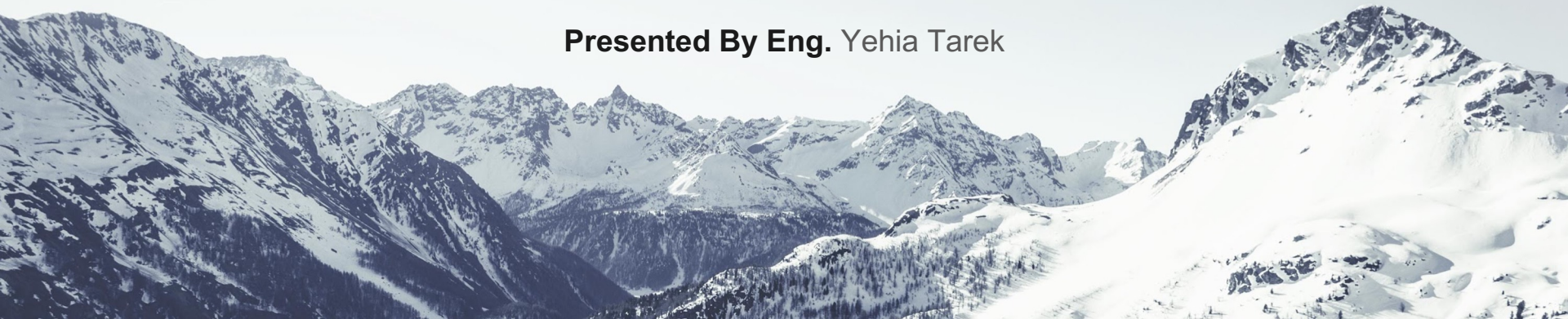
Web3 The New Internet: Decentralized Applications

Presented By Eng. Yehia Tarek



Agenda

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2. Dapp Voting Example
3. NFT (Non-Fungible Token):
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    b. Cryptokitties
4. DeFi (Decentralized Finance)
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    c. NFT Trade: Farming
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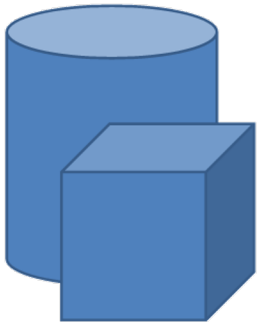
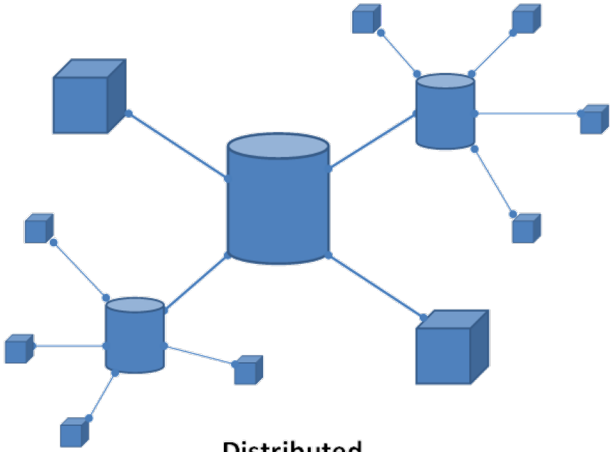
2. Roadmap

