Decentralized Apps With Blockstack

Friedger Müffke • Blockstack World Tour Brussels • 16.11.2018

friedger.id
@fmdroid

"A **decentralized** system is one which requires **multiple parties** to make their own **independent** decisions"

Rohit Khare

Technologies

P2P

Cryptocurrency

Distributed Database

Distributed Ledger Technologies

Technologies

P2P

Cryptocurrency

Distributed Database

Distributed Ledger Technologies

dApplication Development

Disclaimer

Incomplete
Technology in alpha
Society not ready
No financial advice

Problems

- Loss of trust in intermediaries (Cambridge Analytica)
- Loss of control over data (Backup from Moto -> LG)
- Censorship by intermediaries (Öffi App)

Become a User

- Lookout for merchants accepting crypto currencies
- Use decentralized app (app.co)
- Share your experience

Open source!
Contribute and get rewarded!

Application Components
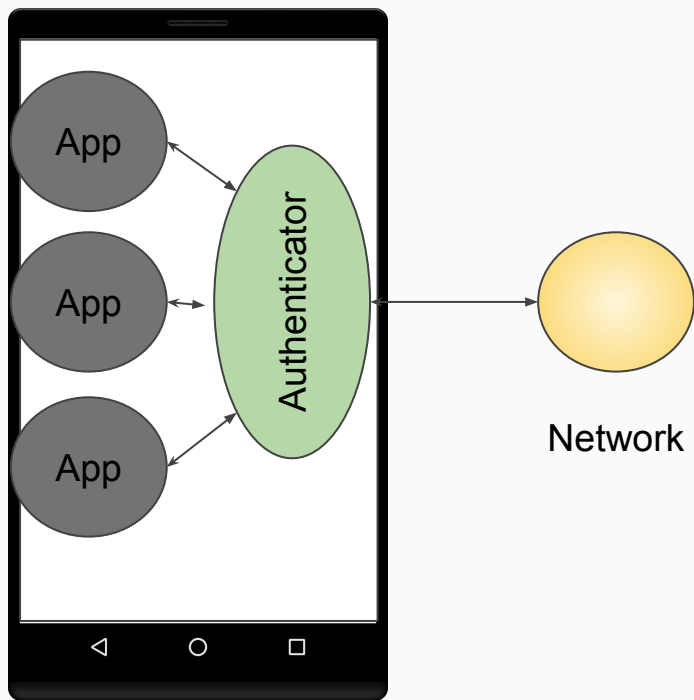
Decentralized Identity

- Self-sovereign
- Verifiable
- Person vs. profiles

- No more passwords
- W3C working group

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→ replace your login screen

Decentralized Identity (II)

Forget about OAuth dance!
Forget about email!

did:*example:123456789abcdefghi*

Distributed State

- Consensus
- Irreversibility

- Server-less apps

Distributed State

- Consensus
- Irreversibility

- Server-less apps

→ review your business model

Distributed State

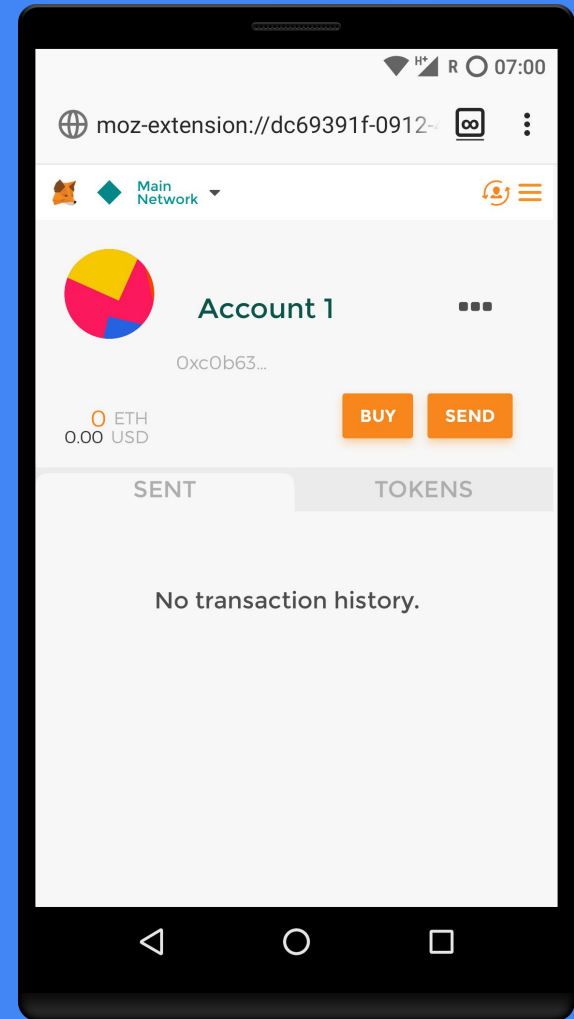- Consensus
- Irreversibility

- Server-less apps

→ review your business model
→ use REST APIs or Web3, Scatter

Distributed State (II)

