

Bitcoin Introduction

For first-time non-technical users

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What is it?

- Bitcoin is:
 - **a decentralized digital (crypto-)currency**
 - **a decentralized payment network**
 - **a technology**
 - a peer-to-peer network/protocol
 - an immutable public transaction ledger (aka blockchain)
 - a proof-of-work algorithm
 - a decentralized trustless platform using elliptic-curve cryptography (PKI)
 - a novel consensus mechanism



Decentralized Digital Cryptocurrency

- bank creates/controls currency
- transfer of value via an institution
- higher-fees / centralized control

Centralized



Decentralized Digital Cryptocurrency

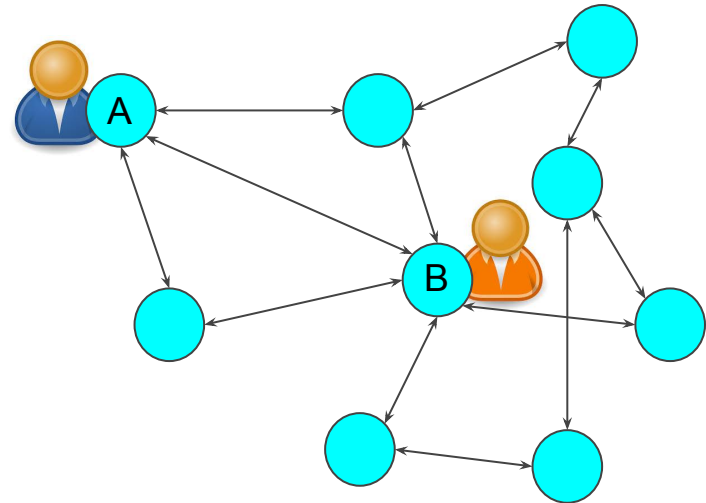
- bank creates/controls currency
- transfer of value via an institution
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- currency is created algorithmically and distributed
- direct transfer of value from A -> B
- no intermediaries / no corruption

Centralized



Decentralized



Decentralized Digital Cryptocurrency

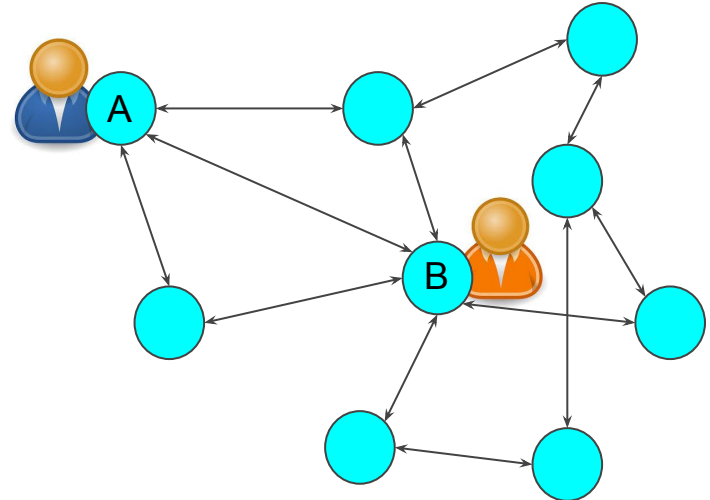
- digital
 - 9.00 -15.00 Mon-Fri
 - inter-institution fees

