





## Hudson Jameson

Involved in cryptocurrency/blockchain space since 2011.

USAA: 2014-2016

Ethereum Foundation: 2016-present

Oaken Innovations: 2016-present

1 Wife & 3 Cats



# BLOCKCHAIN



Identity



Trust



Value

# Ethereum Basics

# Ethereum

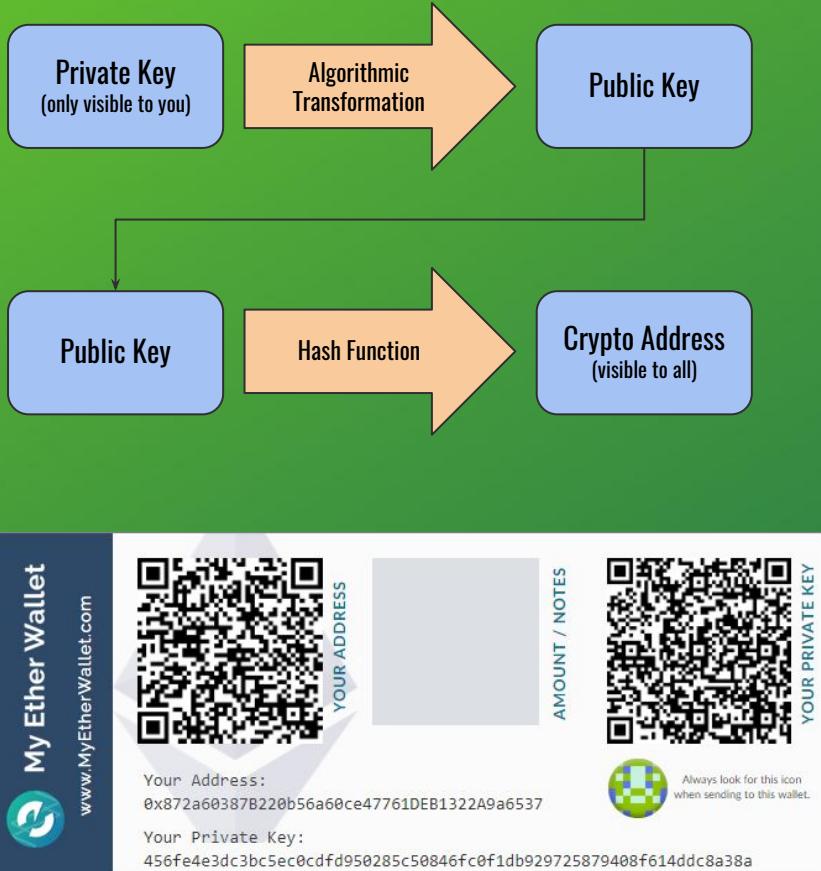
- Open-source
- Public
- Distributed computing platform
- Smart contract (scripting) functionality
- Ethereum Virtual Machine (EVM)
  - Decentralized Turing-complete virtual machine
- Ether
  - Cryptocurrency token called "ether"
  - Can be transferred between accounts
  - Used to compensate participant nodes for computations performed