Different Architectures



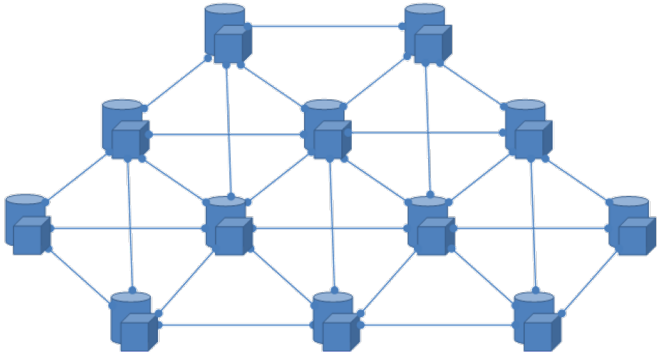
Centralized

one node does everything



Distributed

nodes distribute work to sub-nodes



Decentralized

nodes are only connected to peers

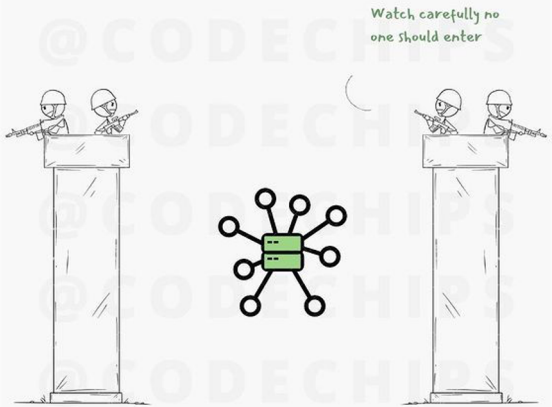
Voting Dapp

Voting Dapp

These concepts are just for better understanding

The president elections are going on

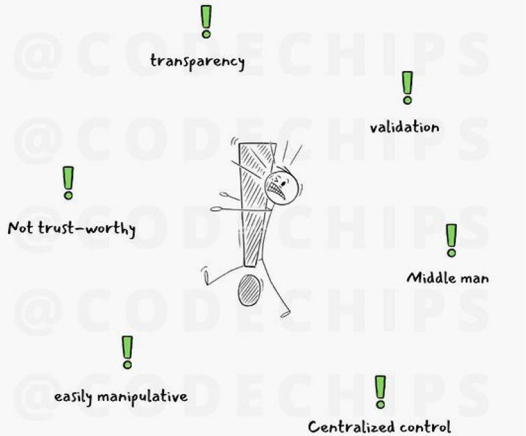
And every vote is collected and saved in a centralized database



Voting Dapp

But what if the authority tries to change the data in favour of one representative

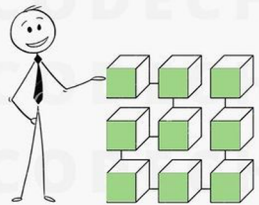
The traditional method involves quite a few issues



Voting Dapp

Blockchain could be the solution

BLOCKCHAIN

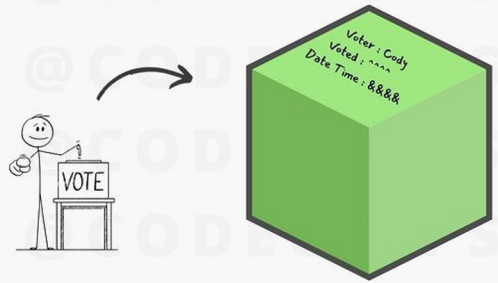


A blockchain is a **decentralized**, **distributed**, and oftentimes public, **digital ledger** used to record transactions across many computers that cannot be altered retroactively, without the alteration of all subsequent blocks

Lets see how it works then you can understand how it could be the solution

Each time a vote is cast a new block is created with all details

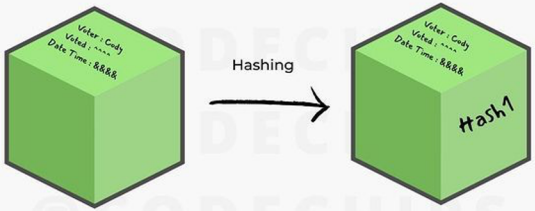
Once a block is written, it is immutable



Voting Dapp

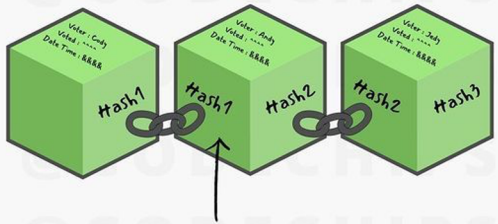
For each and every block
a hash is created

A hash in blockchain is something like a fingerprint
or signature, preserving the authenticity of the data



When a new data is created it
appends it as a new block

thereby all data are stored in a ledger format



Most importantly, Each block carries the information
of the previous block, the chain becomes very secure.