- digital
 - only pre-requisite is an internet connection
 - Global
 - 24/7

Centralized



Decentralized



Decentralized Digital Cryptocurrency

- anti-counterfeiting

- centralized control
- enforced by bank -> state -> police

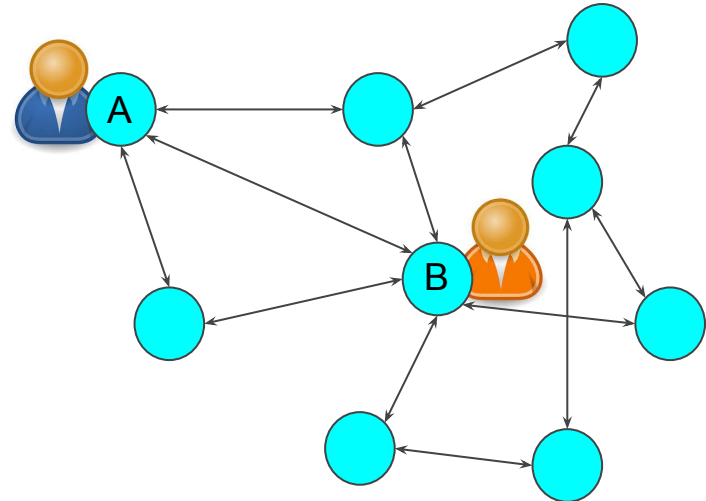
- anti-counterfeiting

- algorithms
- enforced by cryptography

Centralized

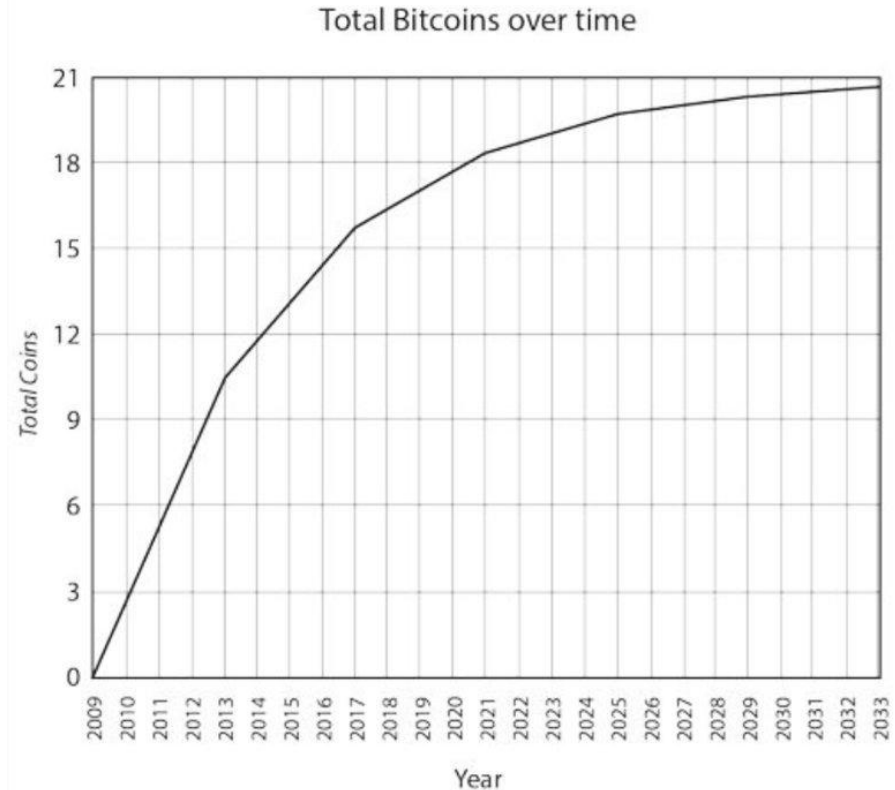


Decentralized



Currency characteristics (controlled supply)

- Bitcoin
 - issued every ~10 minutes
 - 99% up to ~2040
 - deflationary
- Fiat currency (euro, dollars, etc.)
 - inflationary



Currency characteristics (transparent rules)

- Transparent rules
 - which transactions are valid?
 - how is ownership determined?
 - how are new coins distributed?
- Open source software
 - anyone can verify



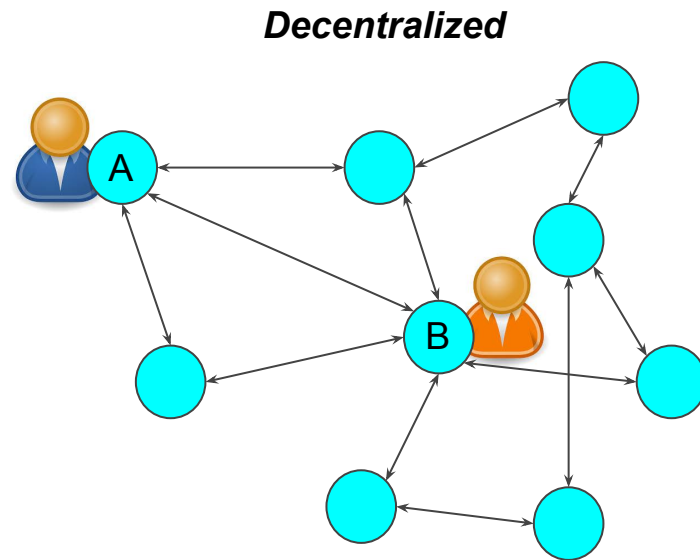
Currency characteristics (consensus-based)