ethereum

# Accounts on Ethereum

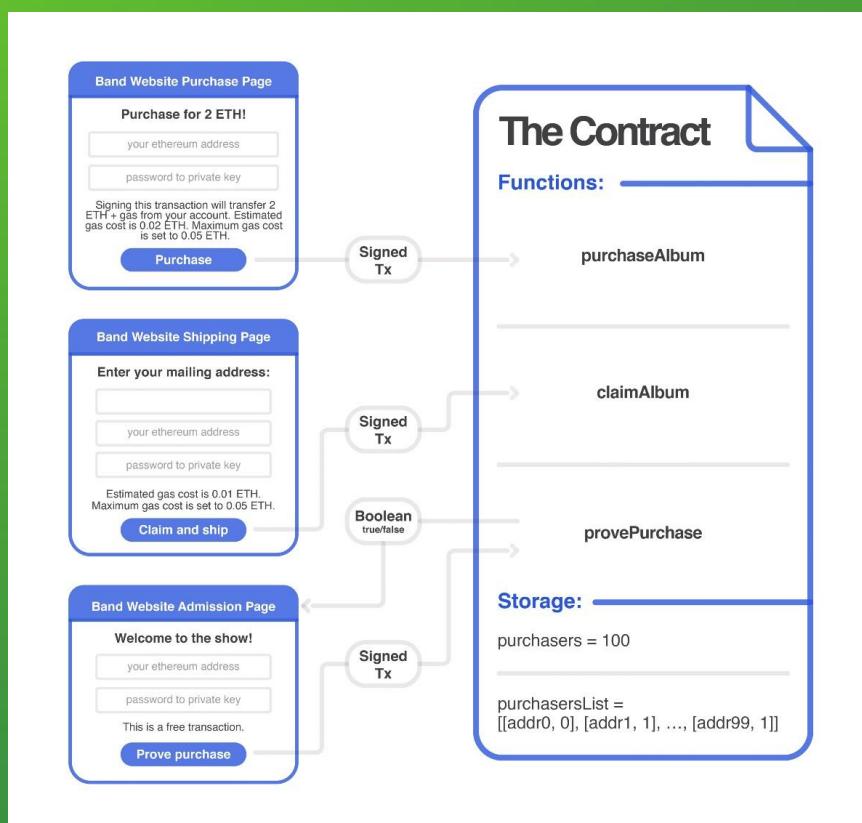
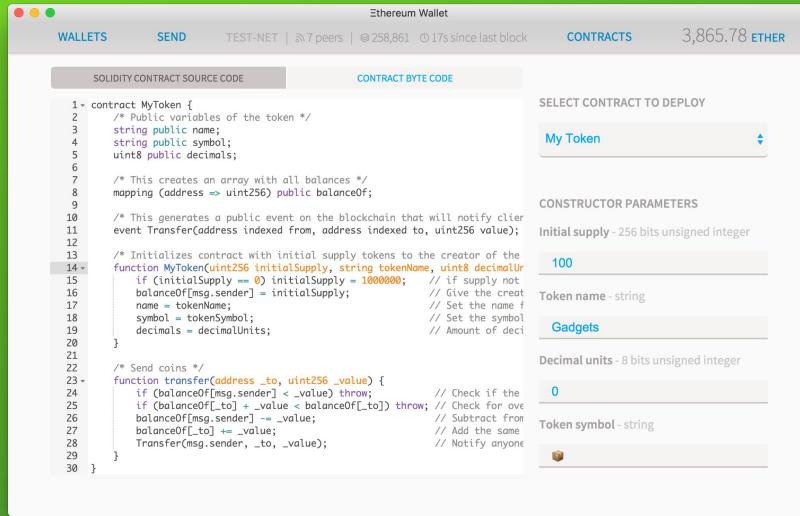
- Asymmetric key pair (think PGP)
- Public/Private key pair
  - Private key is used to mathematically derive public key
- Can sign messages to
  - Identify yourself on/off the network
  - Send transactions to users and smart contracts



# Transactions on Ethereum

- Accounts can
  - Send ether
  - Create and interact with **smart contracts**
    - Scripts of conditional statements
    - Allow advanced logic and use cases
      - Escrow contracts, prediction markets, fair voting, anonymous transactions, distributed graphic rendering
    - Computations priced as “gas” - separate mechanic from transaction fees.

# Smart Contracts



# Ecosystem



MONAX

Tendermint

## Enterprise



BLOCKAPPS

Quorum by J.P.  
Morgan



Dev Tools



Visual Studio

Embark

Framework for Ethereum DApps



Community





# Use Cases

Anytime value is added when  
an intermediary is removed  
Ethereum makes sense.

# Use Cases

- uPort - decentralized self-sovereign identity
- Augur - prediction market
- Grid+ - decentralized energy markets
- Digix - digital assets pegged to precious metals
- Oaken Innovations - secure IoT platform
- Private, provably fair voting.



ethereum

# Deep Dive Secure IoT

# Why IoT Needs Blockchain

 PRO@ °• 🍍owl  
 @\_pronto\_



Not to raise alarm here or anything, but I'm unable to turn off my #IoT oven ever since #s3 went down...

