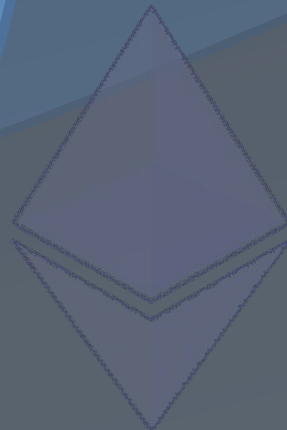
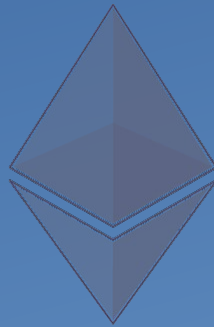
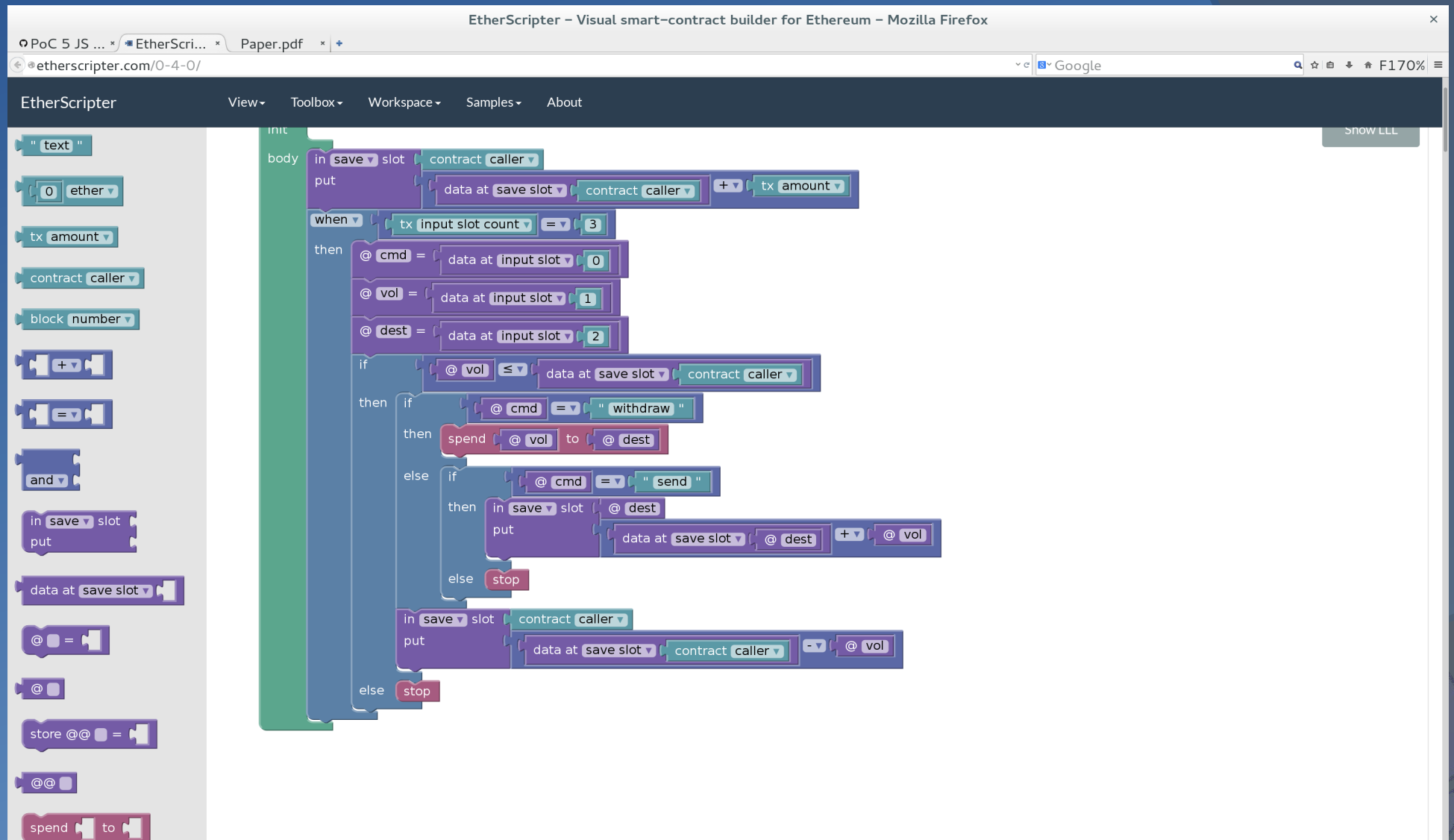