- valid rule set
 - majority governs current
 - e.g. which transactions occurred



How it works

- Bird's eye view
 - peer-to-peer network (of)
 - bitcoin nodes (open source software)
 - run and secure the network
 - transaction history (aka blockchain)
- Why run a bitcoin node?
 - volunteerism
 - bitcoin rewards
- Mining
 - secures the network
 - the process of minting new coins





Next: Some use cases

Applications

- **Remittances**
- **Payments**
- **Micropayments**
- **Bank services for the unbanked**
- **Store of Value**
- Digital Tokens
- Decentralized Applications
- Proof of Existence
- Smart Contracts
- Decentralized Autonomous Organizations
- Internet of Things / Machine to Machine
- Voting / Identity
- Private Blockchains
- Other?

Remittances

- €600 billion market
 - Western Union (15%)
 - MoneyGram
- High fees
 - depends on location
 - up to 25%
 - more for same day delivery
- Up to same day delivery
- Anywhere there is an agent
- Working hours
 - plus extended hours

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- Bitcoin slowly gains momentum
- ~4¢ irrespective of amount
 - 1BTC = €378
- Up to an hour
 - in practice it is much faster
- Anywhere there is a connected machine
 - Internet (no need for permanent access)
- Anytime
 - 24/7
- No intermediaries, but...
 - bitspark.io
 - rebit.ph
 - bitpesa.co

Making/Receiving Payments

- Online
- Credit cards
 - 3%-6% + small flat rate
- Debit cards
 - 2%-3% + small flat rate
- Paypal
 - 2.9% + \$0.30
- Bitcoin
 - none
 - but the sender typically pays ~4¢

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- Merchants can offer discounts for bitcoin!
- Payment Processing?
 - Coinbase, BitPay

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- Some major companies
 - Overstock
 - Microsoft
 - Dell
 - Expedia
 - Time Inc.
 - DISH Network
 - Newegg
 - Zynga
 - UK's Theatre Tickets Direct
 - AirBaltic
 - CheepAir
 - ...
- Do they keep their bitcoins?
- Can Bitcoin handle demand if widely adopted?

Micropayments

- Pay content creators
 - media
 - blogs
 - forums
- Many failed
- Flattr
 - click to reward
 - 10% fee from receivers
- ChangeTip
 - Twitter, Reddit, YouTube, Google+, Tumblr, StockTwits
 - was 1%, for now none
- ProTip (Chrome extension)
 - open source
 - free
- Zapchain

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- Pay as you go (by the second!)
 - content distribution
 - watchmybit.com
 - streamium.io
 - Netflix-like service?
 - wifi
 - BitMesh (company)
 - Wifiportal21 (open source)
 - other
 - web hosting
 - ...

(payment channels: trustless, 2-2 multi-sig, nLockTime)

Be your own bank

- Bank services for the unbanked/underbanked
 - payments
 - remittances
 - micro-payments / donations
 - ... using Mobiles

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- Bank services for the banked
 - capital controls
 - censorship
- Store of value (vs hyper-inflation)
 - gold
 - reserve currencies
 - bitcoin
 - deflationary
 - Latin/South America, China, Russia.

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Next: Basic concepts / usage

Basic concepts (Bitcoin address / private key)

