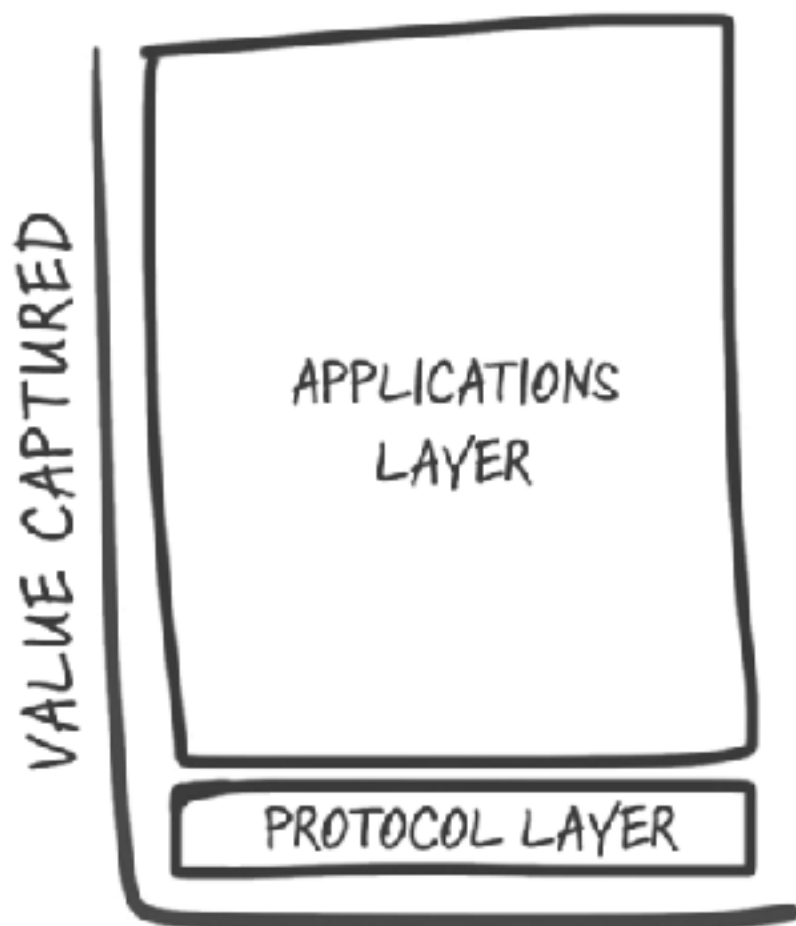
PROTOCOL LAYER

Blockchain

VALUE CAPTURED

APPLICATION LAYER

PROTOCOL
LAYER



3 types of Blockchain

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

Partnerships of R3CEV



BBVA



BNY MELLON



CommonwealthBank



COMMERZBANK 

CREDIT SUISSE 



Deutsche Bank



JPMorgan

Goldman Sachs

HSBC 



MUFG

MIZUHO

Morgan Stanley



 **RBS**
The Royal Bank of Scotland



SEB

 SOCIETE
GENERALE

 STATE STREET



 UniCredit

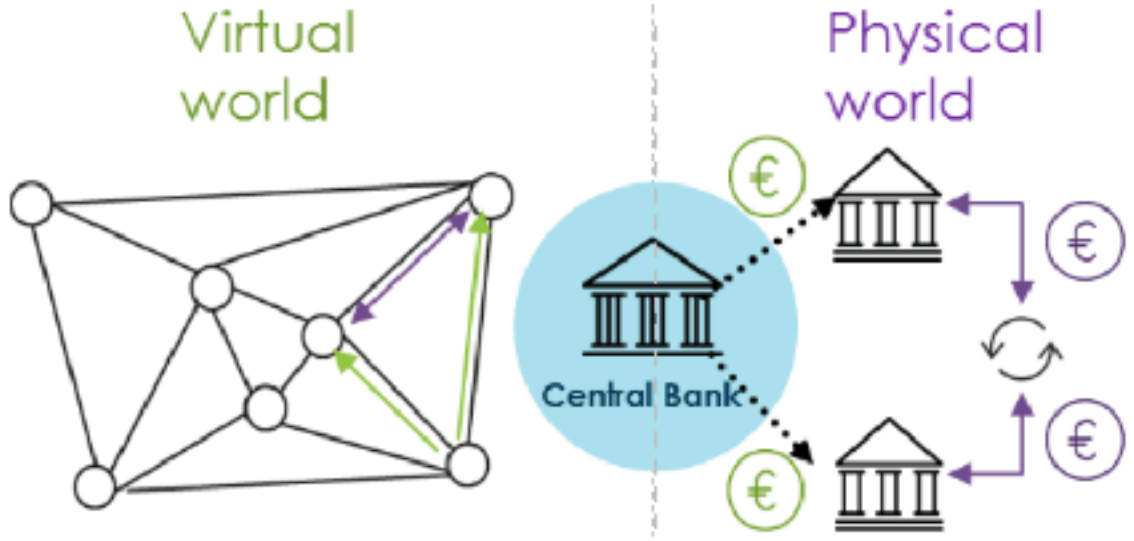
 UBS

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

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

Thank you!

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