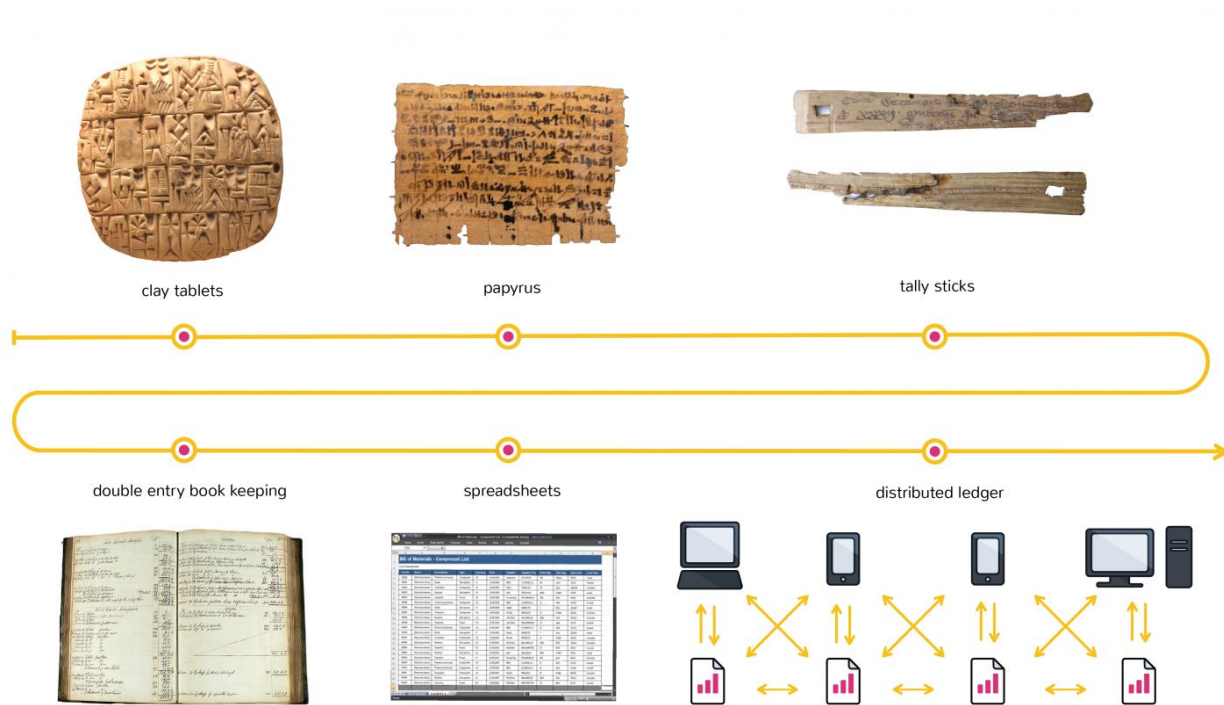


# Blockchain Overview

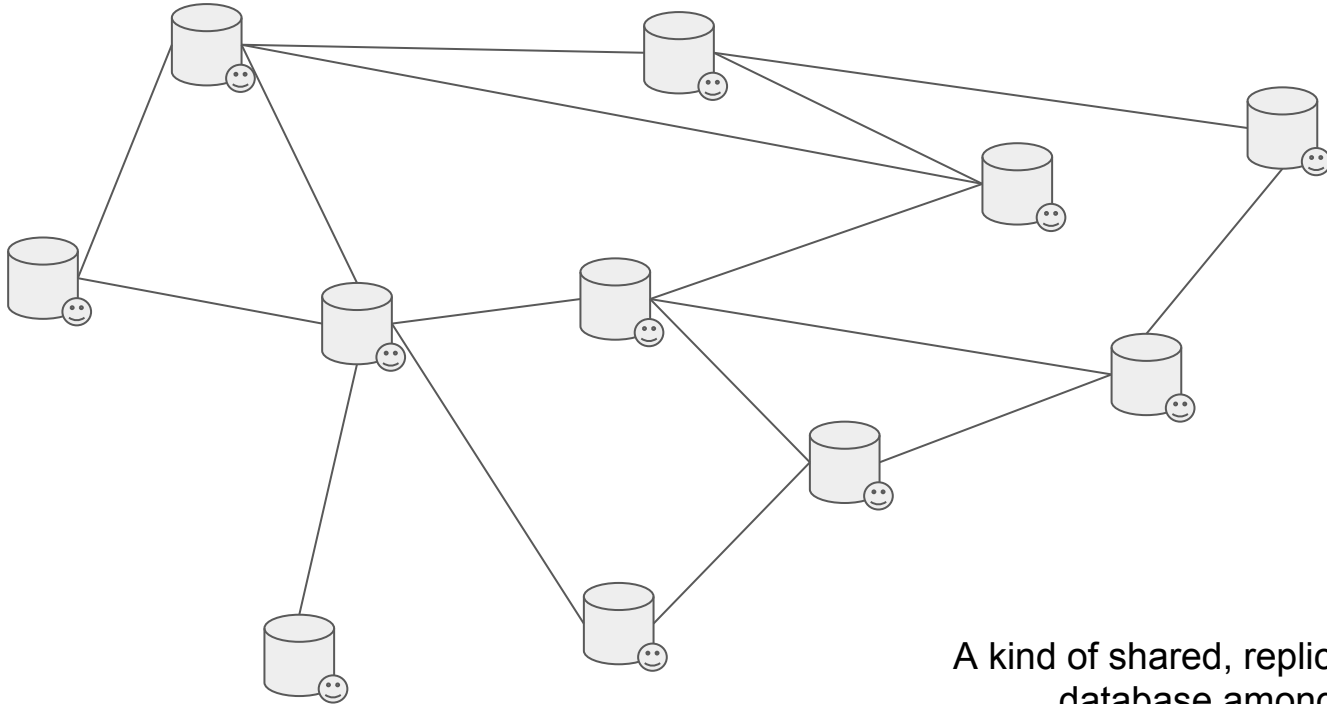
Angel Rendón  
UNsecureLAB

# Distributed Ledger Technology

# DLT