4th Ethereum Meetup

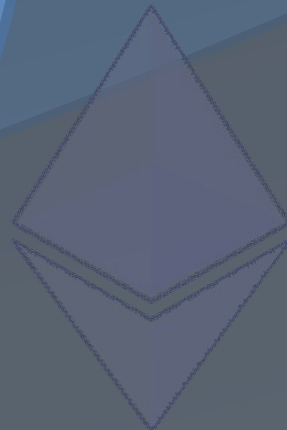


Previously: etherscripter.com



A lot of things happened

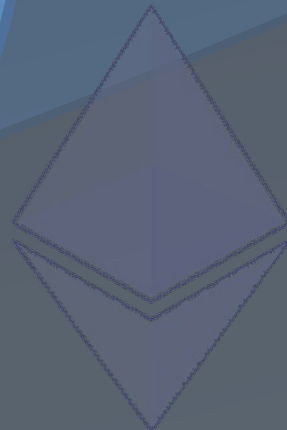
- Serpent works
- Mutan works (sometimes)
- Massive code refactoring. Codebase split into many libraries
- New Client: ethereumj
- AlethZero support for serpent and hex-input



Ethereum Ljubljana

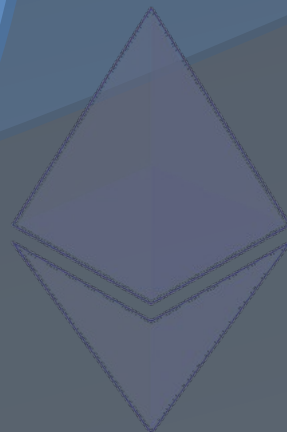


Serpent Demo



<PLACEHODLER/>

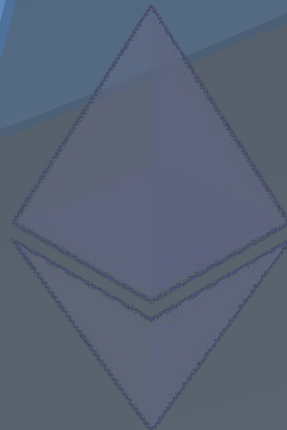
- Keeps track of account balances
- Received ether added to balance of sender
- 3 commands:
 - **send** *<vol>* *<recv>*: transfer *<vol>* wei from sender balance to balance of *<recv>*
 - **withdraw** *<vol>* *<recv>*: subtract *<vol>* wei from sender balance and send *<vol>* wei from contract to *<recv>*
 - **deposit** (no command): don't attempt to send or withdraw



Serpent

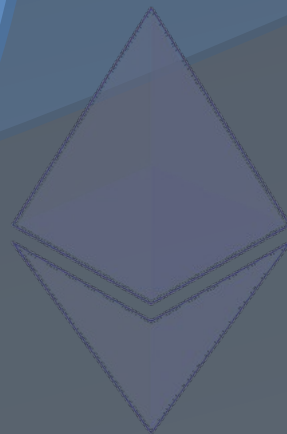
```
if tx.value < block.basefee * 200:  
    stop  
if contract.storage[tx.data[0]] or tx.data[0] < 100:  
    stop  
contract.storage[tx.data[0]] = tx.data[1]
```

- Python-like
- Compiles to Ill-code (internally)
- Seperate init and code block
- Special objects (contract, msg, tx)
 - contract.storage[x]: access storage with key x
 - msg.data[x]: get input data x
 - msg.value
 - tx.gas: get current remaining gas



AlethZero

- Ethereum C++ GUI Client
- Compiles serpent/lll-code to evm
- Preview mode for testing (no mining required)
- Browser window with special js object



AlethZero

File Network Tools Debug Help

Enable Network Connect to Peer Preview Mine Mining Paranoia

To

(Create Contract)

Create Contract

Amount

0

ether

Gas

10000 gas

@ 10

szabo

Data

(gas sub-total: 100 finney)

Serpent or LLL
Code goes here

Code

Total: 100 finney

Debug

Execute

Owned Accounts

0c0854ba...: 0 wei [0]

4d767cb7...: 0 wei [0]

872daf76...: 0 wei [0]

44843d19...: 0 wei [0]

dca8f2d7...: 1500 finney [0]