kinda like a linedlist

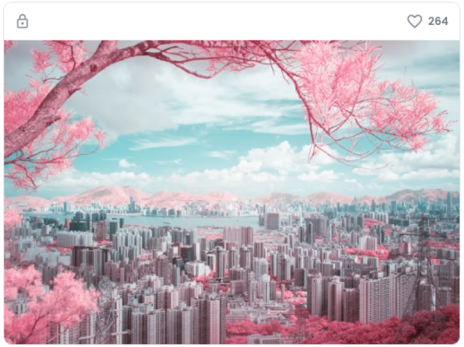
NFT (Non-Fungible Token)

NFT


Hello I want to buy this car
You


Sure, sir but this is our car you can use it on our roads only... And if you don't respect our policy or if we decide to cancel the project we will take the car from you
You
Sales Team

OpenSea



Dreamstates

Hong Kong Spring

Owned by 57 · 27.0K views · 264 favorites

Includes unlockable content

Highest offer

1.5 ($6,066.60)

Make offer

Description

Created by Noealzii

This image was shot in Hong Kong while hiking towards Lion Rock. This was my first time climbing this mountain, in fact it was my first time in Hong Kong and it was one of the most humid experiences I have ever had. Halfway through I had to take off my shirt since it was so sweaty; however, as I neared the peak I came across this view and upon taking it, I knew