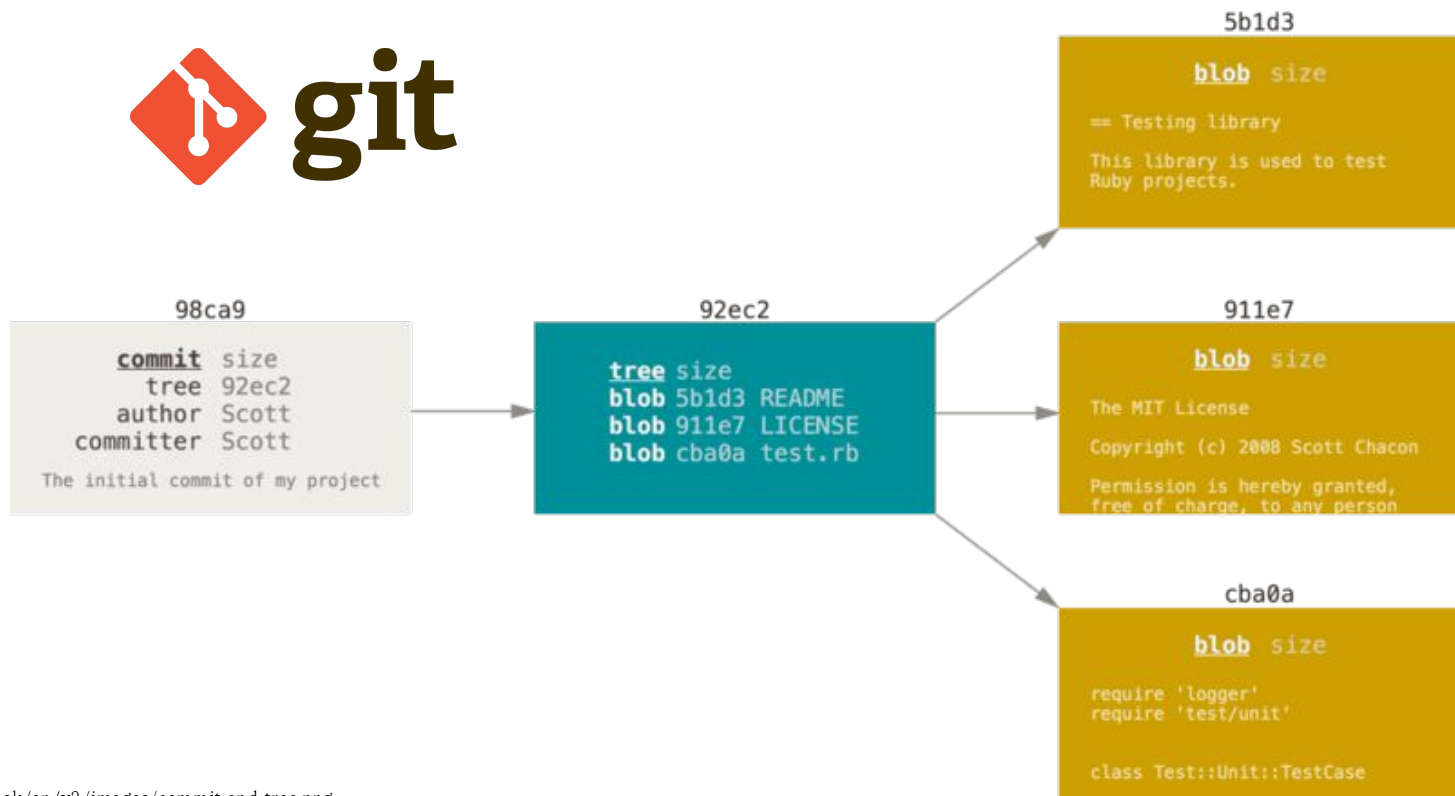


# DLT

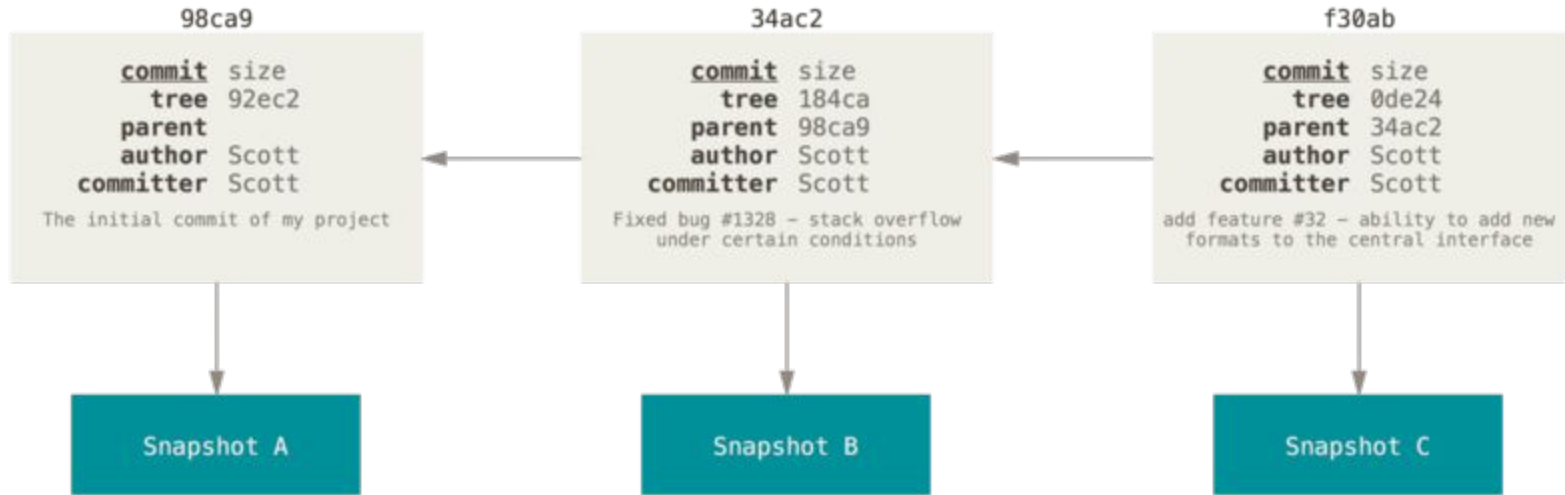


A kind of shared, replicated and synchronized  
database among members of the same  
network