Bitcoin Address



SHARE

1Atuv5zFi5P5dzgfHNGWWR8EWjRSzDbCEL

Private Key



SECRET

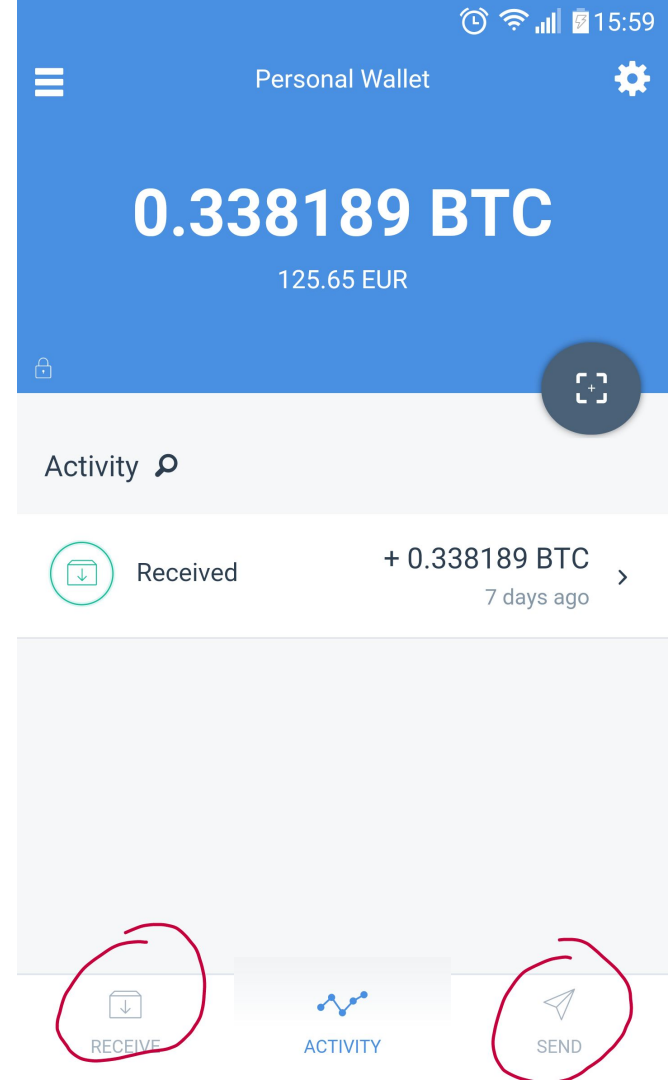
L13HRyX7Lj3TLve4jAx53ink49sR6eLrJP2q5kviJPQDzGBzVARG

Basic concepts (Bitcoin wallets)

- **Wallet**
 - manages bitcoin addresses (accounts)
 - can send (receive) bitcoins
- **Types**
 - desktop
 - mobile
 - online/web wallet
 - hardware wallet
- **Wallet examples**
 - Copay, Mycelium, ...
 - <https://bitcoin.org/en/choose-your-wallet>

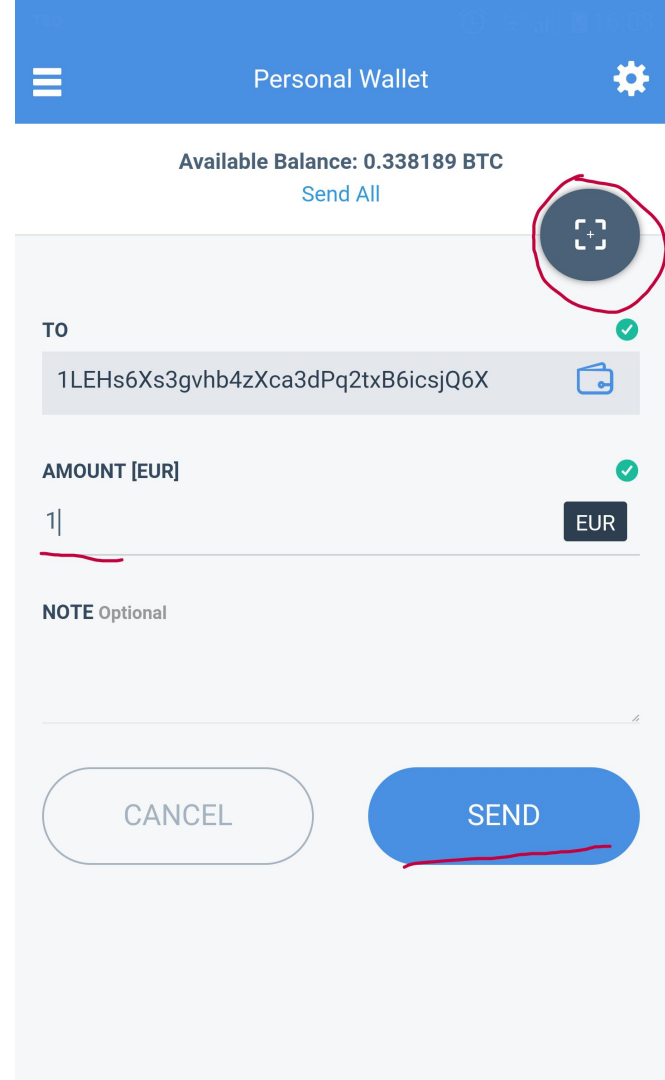
Usage: send bitcoins (1)