Log

*** [09:49:11 PM | main] Opened blockchain DB. Latest: 5e1e7fe5bc0c2336b7a6f28c63ea249afc077c67fe2ea10bdbf065dcd8e7c6c5

*** [09:49:11 PM | main] Opened state DB.

file:///home/ethbuild/ethereum-vienna/Meetup 4/ui.html

0c0854baac4c83e5a5a9c50b102a7076842c1b79 0 0x
4d767cb7d2eb46e6c030caa044a1f1fc3a65b7f 0 0x
872daf76d1f695c92214ef2d61fe64cbadf481c 0 0x
44843d1913d8ced9ef0cbfb720a1f2a40d205e1e 0 0x
dca8f2d7faa2ce12780c2c6a6056649e0198450f 0 0x

Deposit

0

wei

Address

0c0854baac4c83e5a5a9c50b102a7076842c1b79

Volume

0

wei

Destination Address

Deposit

Send

Withdraw

Accounts

1a26338f...: 1606938 Uether [0]

2ef47100...: 1606938 Uether [0]

51ba5931...: 1606938 Uether [0]

6c386a4b...: 1606938 Uether [0]

b9c01591...: 1606938 Uether [0]

cd2a3d9f...: 1606938 Uether [0]

Network

Ideal Peers

5

Listen on

30303

Client Name

Anony...

Pending

Contracts

Filter...

Block Chain

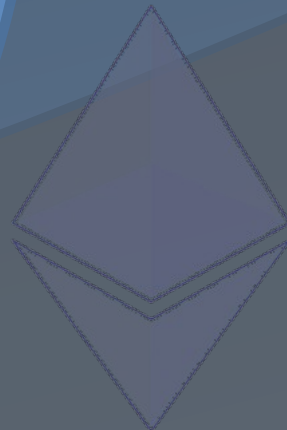
#1 5e1e7fe5...

7c9bba74cb4b
dbe3055b47be
114470b9f30
cb14b5

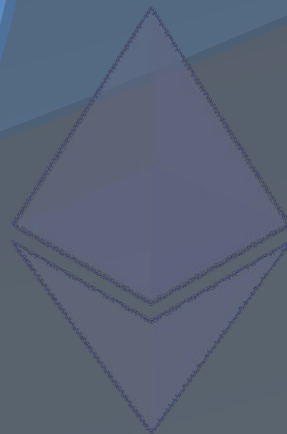
0 GAV | 1500 finney 0 peer(s) Not mining #1 @21 T22

HTML/Javascript-Contract-UI

- Same interface as last time
- Different string-padding
- `pad(32)` -> `pad(32,0)`



Demo



<PLACEHODLER/> ethereumj editor

```
1 code:
2     contract.storage[msg.sender] += msg.value
3     if msg.datasize == 3:
4         cmd = msg.data[0]
5         vol = msg.data[1]
6         dest= msg.data[2]
7         if vol <= contract.storage[msg.sender]:
8             if cmd == "withdraw":
9                 send (tx.gas-100, dest, vol)
10            else:
11                if cmd == "send":
12                    contract.storage[dest] += vol
13                else:
14                    stop
15            contract.storage[msg.sender] -= vol
16        else:
17            stop
```

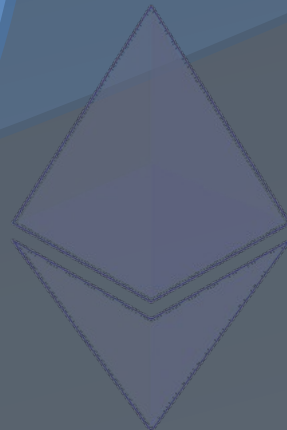
Mutan (GO-like)

```
exit compile {
  this.store[this.caller()]=this.store[this.caller()]+this.value()
  if this.dataSize() == 96 {
    var cmd = this.data [0]
    var vol = this.data [1]
    var dest= this.data [2]
    var balance = this.store[this.caller()]

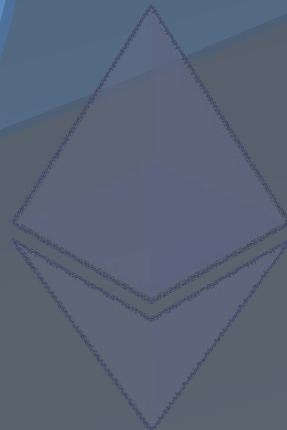
    if (vol <= balance) {

      if (cmd == "withdraw") {
        transact (dest, 10000, vol, nil)
      }
      if (cmd == "send") {
        this.store[dest]=this.store[dest]+vol
      }

      this.store[this.caller()]=this.store[this.caller()]-vol
    }
  }
}
```



The Ethereum Experience



The whole picture (Web 3.0)