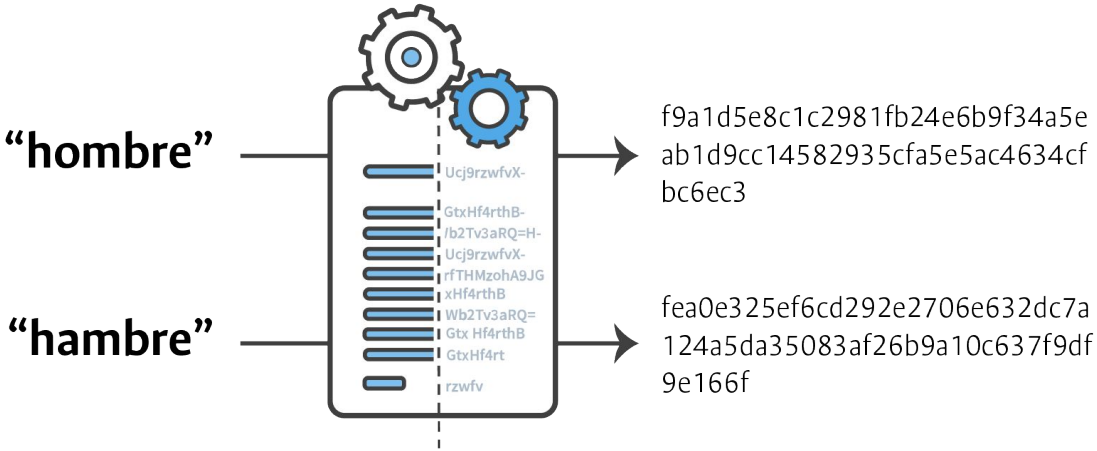
# DLT



# DLT



# DLT



# Blockchain



# Blockchain

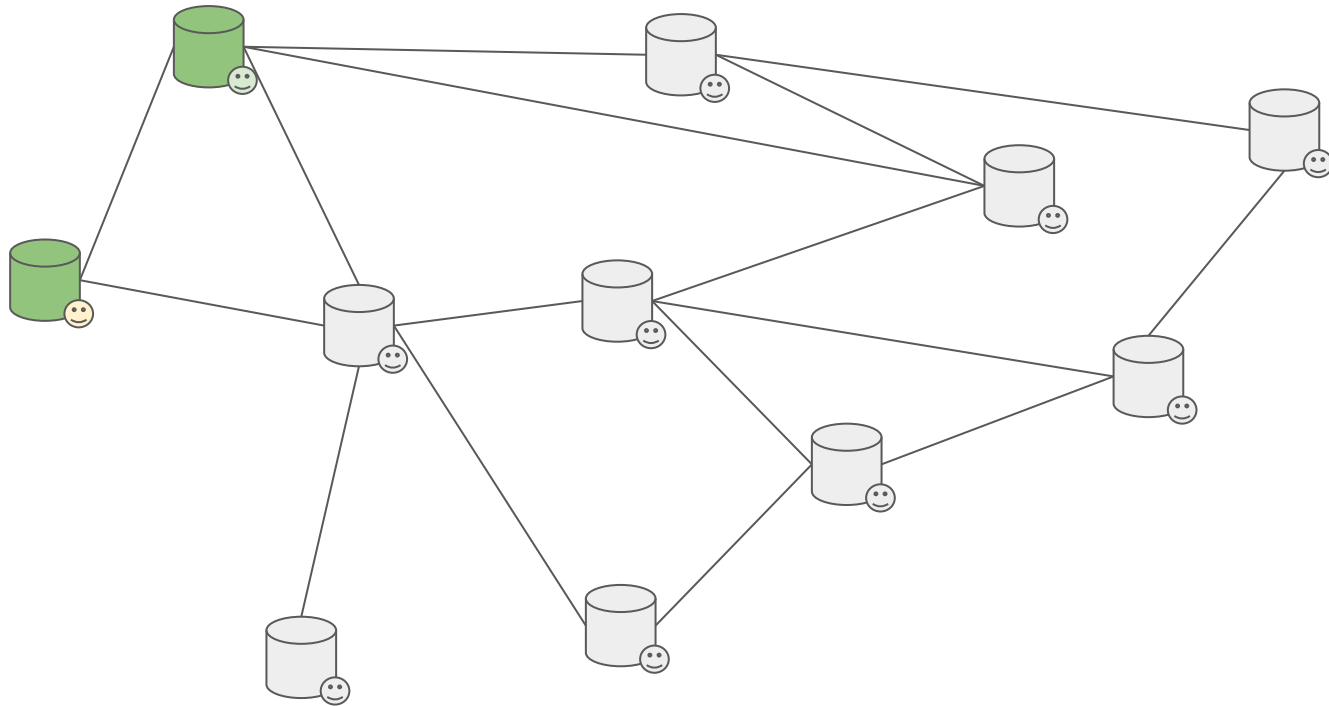


NEW YORK STATE			
VEHICLE REGISTRATION			
PAS	5XHP983	COUP	RED
	002100	012	06 20 15
TAXING DISTRICT	2561	EXPIRES	03.31.17
LOCAL TAX	30.00	ANNUAL	102.00
FOR A FULLER COPY OF THIS DOCUMENT			

