

## About project

- Goal-
  - Implement a decentralized blockchain network by using the JavaScript programming language.
- fully functional blockchain prototype
- decentralized blockchain network

### what is blockchain

A blockchain is a distributed ledger technology that forms a "chain of blocks."

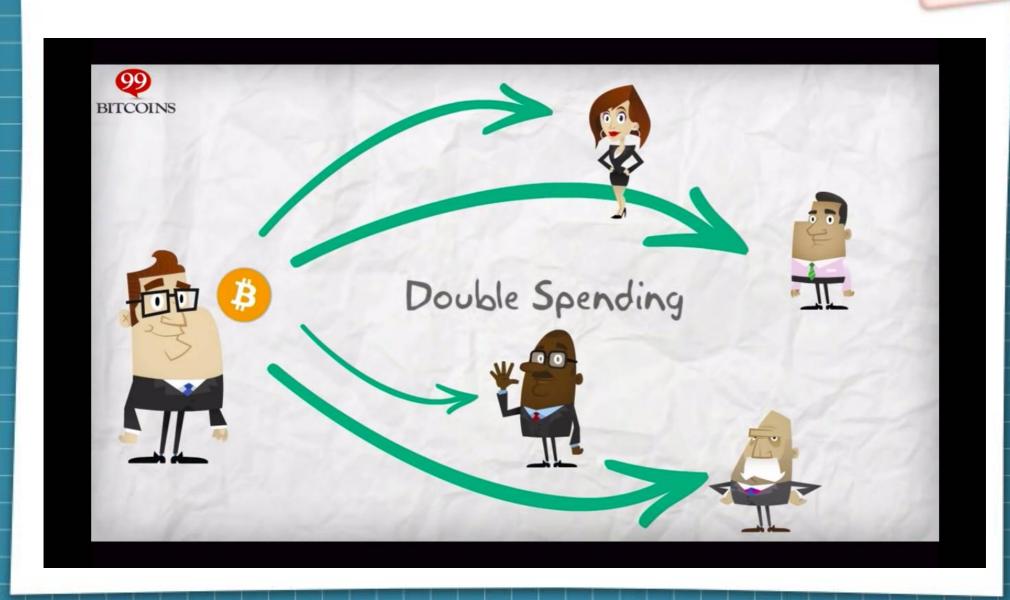
an electronic payment system based on cryptographic proof instead of trust.



## Why use blockchain?

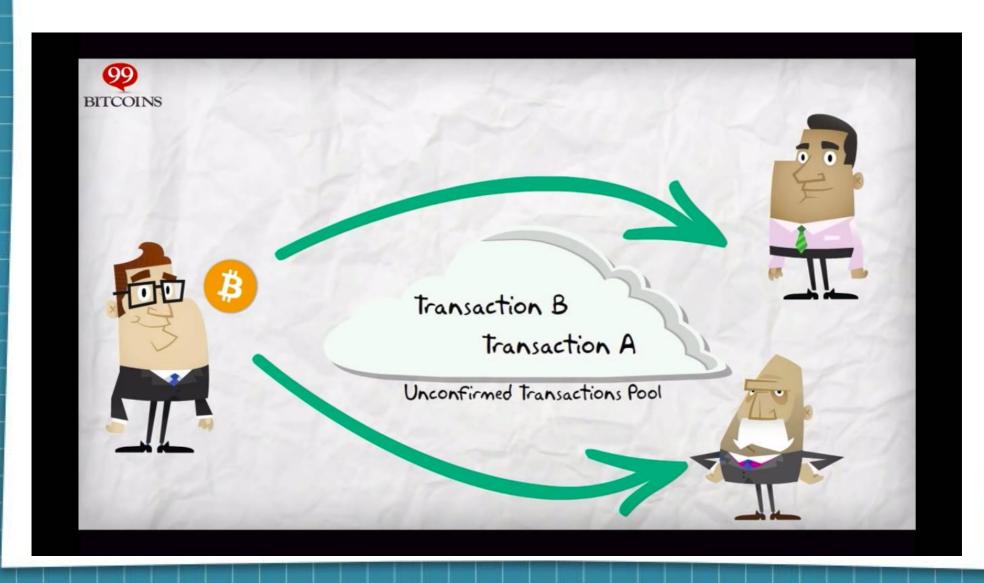
- Decentralized -
  - Peer to peer electronic cash system that allows online payment directly from one party to other without going through a third party.
  - Ex govt banks.
- Security-
  - No single point of faliure in decentralized databases.
- Double spending problem.