- **Swarm**

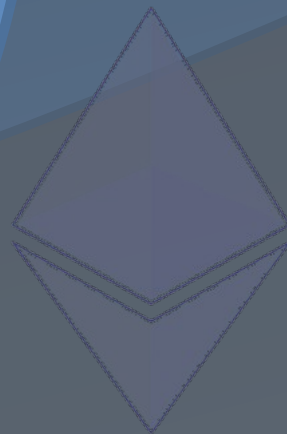
publication & distribution

- **Whisper**

messaging & bulletins

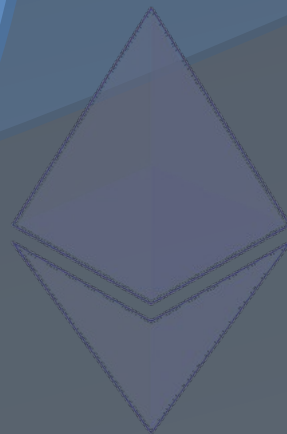
- **Ethereum**

agreements & relationships



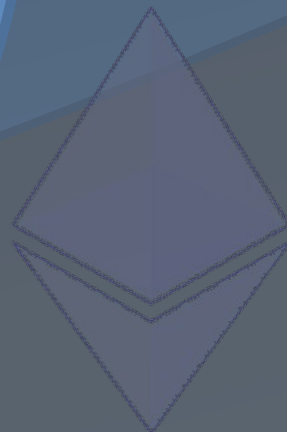
Swarm (Web 3.0)