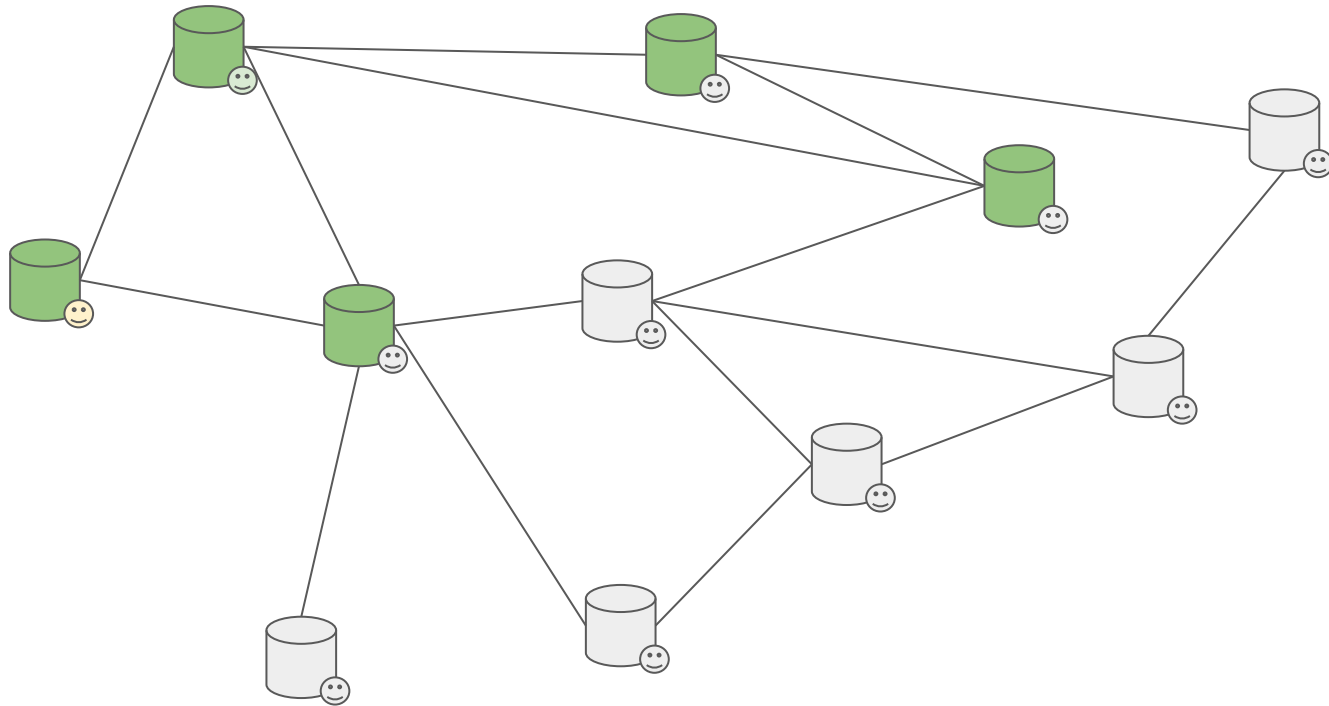


Imagem tomada de: <http://www.goldmansachs.com/our-thinking/pages/blockchain/>

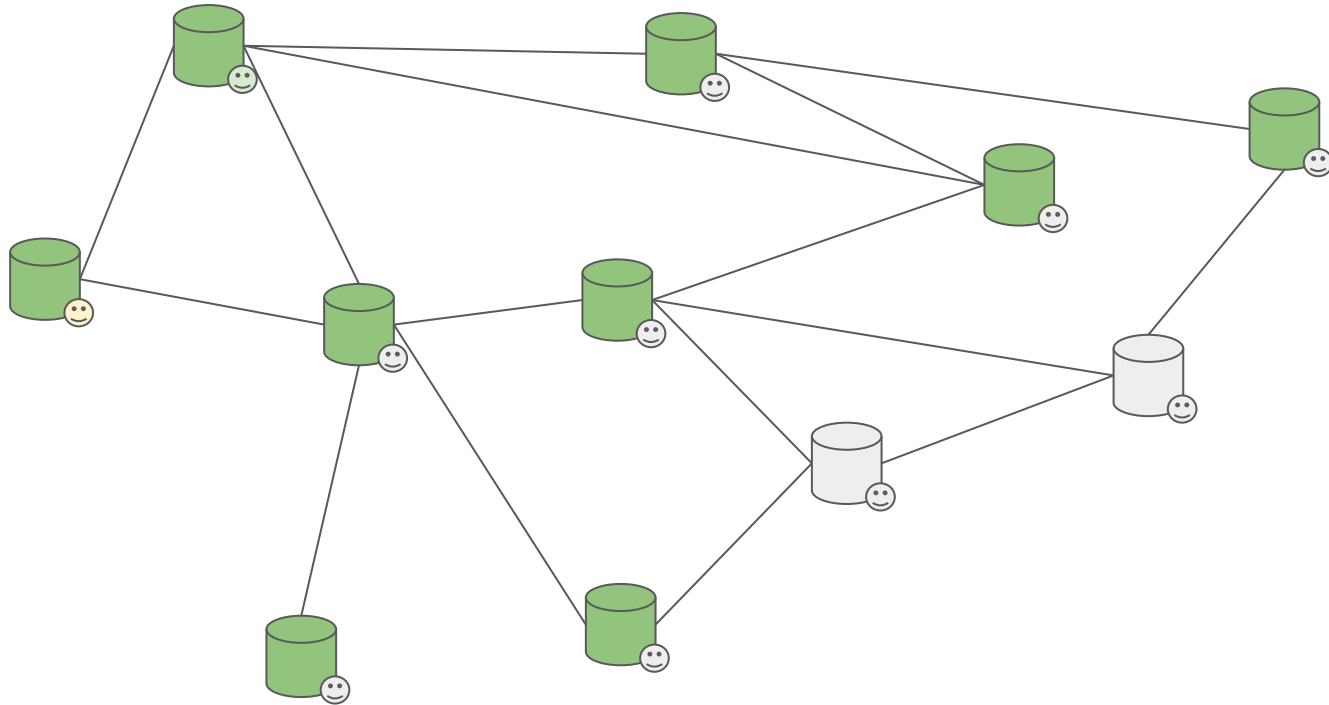
# Blockchain



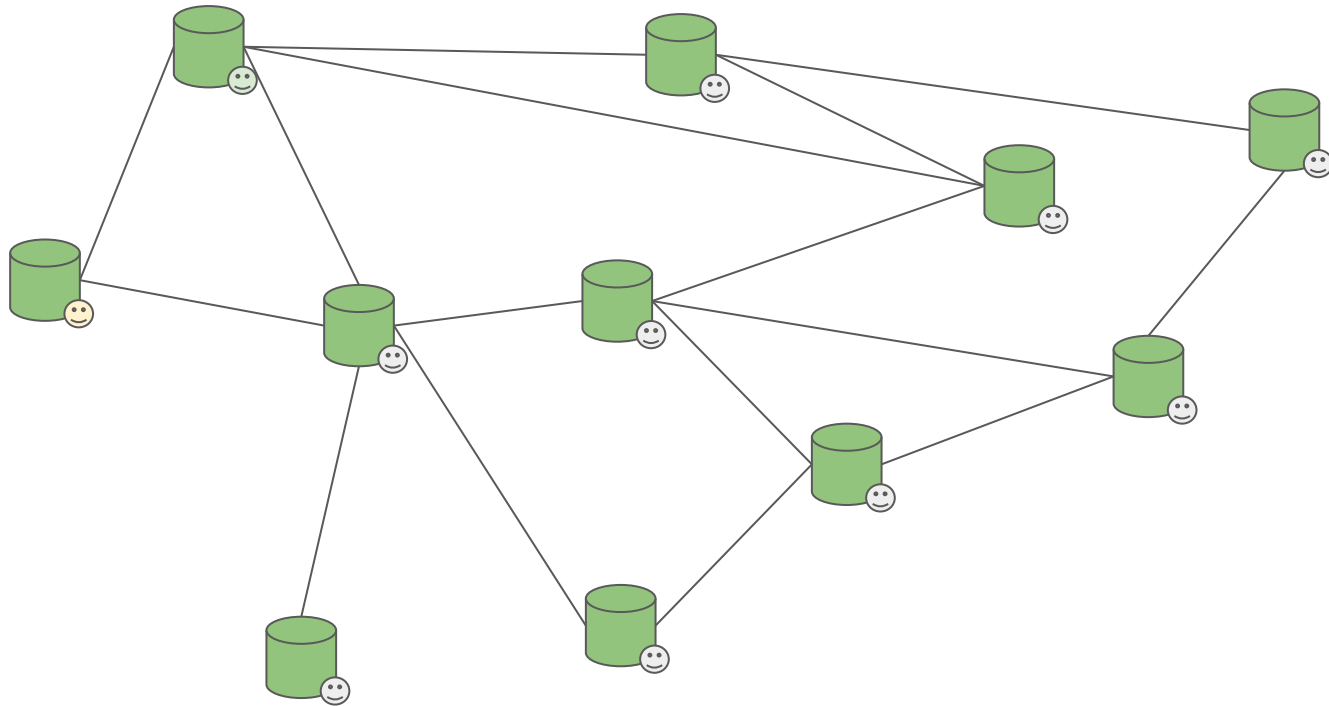
# Blockchain



# Blockchain



# Blockchain

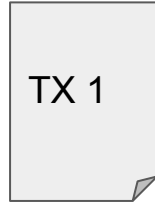


# Blockchain

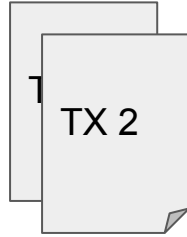


Imagem tomada de: <http://www.goldmansachs.com/our-thinking/pages/blockchain/>