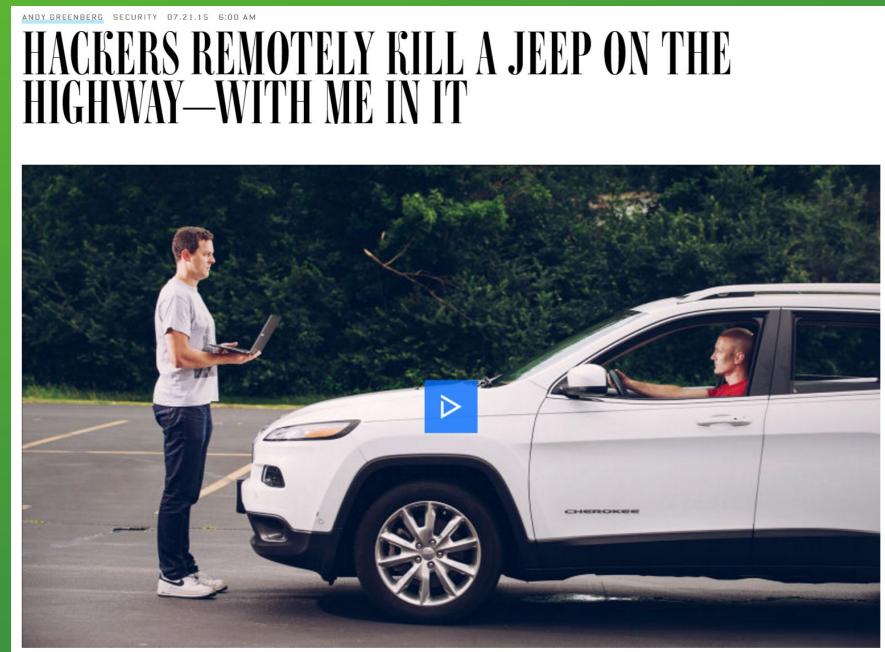
It's getting kinda toasty in here

RETWEETS LIKES  
621 940



1:12 PM - 28 Feb 2017

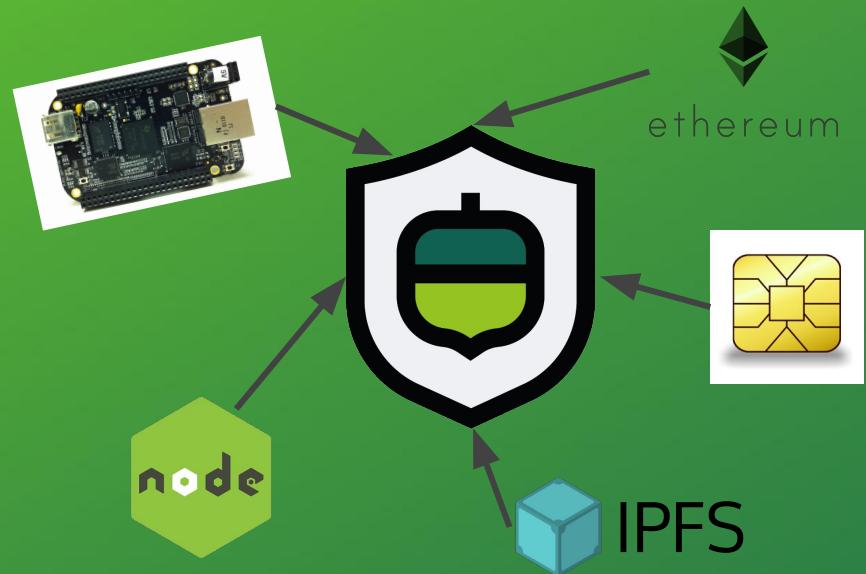
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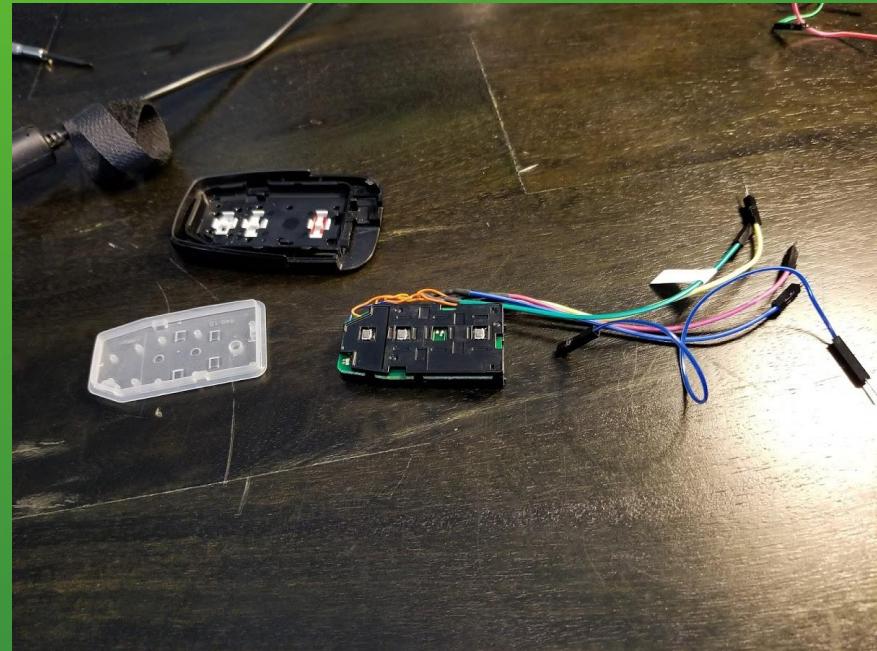
# The Oaken Platform

The Oaken platform is made of A.C.O.R.N.S  
(Autonomous Communication Over Redundant  
Nodes).

