

Blockchain

*Jonathan Chester*

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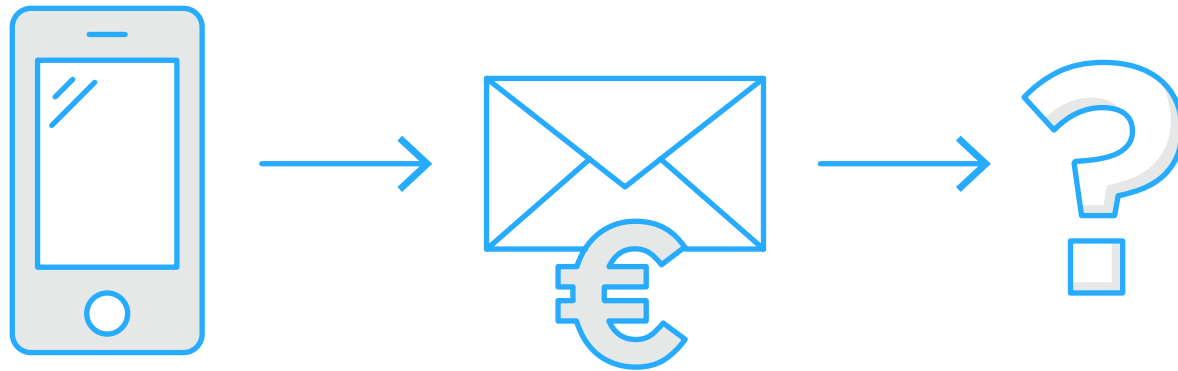


International Payroll & Invoicing  
Built On Top Of The Bitcoin Blockchain

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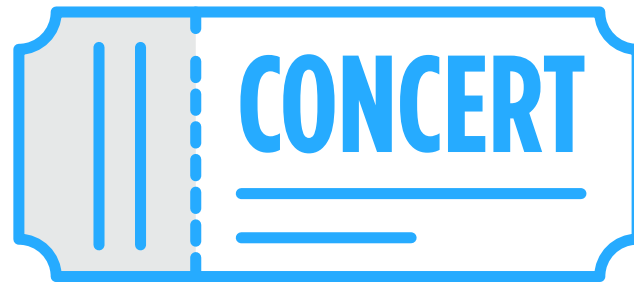
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# The Double Spending Problem











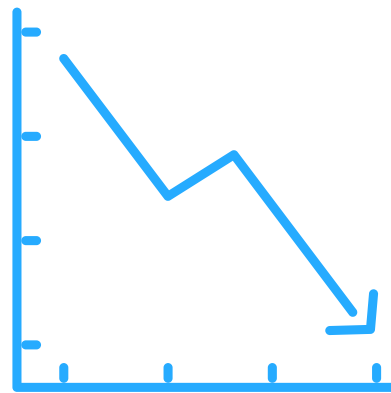
# Centralization Costs

- High fees
- Slow Transfers
- Credit Risk





# Credit Risk



**2008 RECESSION**



# Bitcoin

- Peer-to-peer electronic cash system
- Decentralize data processing & storage
- Maintain highly secure public ledger



# \$250bn Market Cap

Jul 18, 2010 to Nov 26, 2017



# Web of Trust

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## Distributed Database



**HYPERLEDGER**



# Bitcoin

Digital Gold



# Bitcoin

A borderless, transnational, open system of access for financial payments and trust, that enables permissionless innovation with high resistance to censorship, coercion and geopolitical manipulation.