# Blockchain

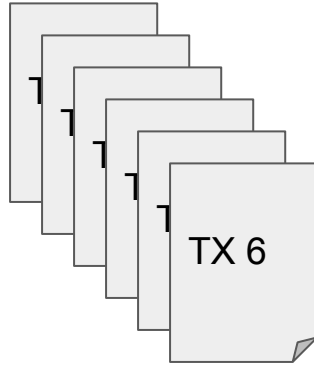


# Blockchain

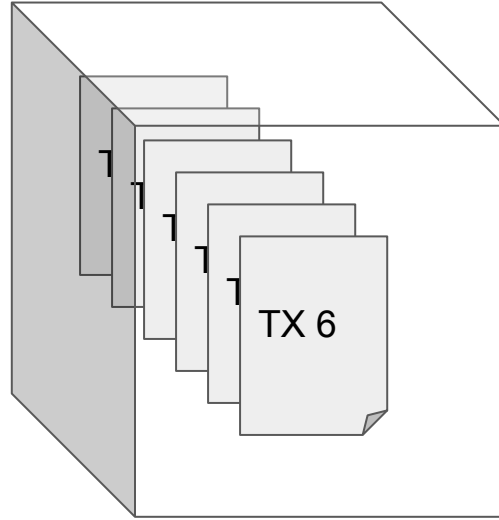




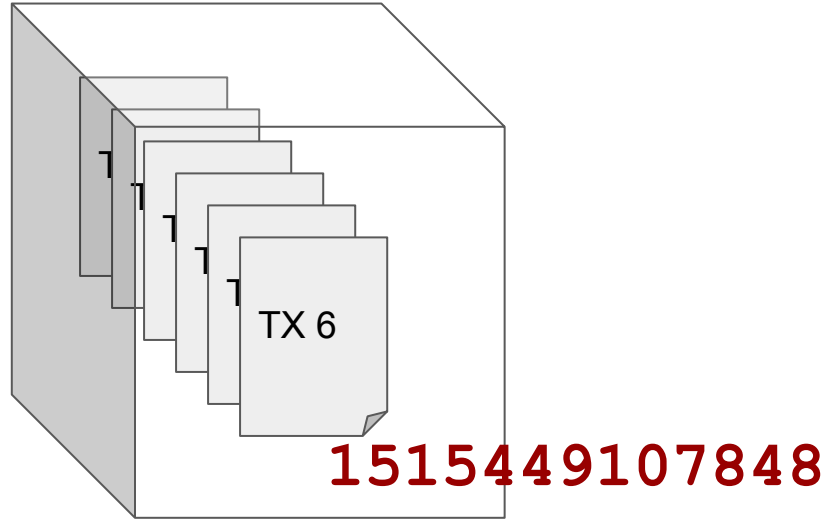
# Blockchain



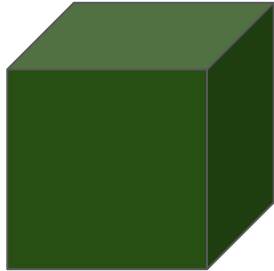
# Blockchain



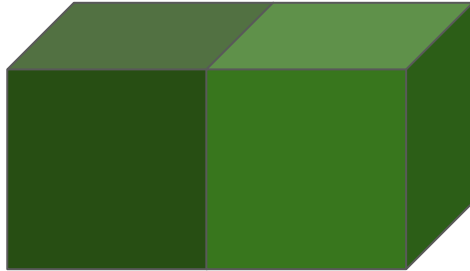
# Blockchain



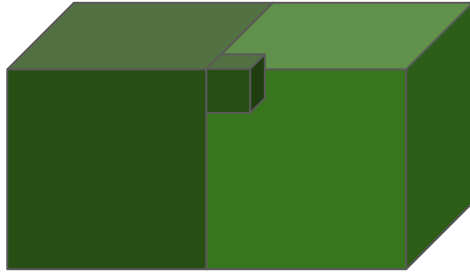
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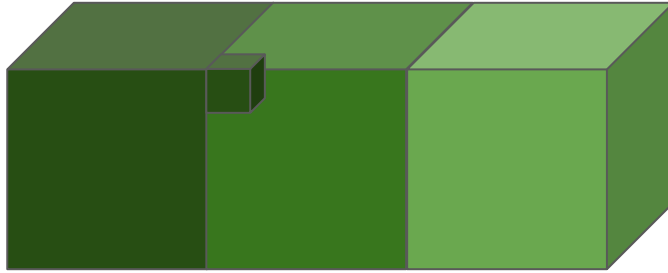
# Blockchain