## Double spending problem

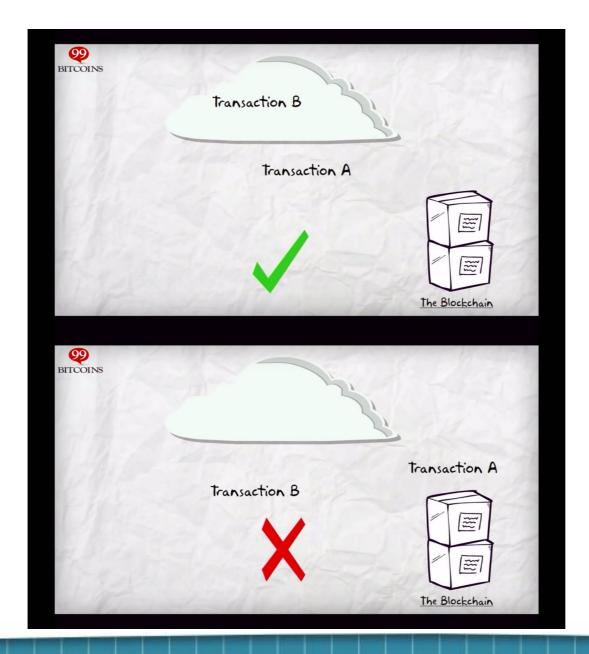


## Double spending problem

Both transaction wait untill they get verified

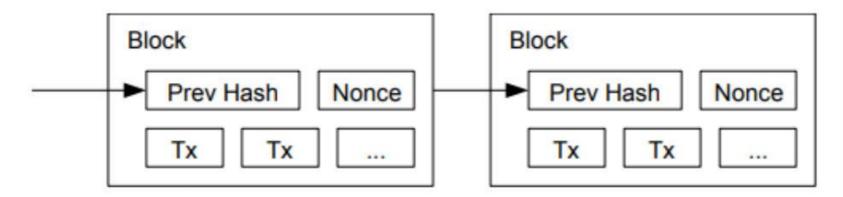


## Doble spending problem



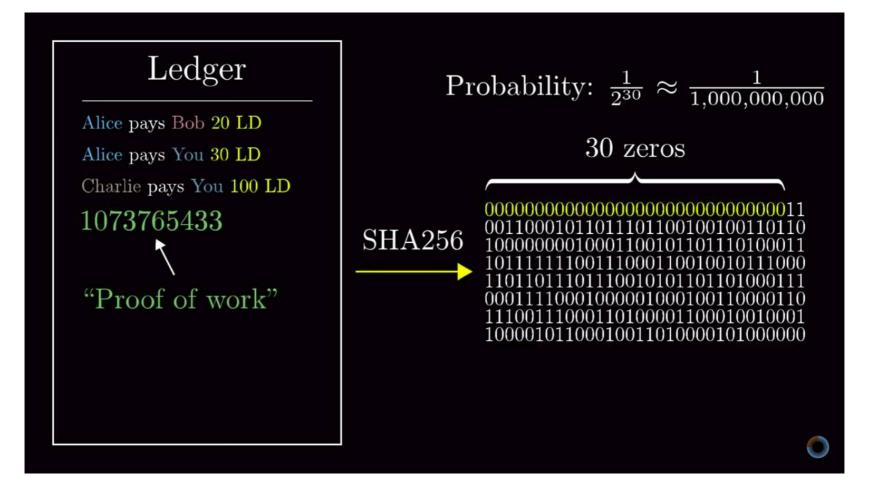
# BLOCKCHAIN VS NORMAL DATABASES

- Immutability –
- Proof-of-Work system provide near-immutable transactions.
- Once a transaction on a blockchain is verified, it is practically impossible to roll it back & modify