- P2P
- Data-Sharing
- Similar to BitTorrent
- Reverse Hash-Table for data

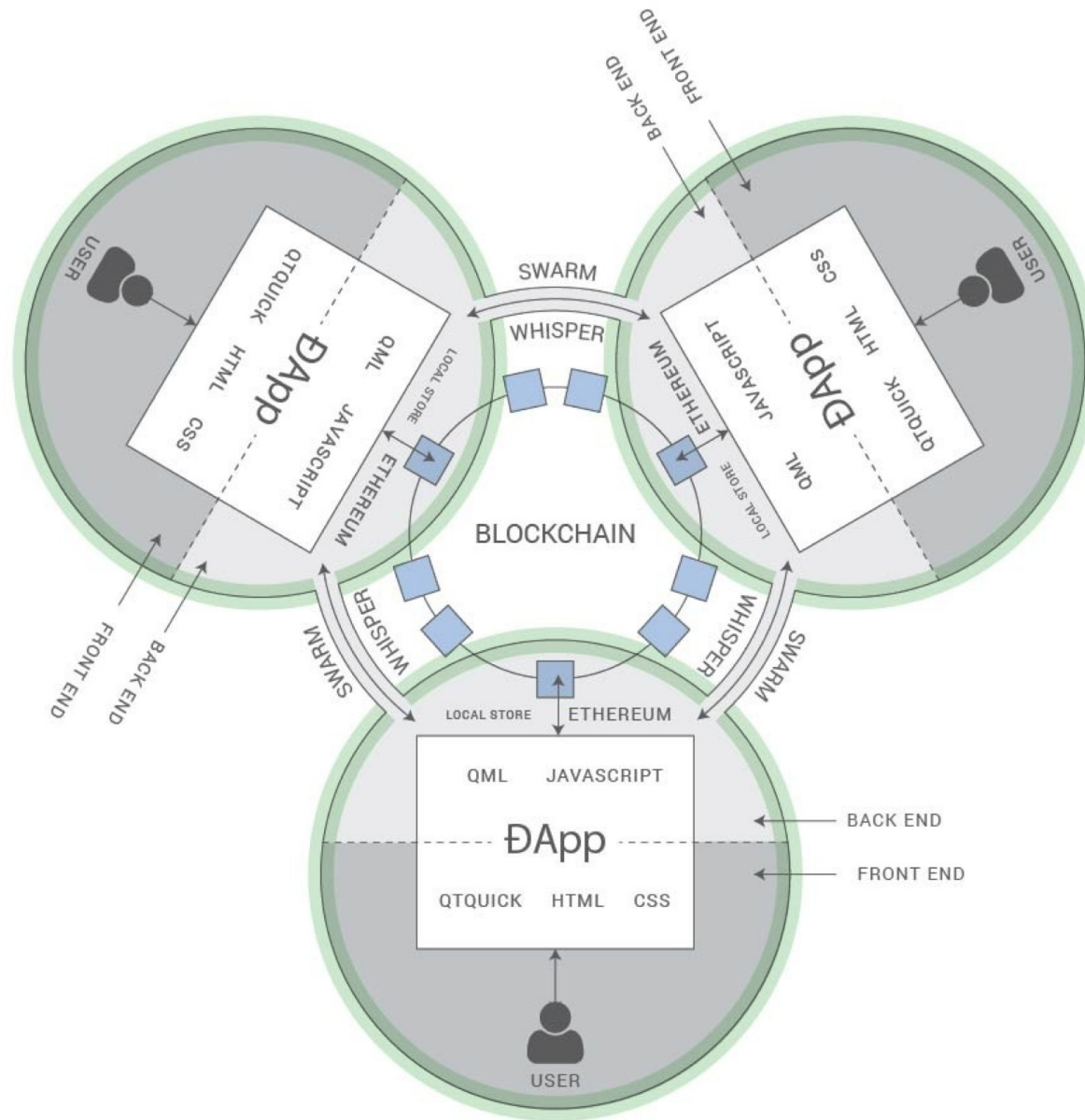


Whisper (Web 3.0)

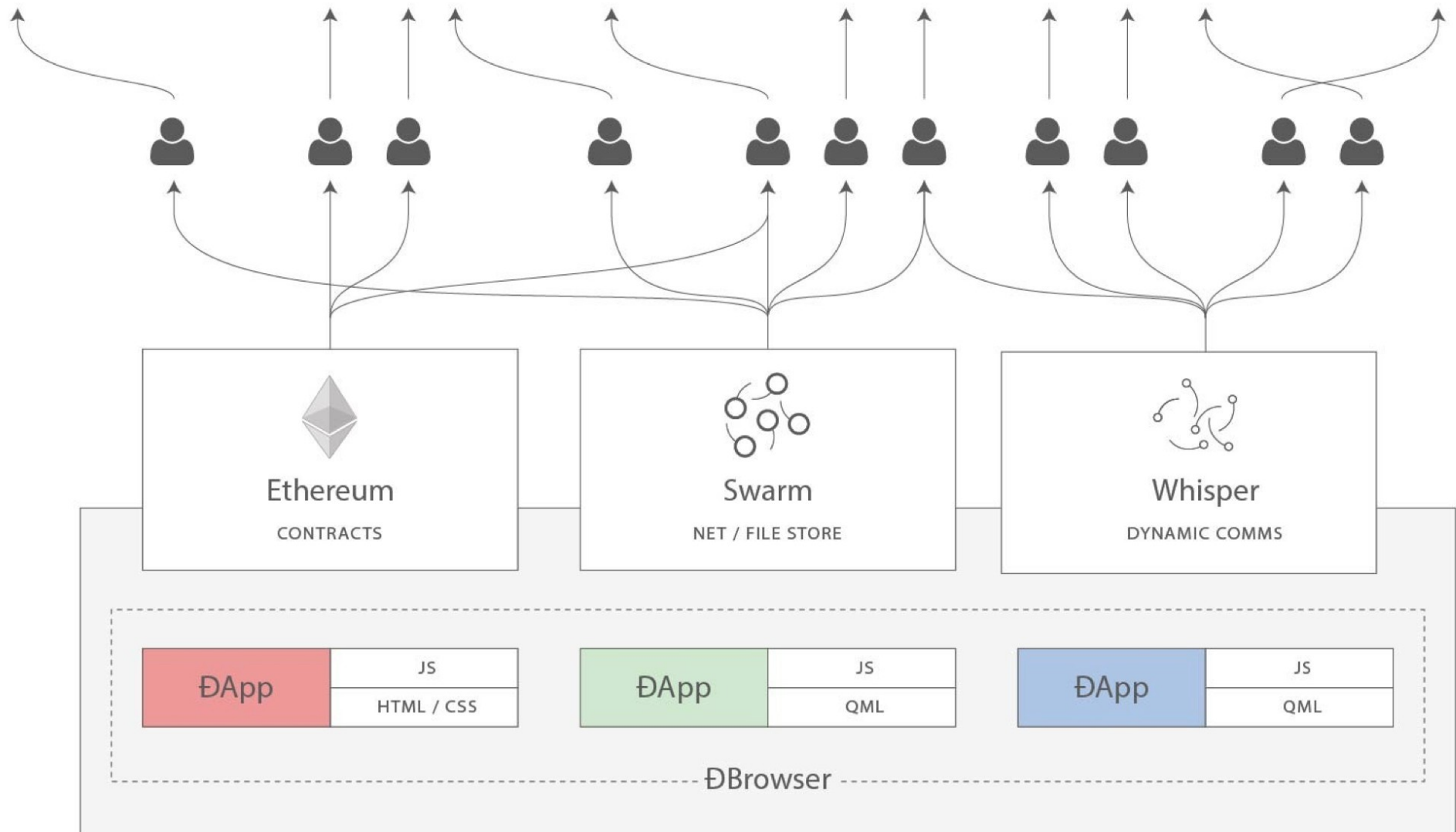
- P2P
- Messaging & Publication
- Similar to BitMessage
- Encrypted content for messaging
- Clear text for publications
- TTL for Messages
- probabilistic / priority-based routing




Web 3.0





Web 3.0





Etherbrowser (Web 3.0)


Ethereum


Wallet

Contacts

Reputation

GoldCoin

Network


Settings

etp://appstore.ethereum.org

ETH 22,006


USD 2,400

Official Apps

**Domain Registration**


Register a .ether domain on the ethereum blockchain. Bid for domains that are already taken or up for auction.