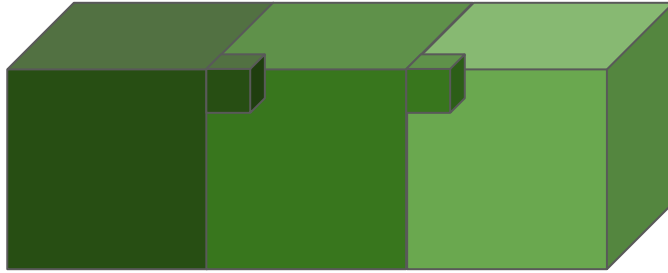
# Blockchain



# Blockchain

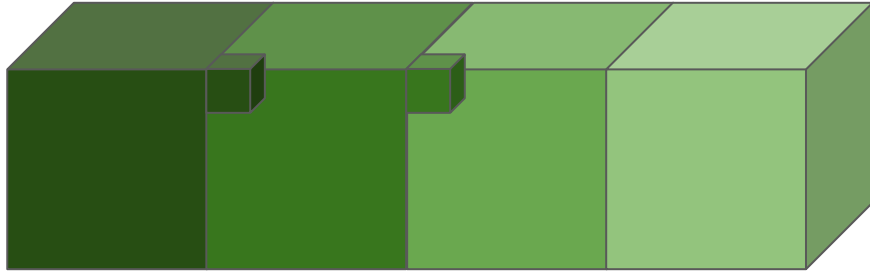


# Blockchain

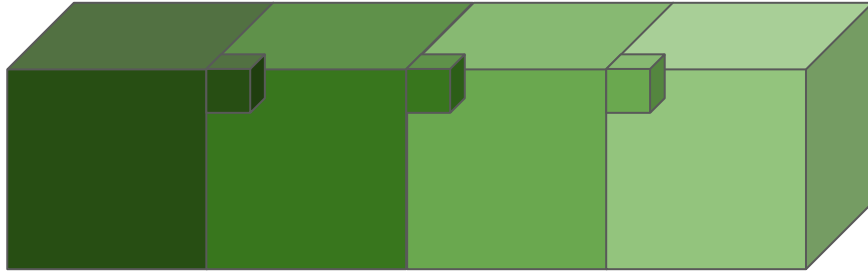




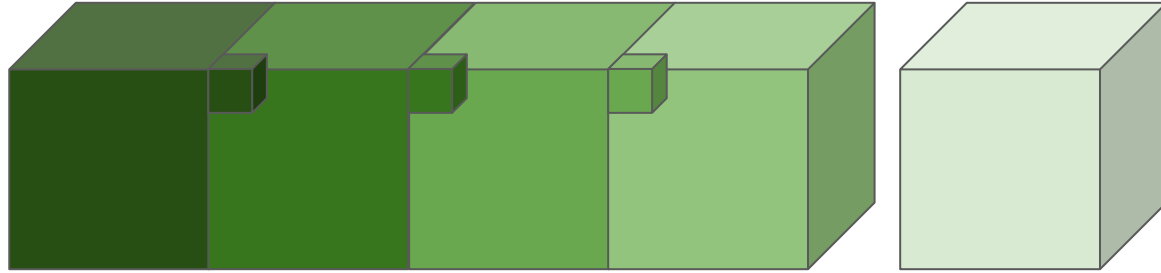
# Blockchain



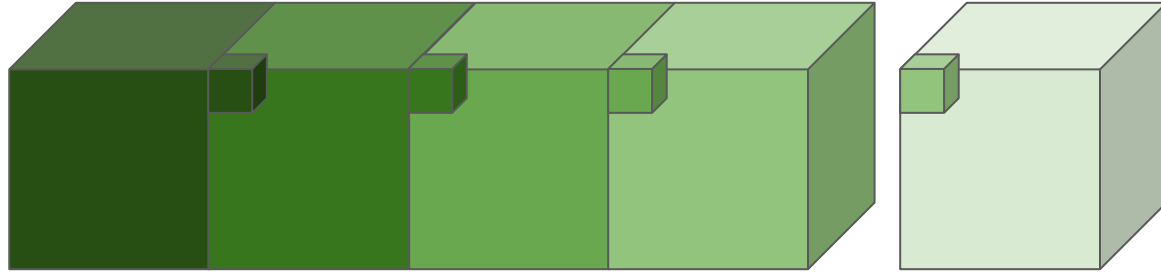
# Blockchain



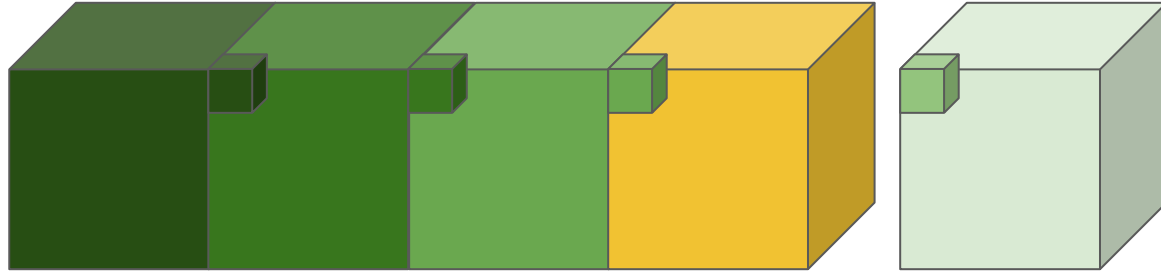
# Blockchain



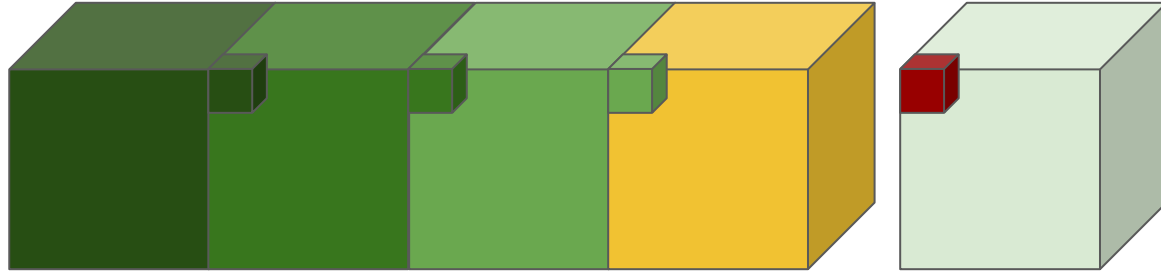
# Blockchain



# Blockchain



# Blockchain

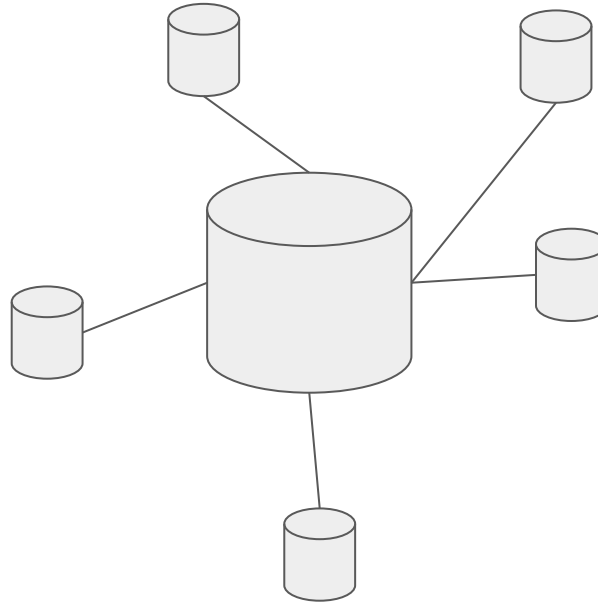


# Blockchain: Principles

1. Distributed database

# Blockchain: Principles

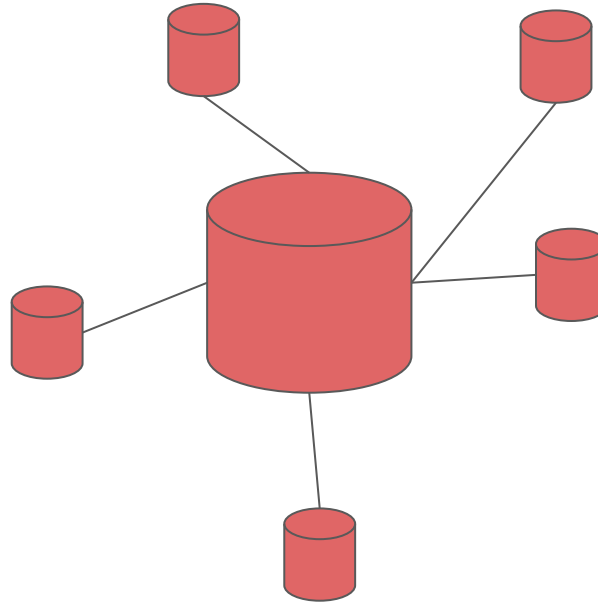
## 1. Distributed database





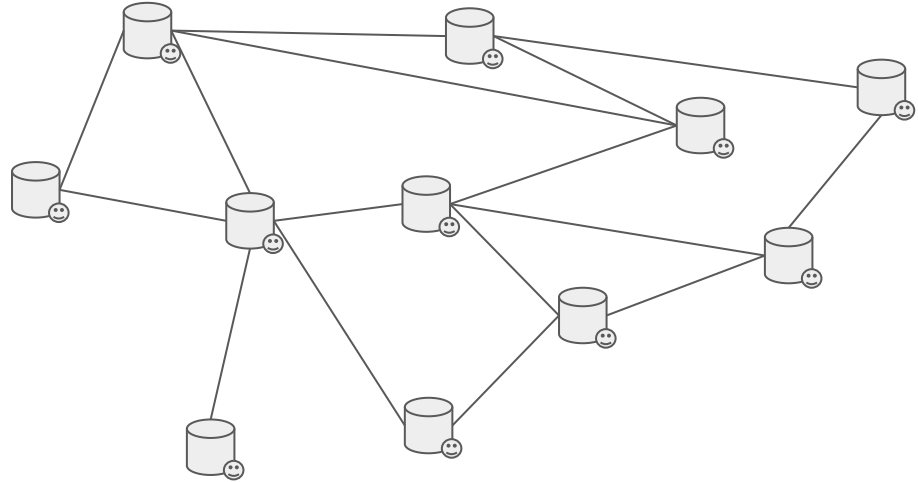
# Blockchain: Principles

## 1. Distributed database



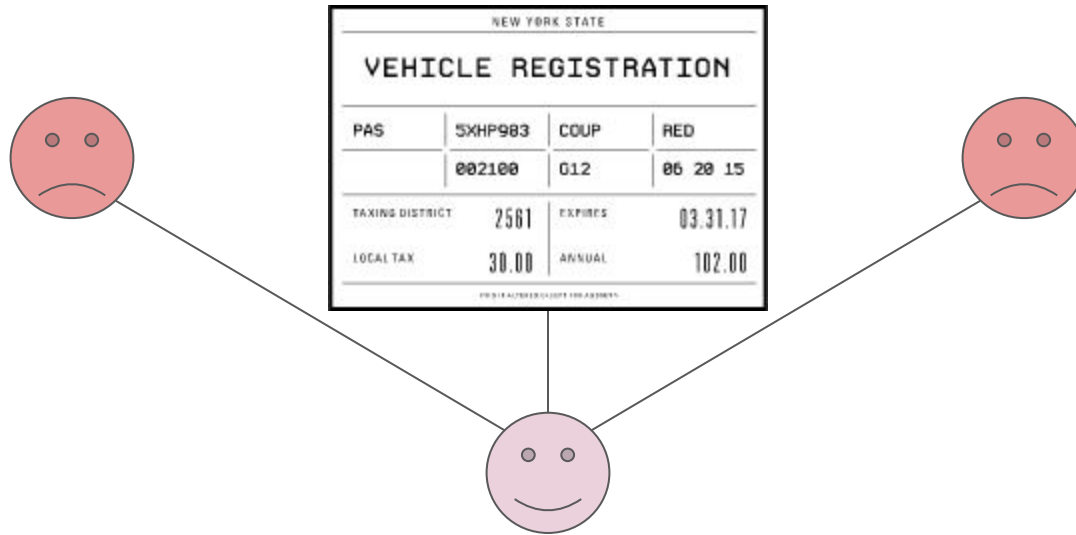
# Blockchain: Principles

## 1. Distributed database



# Blockchain: Principles

1. Distributed database
2. Transmission and distribution between pairs