# Borderless & Transnational



# Open system of access for financial payments & trust





## Enables Permissionless Innovation

- Forex
- International Payments
- Micro Payments
- Storage
- Smart Contracts



## With high resistance to censorship, coercion, and geopolitical manipulation

- Control Your Money
- 21m Bitcoin





# Venezuela

January 2016

Official Rate: 6.3 VEB / USD

Black Market Rate: 800 VEB/USD





# Venezuela

November 2017

Official Rate: 10 VEB / USD

Black Market Rate: 80,000 VEB/USD



# How does Bitcoin work?



**Miners**



**Nodes**



Core Developers



Applications



Users



# Traditional Transactions



Process  
Transactions



Accept  
Transactions

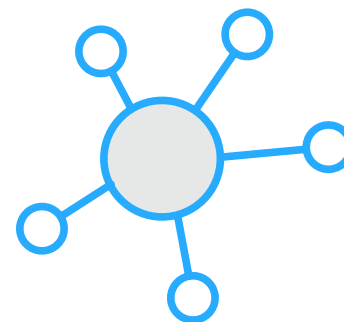
*Trusted reputation, Regulated*



# Bitcoin Transactions



Process  
Transactions



Accept  
Transactions

*Trustless, Technical Incentive,  
Economic Incentive*



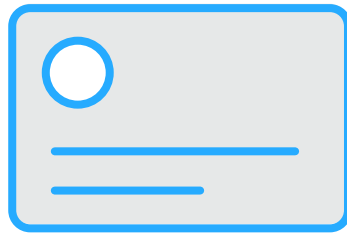


# Trustworthy Transaction

- A. Receiver knows Sender sent the money
- B. Receiver knows Sender cannot double spend



# Public/Private Key Cryptography

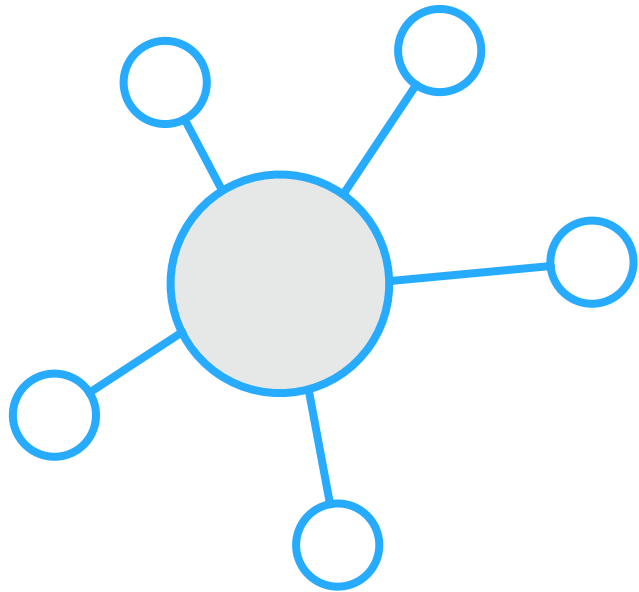


Private key

**NL99 BANK 0123 4567 89**

Public key





## Nodes

- Accept Transactions
- Enforce Rules
- Available to Anyone
- Broadcast Blockchain
- POW



# Miners



- Verify pending transactions have not been double spent
- Secure Network with POW
- Chain Block of Transactions to Previous Block



# Proof Of Work

- 1 Block per 10 Minutes
- \$3.5bn market
- 9m - 12m terahashes per second
- 51% Attack
- Bitcoin Reward



# Bitcoin Summary

- Peer-to-peer digital currency
- Solved double spend problem
- Immutable public database
- Transactions traceable to origin
- Transactional timestamps

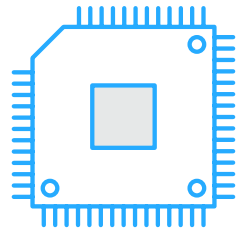


# The Blockchain - Definition

A database that is shared between more than a singular node, which can only be updated through consensus between a predefined number of nodes running the blockchain software.



# Blockchain Attributes



Proof of  
Authenticity



Data  
Notorization



Data  
Aggregation



Asset  
Settlement





# Thank you

IMTC  
USA  
2018



## Jonathan Chester

**2013**

Entered the Industry

**2015**

**Forbes**

**2014**

 **bitWAGE**

**2017**

*InWage*