★★★★★[Install](#)

**Org Chart**

Create a distributed autonomous organisation. Invite members, specify rules & even distribute shares. Encode your group, company or organisation.


★★★★★[Install](#)

**Backup**

Store your data securely on other nodes' servers. Everything is encrypted and backed up. It's typically 80-90% cheaper than Dropbox.


★★★★★[Install](#)

Currencies

**GoldCoin**


Purchase gold with Ether with direct links to commodity exchanges.

★★★★★[Installed](#)

**Example App**

This is some filler text for an example Ethereum application. It will act as a short pitch.


★★★★★[Install](#)

**Example App**

This is some filler text for an example Ethereum application. It will act as a short pitch.


★★★★★[Install](#)

Agreements

**Example App**


This is some filler text for an example Ethereum application. It will act as a short pitch.

★★★★★[Install](#)

**Example App**

This is some filler text for an example Ethereum application. It will act as a short pitch.


★★★★★[Install](#)

**Example App**

This is some filler text for an example Ethereum application. It will act as a short pitch.


★★★★★[Install](#)

Derivatives

**Hedge**


Construct contracts based on the price of stocks, commodities & bonds. Pick from a choice of data feeds and send invitations to contacts.

★★★★★[Install](#)

**Example App**

This is some filler text for an example Ethereum application. It will act as a short pitch.

★★★★★[Install](#)

**Example App**

This is some filler text for an example Ethereum application. It will act as a short pitch.

★★★★★[Install](#)