ACORNS provide a layer of security to both the hardware and software components of an IoT network.



# Building an ACORN



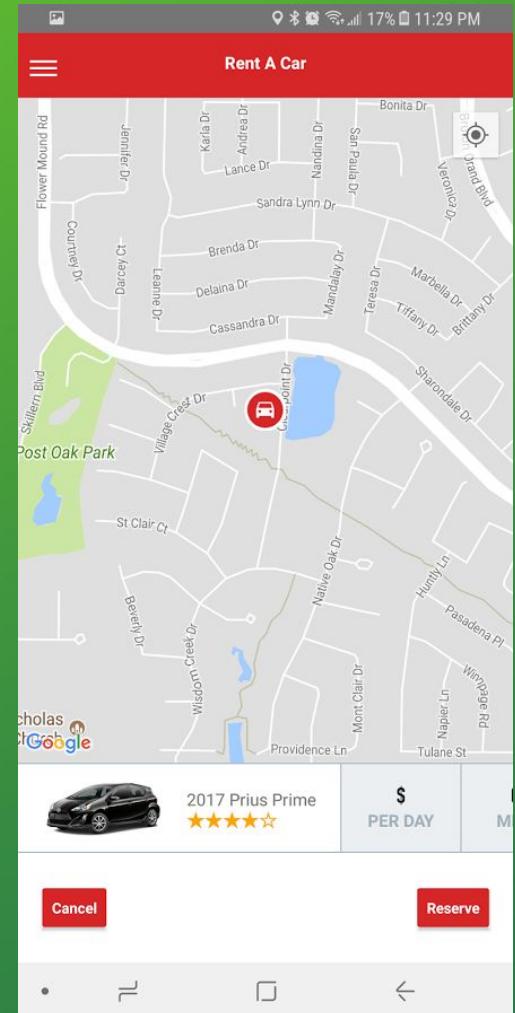
# Building an ACORN



# Car Share Demo

- ★ Demonstrate disintermediation of Hertz.
- ★ Built in collaboration with Toyota.
- ★ Back-end using almost entirely decentralized tech.
- ★ Debuted at Consensus 2017