Properties

Stats

About Dreamstates

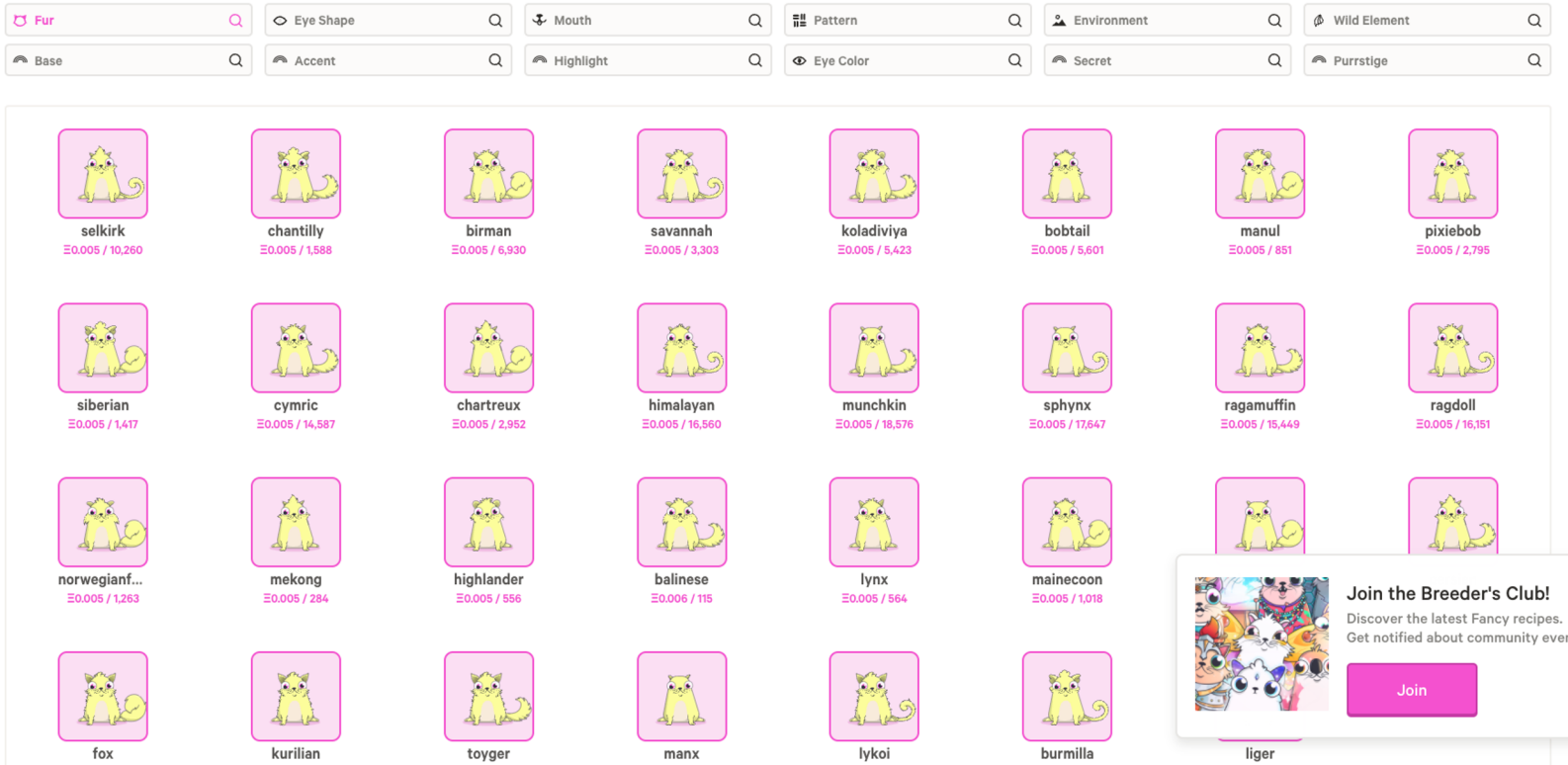
Price History

All Time

All Time Avg. Price

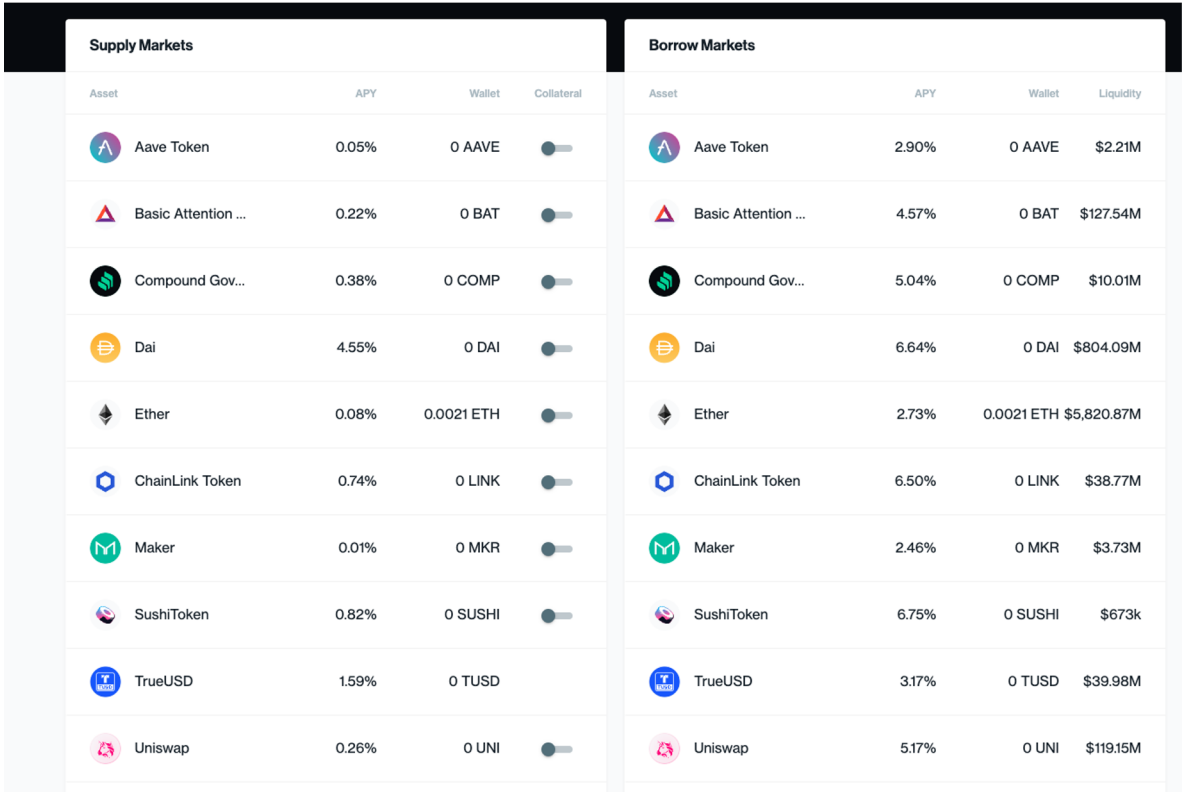
Ξ0.5

CryptoKitties



DeFi

Compound: Supply/Borrow Loans



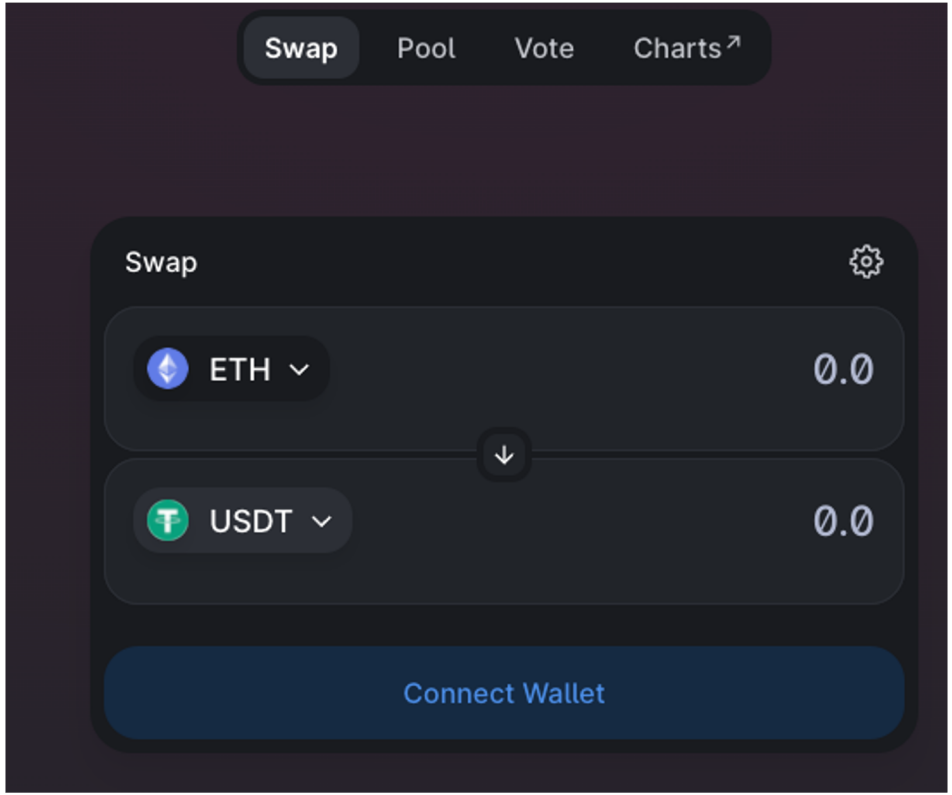
Supply Markets

Asset	APY	Wallet	Collateral
Aave Token	0.05%	0 AAVE	
Basic Attention ...	0.22%	0 BAT	
Compound Gov...	0.38%	0 COMP	
Dai	4.55%	0 DAI	
Ether	0.08%	0.0021 ETH	
ChainLink Token	0.74%	0 LINK	
Maker	0.01%	0 MKR	
SushiToken	0.82%	0 SUSHI	
TrueUSD	1.59%	0 TUSD	
Uniswap	0.26%	0 UNI	