Hash: 57f9e26acfa9f4a713758880cb62e38697d4ce0f

Pieces: 1,524 KB

Hash: b40f2c909580aa5e15a85c5428c37286da3f0e64

Pieces: 1,774 KB

Web 3.0 Marketplace

ethereum

eth://marketplaceonblockchain

Marketplace



Alice

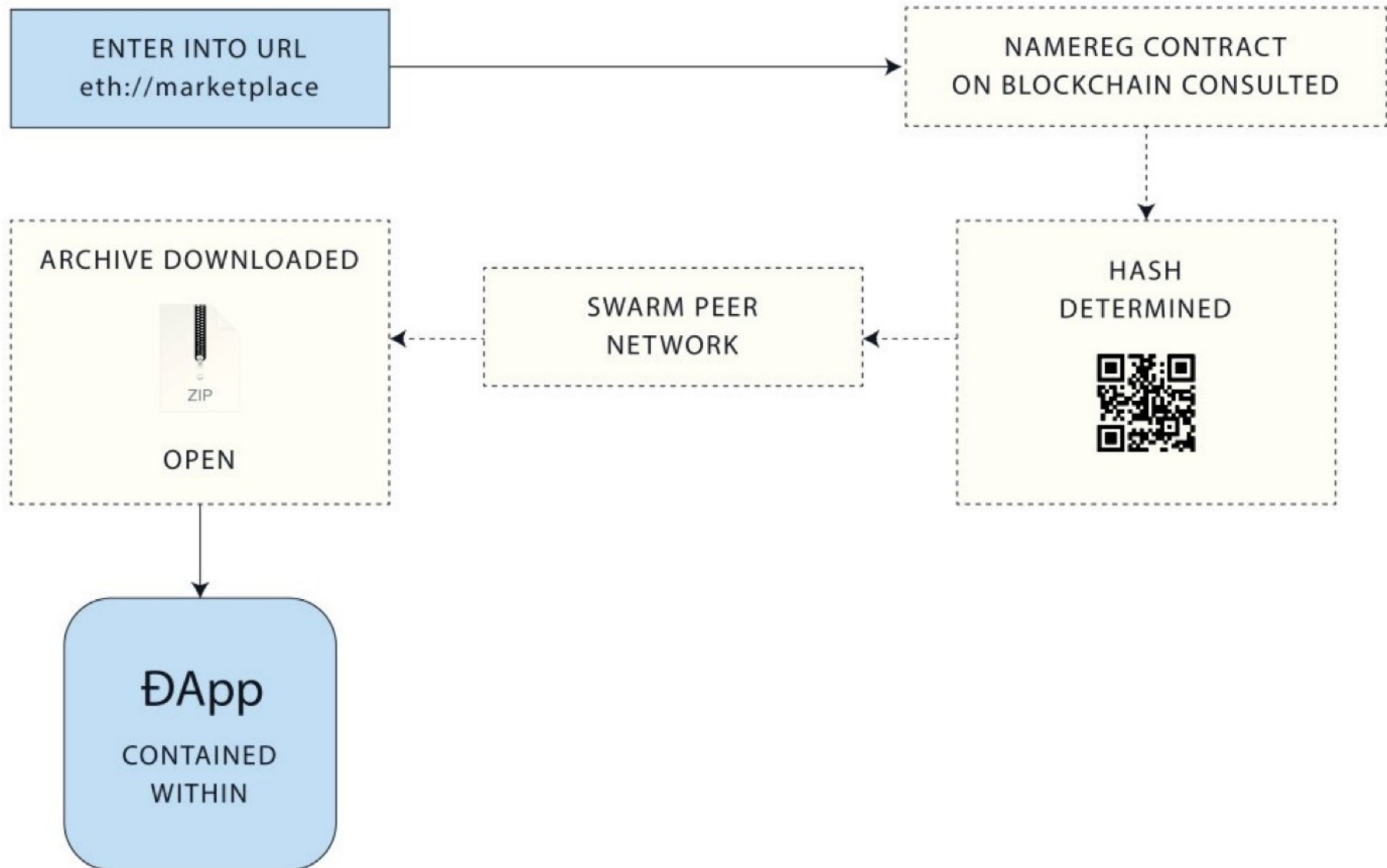


Dave

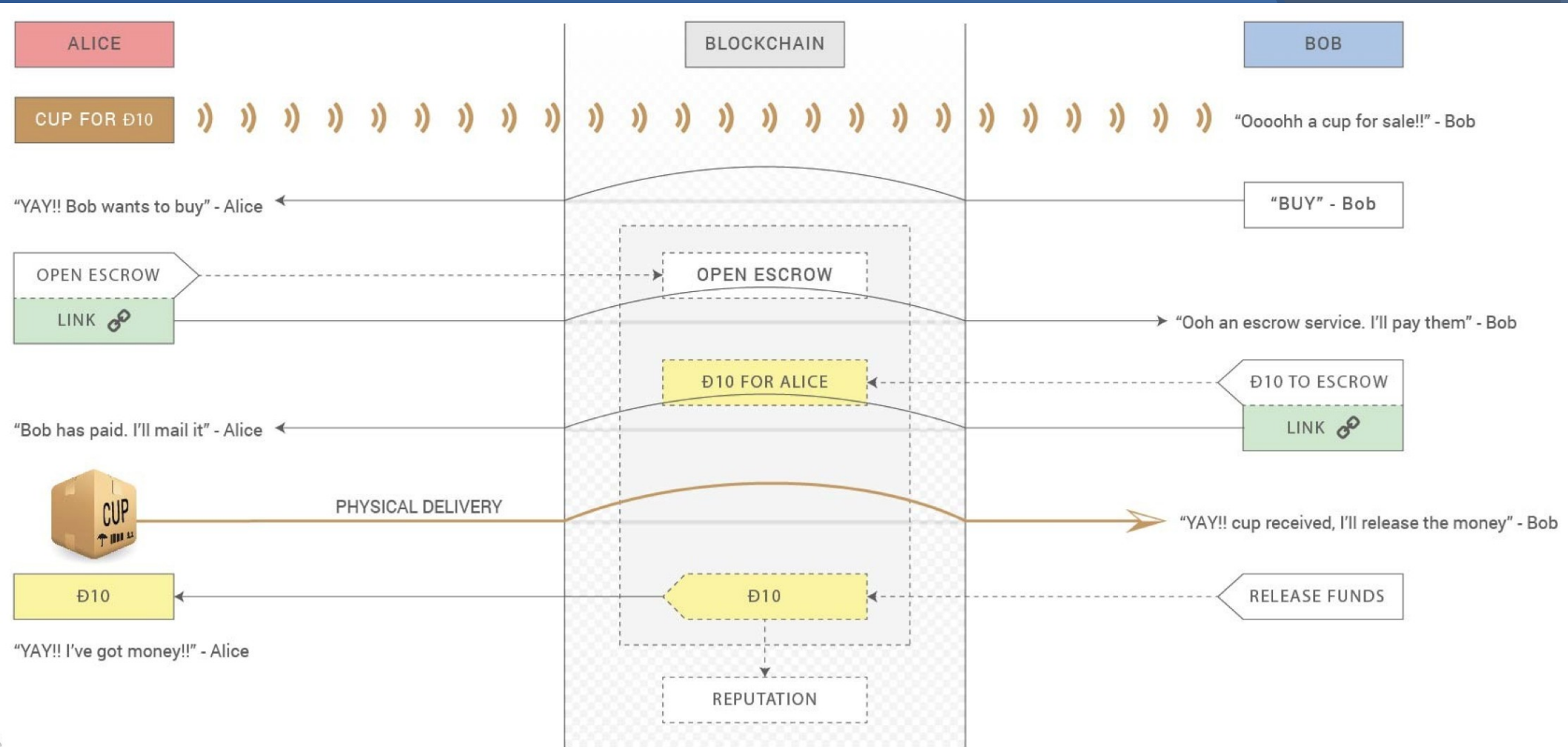


Charlie

Web 3.0 Marketplace




Web 3.0 Marketplace





Web 3.0

Accounts

Contracts


Network 

Connected 

Mining 

New Transaction

Upload Contract

**Eth Congress**
4214b0...0b7fc6

Your weight:

5 votes

Current Proposal:


EIP27

Polls close in:

12h

Current votes:

1543 : 23

**24h Tumblr**
e691d3...7e6e16

Locked value:

2350 eth

ETA:


13h

Amount Paid:

1423 eth

Total Amount:

3773 eth

**Frozen Concentrated Orange Juice**
d7124f...999fdc

Owned:


45 oj8k

Buy:

115.20

Sell:

115.15


**Go Championship**
3e524f...129fdc

Your table:

Black D2

Gran Prize:

5120 eth


**Estate Escrow**
bf0978...e9d44

Current Status

Awaiting Judg..

Amount in jud:

567 Mether

**San Francisco Earthquake 5+**
bf0978...e9d44

About

Code



Transactions

Insurance Contract

This contract reads earthquake data from Caltech Data and pays a prize if a Magnitude 5 earthquake or larger is detected in San Francisco. The payouts are as.. [Expand](#)

Contract Audited by [12 members](#) in your trusted network

From:

 Pocket Change 

Amount:

100 eth

\$145.89

Currency tie-in

☒ Ether

☐ Dollar

☐ Euro

Send Money


Web 3.0

×


−

+


ETHEREUM


 Identity

John_doe

 Wallet


2103eth


 Contacts

 Network


4.3TF

APPS


 App Catalog

 Congress


in session

 Dice


3:1

 Freebird


2 unread


 BitBeer


\$5.4↑

 Shapeshifter


12gen

 Fire Protection




 Chess

RD9

 Weather

\$1021.03↓


 Mixr

23h 34min

...

All apps

Type a contract name or hash

 Rumor Mill

Dropbox buys sunrise


43.2%↓

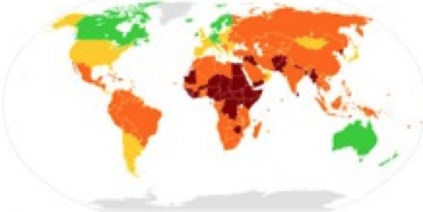
Gruber resigns


21.5%↑

Runkeeper IPO

13.4%↓

 Stability Index MKT



 Air Miles

Your miles


98MILES

Buy Price


2,130.01USD↑


Sell Price

2,130.45USD↑

 Bacon Futures

Bacon Price



 Currency Market

USD-ETH


2.4ETHER↓

BRL-ETH

1.1ETHER↑

EUR-ETH

4.1ETHER↓


 Distributed Research

Total Research

13.4TFLOPS

Donated CPU


2.1KFLOPS

 Private Chat

Sarah Sushi tonight? There's this..

Work Group Since everyone was so..

Mr. Anderson I need you for a job..

 Snowball Effect

You donated


1200ETHER

You got back

122ETHER

Total Donations

3.4METHER

 Chess

Last move

Rook H3

Grand Prize

2,130.01USD↑

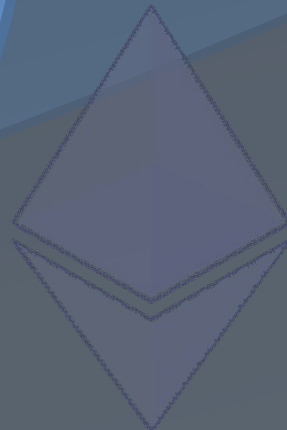
Current Position

981NTH

For more details

Ethereum London Meetup: The Ethereum
Experience

youtube.com/watch?v=GJGleSCgskc



github.com/dafcok/ethereum