23 app platforms on awesome-smart-contracts (github) with 6+ languages

- Enter private keys
- No Wallet interface

Decentralized Storage

- Diversity in locations
- Distributed vs. self-controlled

- Server-less apps

Decentralized Storage

- Diversity in locations
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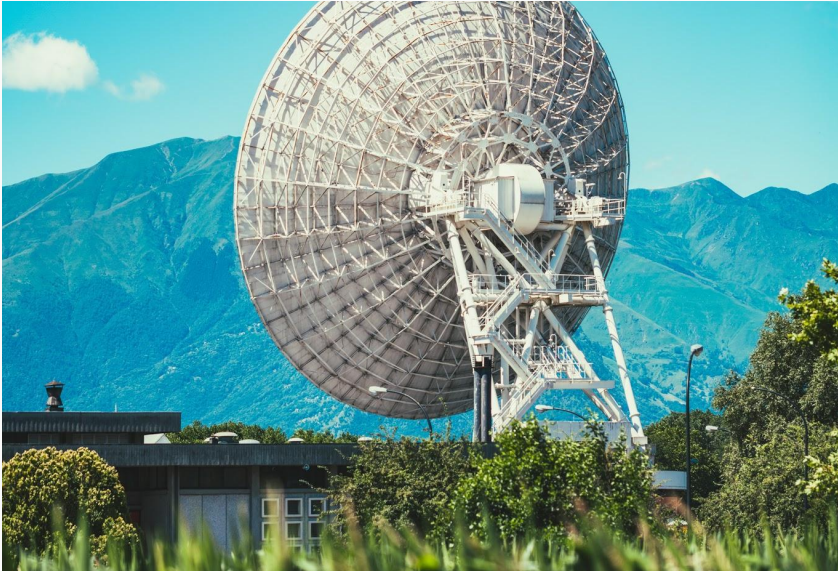→ replace your storage api