- Balance
- Activity
- Receive
- Send



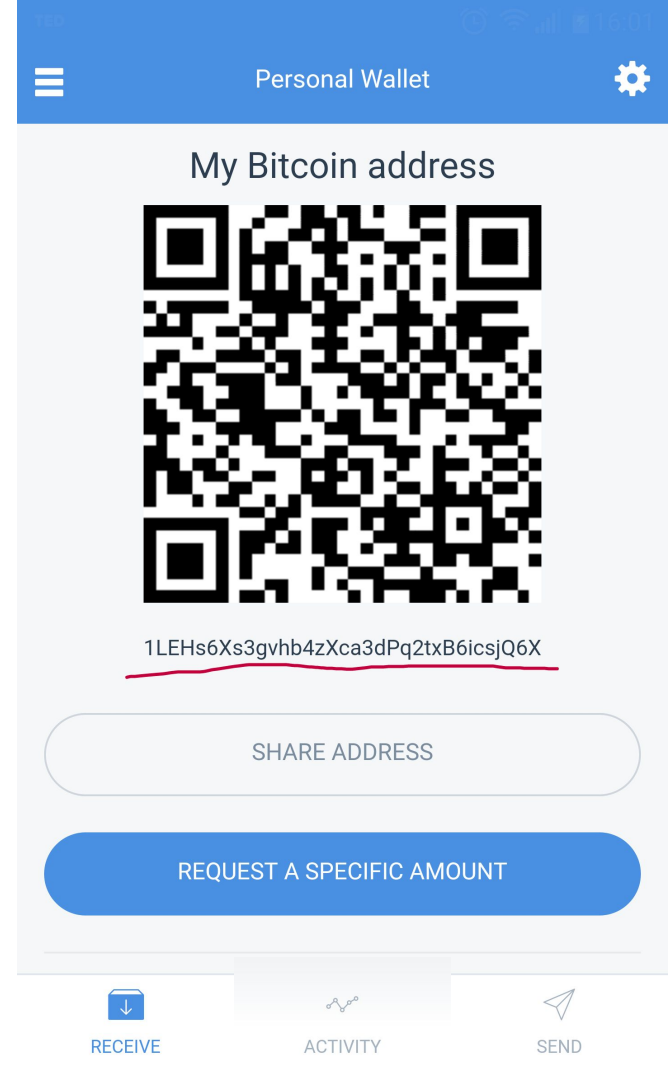
Usage: send bitcoins (2)

- To: (address / QR code)
- Amount: (in bitcoins or preferred currency)



Usage: receive bitcoins (1)

- Provide address string, or
- QR code



How to get Bitcoins

- Mine Bitcoins
 - nowadays very competitive / difficult
- Buy Bitcoins from an online exchange
 - bitcoins and/of fiat on exchange are controlled by the exchange
- Buy Bitcoins from an ATM
- Buy Bitcoins directly from another user
- Sell services or goods for bitcoins



Greek Community

- Bitcoin and Blockchain Tech Meetup (Thessaloniki)
 - <http://www.meetup.com/BlockchainGreece-1/>
- Bitcoin and Blockchain Tech Meetup (Athens)
 - <http://www.meetup.com/BlockchainGreece-0/>
- Bitcointalk forum (Greek section)
 - <https://bitcointalk.org/index.php?board=120.0>
- Blog
 - <http://www.bitcoin-gr.org/>
- Facebook
 - <https://www.facebook.com/groups/bitcoin.gr/?fref=ts>
- Reddit
 - reddit.com/r/bitcoin_greece



Questions?

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Bitrated: <https://www.bitrated.com/kostas>