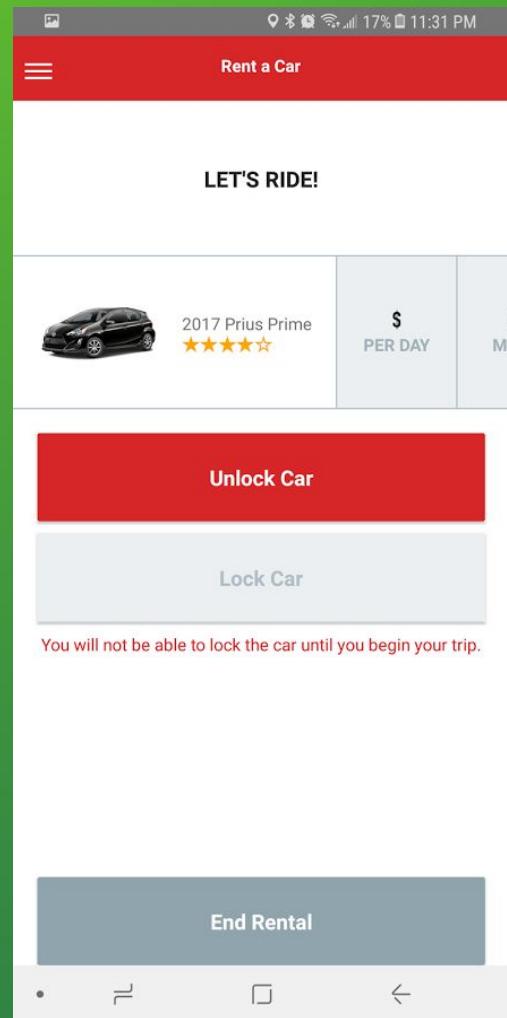
## Built Using



# Car Share Demo

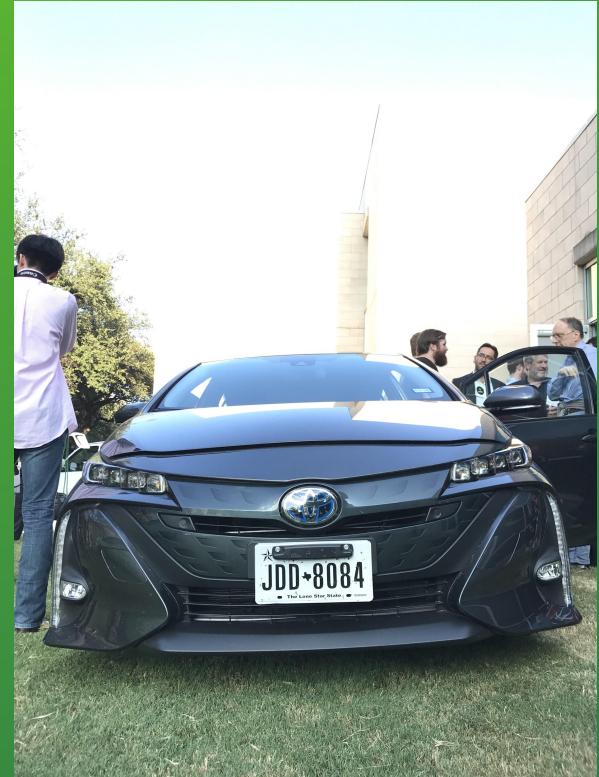
## ★ Backend

- Ethereum
  - Authentication
  - Payment
- IPFS
  - Ephemeral data store
- MQTT
  - Pub-sub platform
  - Modified MQTT for Ethereum key signing
  - Secure car locking/unlocking



# Value of ACORNs

- ★ Security
  - Software
    - Smart contract on a blockchain allows only specific addresses to unlock the car.
    - No way to spoof it
  - Hardware
    - Tamper resistant HSM
  
- ★ Uses
  - Car owners to monetize excess capacity
  - Common data platform framework market
  - Car history



# Contact

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