Verticals

Decentralized Payment

- Transaction fees
- Throughput

- Onboarding

Decentralized Payment

- Transaction fees
- Throughput

- Onboarding

→ delegate to wallet

Decentralized Communication

- Openness
- Commonly owned history

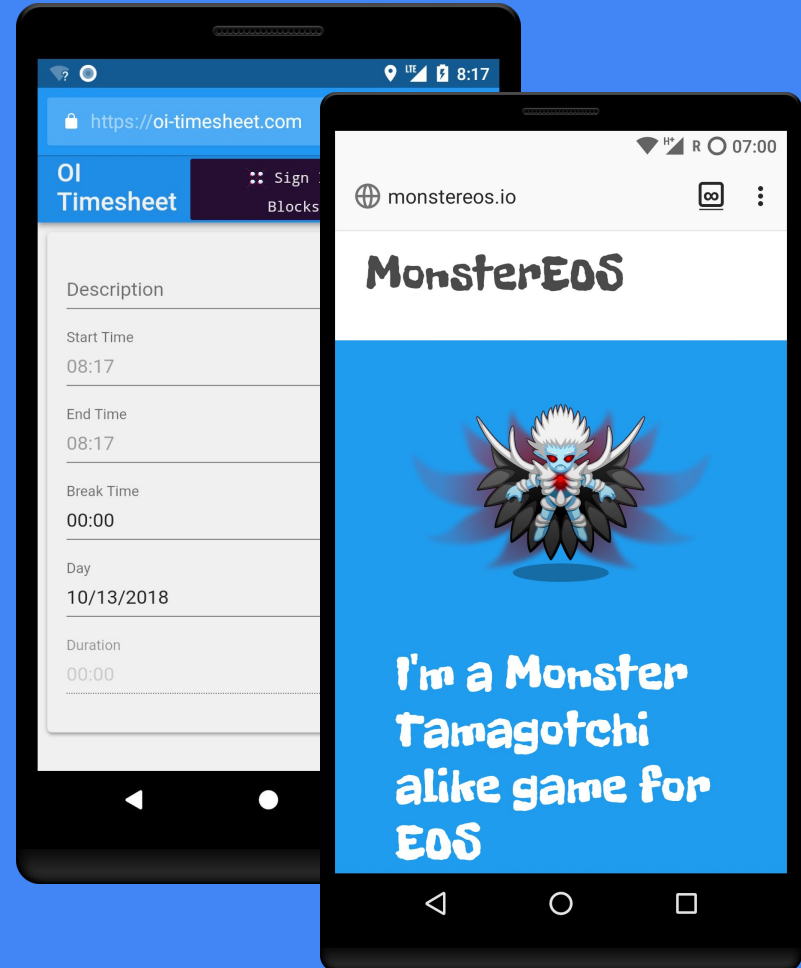- Depends on DID

Decentralized Content Distribution

- URI scheme
- Routing
- Discoverability

Personal Interests

- Communication: matrix.org
- Identity: blockstack.org
- Storage: safenet
- State: kethereum, eos.io

Research your own list!!
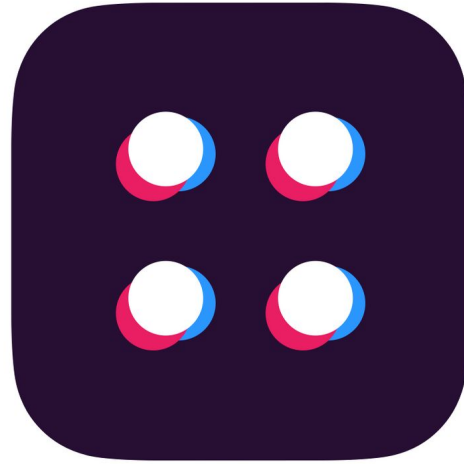
Questions

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Twitter, Peepeth

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did:btcr:1Maw8BjWgj6MWrBCfupqQuWANthMhefb2v
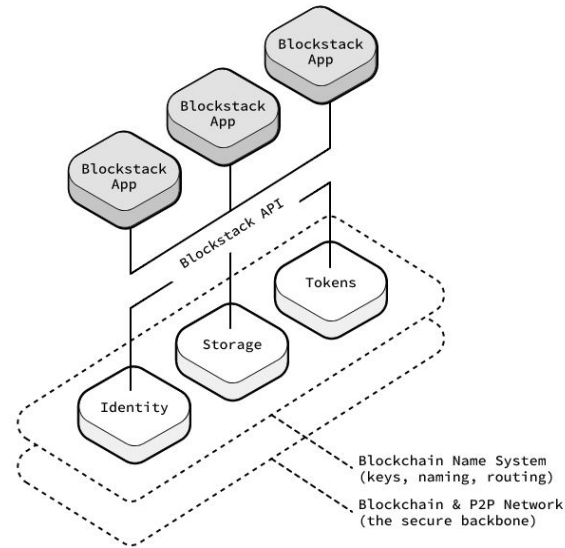
friedgermuef

eos

blockstack.js

https://github.com/blockstack/blockstack.js

Application Components

- Decentralized identity + encryption
- Decentralized (not distributed) storage
- Payment (later)

Different layers of Blockstack are shown in the following figure:

Sign-In Flow

`redirectUserToSignIn`

`handlePendingSignIn`

`signUserOut`

Storage

`putFile`

`getFile`

`listFiles`

Authentication with Gaia hub

More APIs

`isUserSignedIn`

`lookupProfile`

`encryptContent`

`decryptContent`
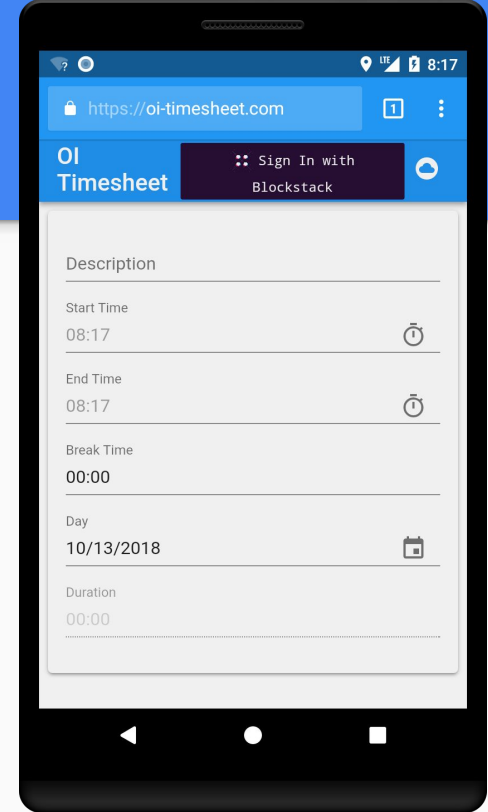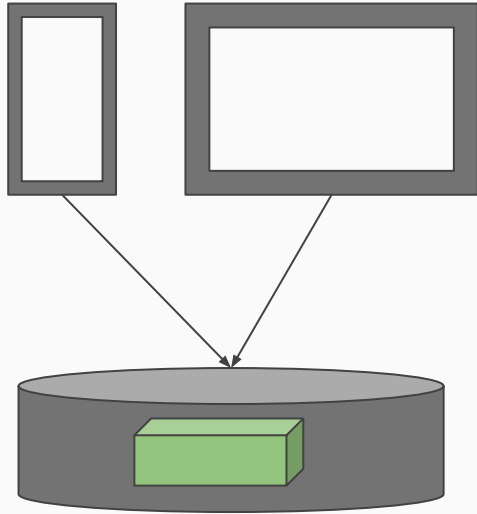
More APIs

isUserSignedIn

lookupProfile

encryptContent

decryptContent

getAccountBalance

estimateTokenTransfer

...
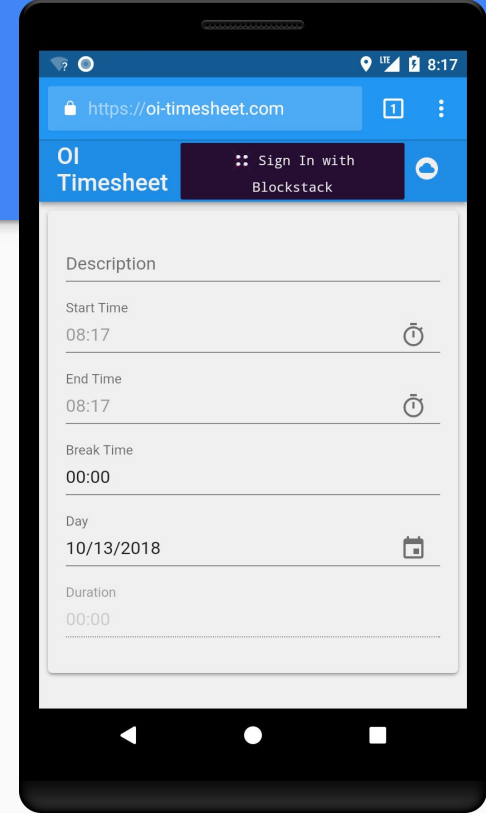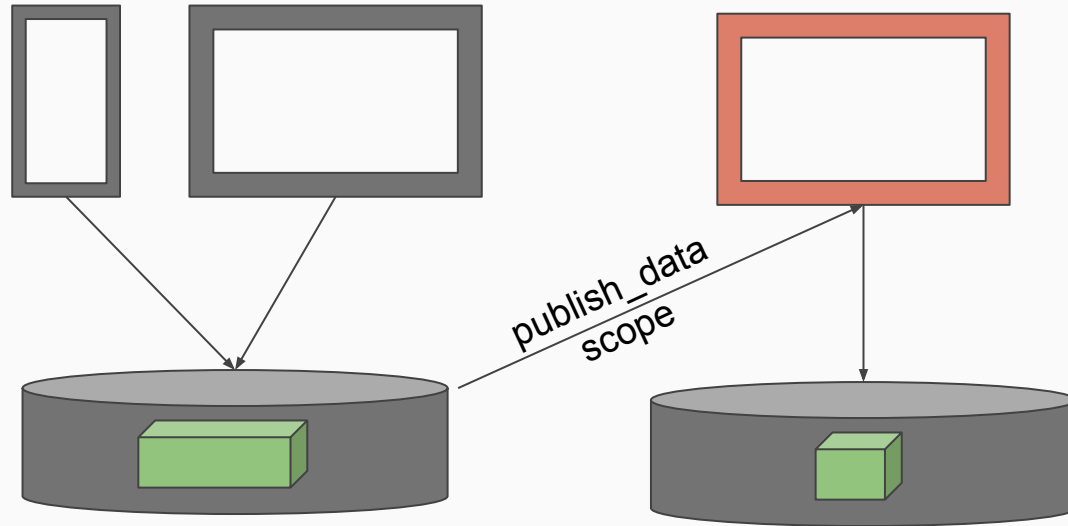
OI Timesheet - PWA

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