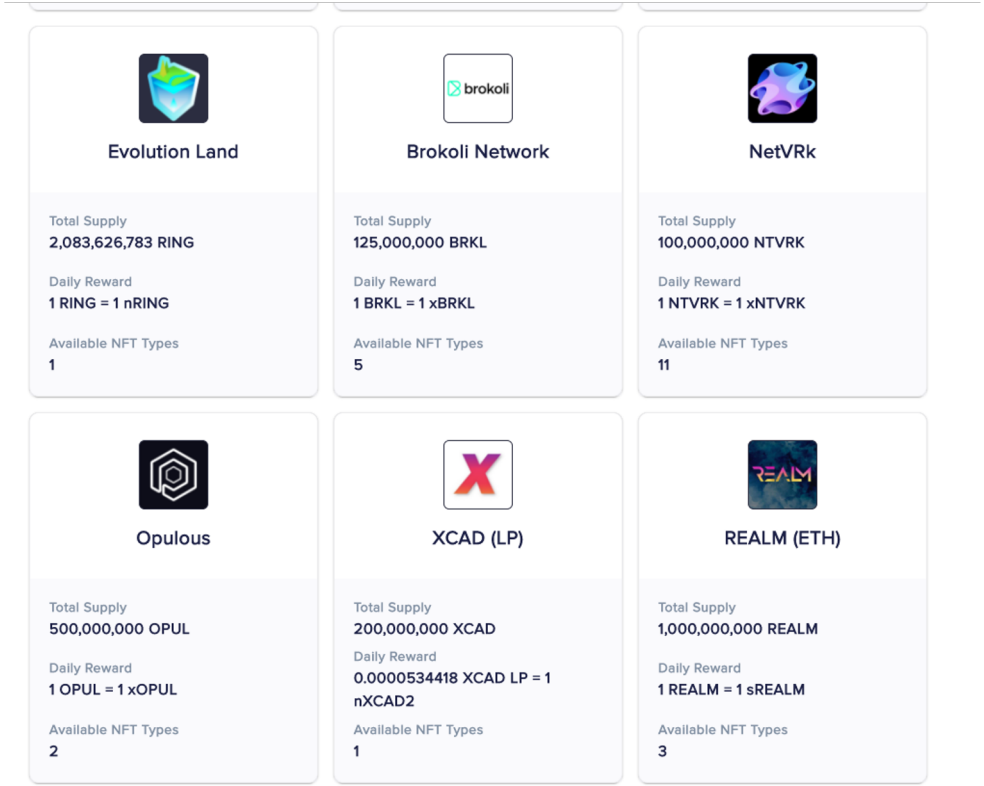
Borrow Markets

Asset	APY	Wallet	Liquidity
Aave Token	2.90%	0 AAVE	$2.21M
Basic Attention ...	4.57%	0 BAT	$127.54M
Compound Gov...	5.04%	0 COMP	$10.01M
Dai	6.64%	0 DAI	$804.09M
Ether	2.73%	0.0021 ETH	$5,820.87M
ChainLink Token	6.50%	0 LINK	$38.77M
Maker	2.46%	0 MKR	$3.73M
SushiToken	6.75%	0 SUSHI	$673k
TrueUSD	3.17%	0 TUSD	$39.98M
Uniswap	5.17%	0 UNI	$119.15M

Uniswap: Liquidity Pools



Farming: NFT Trade



Web3 For Storage Solutions

What is IPFS

IPFS (InterPlanetary File System) is a distributed system for storing and accessing files, websites, applications, and data.

- Supports a resilient internet.
- Makes it harder to censor content.
- Can speed up the web when you're far away or disconnected.

Deploy Frontend Pages To IPFS

1. Run IPFS daemon: `ipfs daemon` .
2. Add folder to be deployed: `ipfs add -r <folder-name>/`

```
added <file-hash> dist/build.js

added <file-hash> dist/index.html

added  <dir-hash> dist
```

1. Publish to IPFS: `ipfs name publish <dir-hash>`
2. Visit: https://gateway.ipfs.io/ipns/<dir-hash>

Upload/Download Data From Ipfs

Connect To Node

```
const ipfs = create({ host: 'ipfs.infura.io', port: 5001, protocol: 'https' })
```

Upload Data

```
await ipfs.add(file)
```

Fetch Data

```
await all(await ipfs.cat(path))
```

Deploy Frontend Pages To IPFS

IPFS nodes treat the data they store like a cache, meaning that there is no guarantee the data will continue to be stored.

That's why we use a pining service pinata

Pinata used for pinning and adding domain services

Or using a cron task to make sure the cached data

still exists.

Learning Path

Ethereum 101

Solidity 101, 201

CrypotZombies

Capture the Ether

Damn Vulnerable

Proto-School

Resources

IOTA for IOT & Blockchain

Nft School

Steemit (Decentralized medium)

References

https://polkadot.network/

https://opensea.io/assets/0x495f947276749ce646f68ac8c248420/045cb7b5e/51038767389134457626930617169090287934471579480777975785156342561214220468225
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Questions?