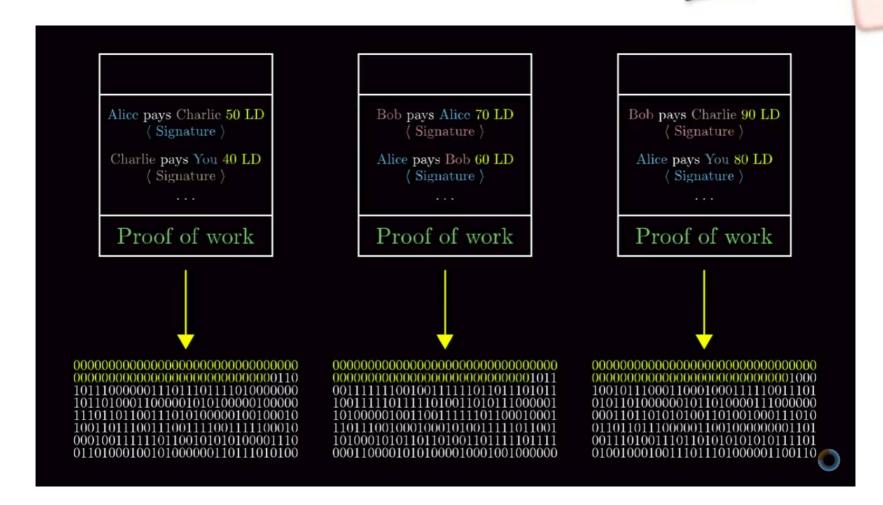


### Proof of work

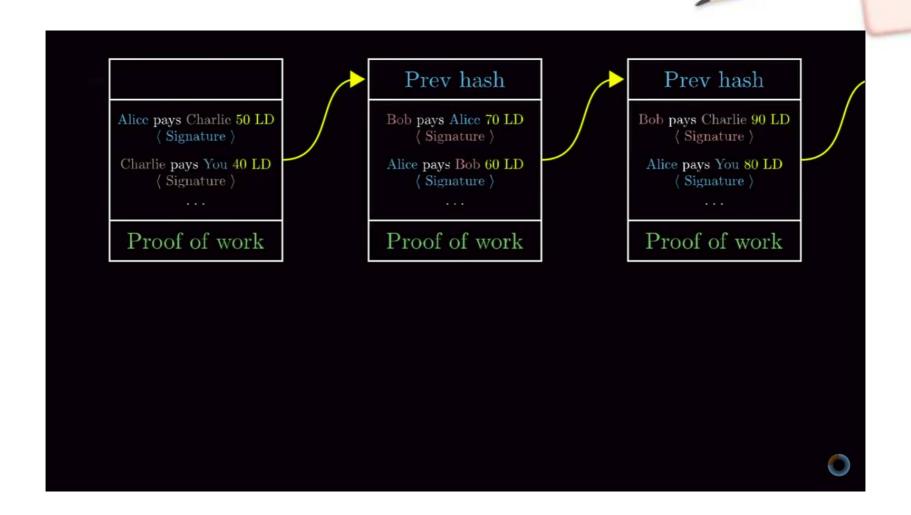
Using Cryptographic Hash Functions



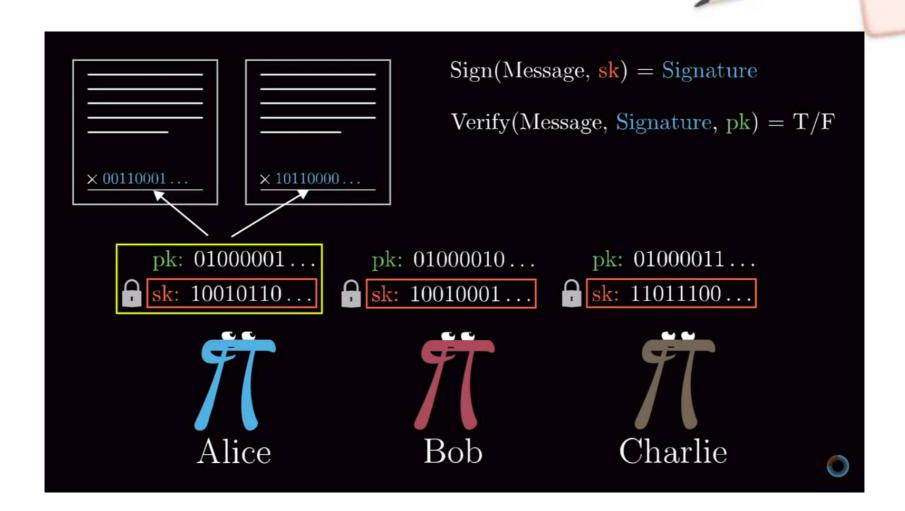
### Proof of work



### Proof of work



## Digital Signature



#### Main ideas

- · Digital signatures
- $\cdot$  The ledger is the currency
- $\cdot$  Decentralize
- · Proof of work
- · Block chain