# Blockchain: Principles

1. Distributed database
2. Transmission and distribution between pairs

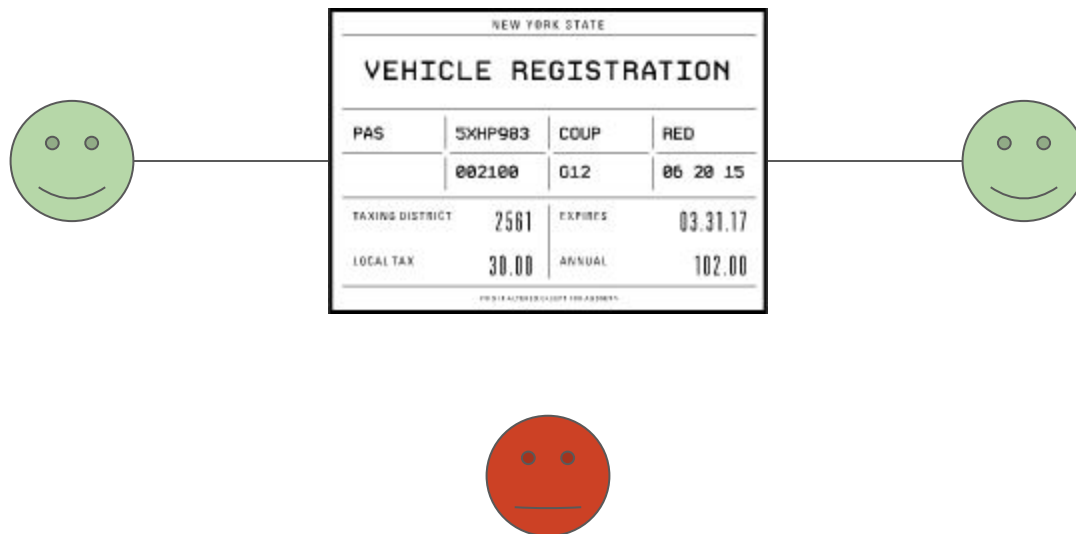


Imagen tomada de: <http://www.goldmansachs.com/our-thinking/pages/blockchain/>

# Blockchain: Principles

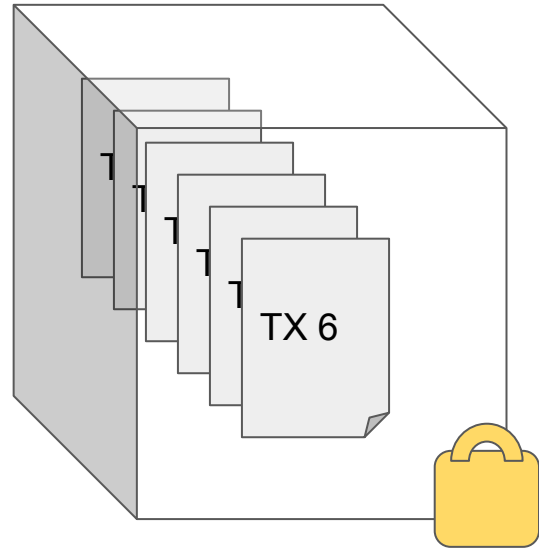
1. Distributed database
2. Transmission and distribution between pairs
3. Transparency with or without privacy



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# Blockchain: Principles

1. Distributed database
2. Transmission and distribution between pairs
3. Transparency with or without privacy
4. Record immutability



# Blockchain: Principles

1. Distributed database
2. Transmission and distribution between pairs
3. Transparency with or without privacy
4. Record immutability
5. Computational logic

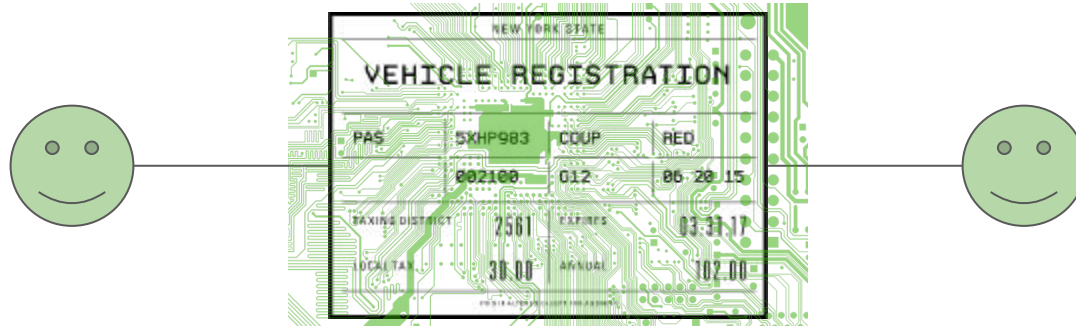


Imagem tomada de: <http://www.goldmansachs.com/our-thinking/pages/blockchain/>

# Case of Study: Scholar Ballot



# Scholar Ballot

- Decree 1860 of August 3th, 1994, whereby the law 115 of 1994 is partially regulated, on pedagogic and general organizational aspects on articles 28 and 29.

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- Solidity for Ethereum.

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- Decree 1860 of August 3th, 1994, whereby the law 115 of 1994 is partially regulated, on pedagogic and general organizational aspects on articles 28 and 29.
- Solidity for Ethereum.
  - Records Immutability
  - Transparency
  - Auditability
  - Control
  - Teaching

# Scholar Ballot: Environment

- Ganache-cli
- Truffle Framework
- Chai
- VueJS + Vuex
- Web3JS
- ExpressJS
- Truffle Contracts
- Firebase (Hosting + Storage + Database)
- Digital Ocean Instance
- Local - Ropsten Test Network

# Scholar Ballot: Results



# Scholar Ballot: Results

