On the Future of Web3

Paving the Way to End-to-End Fully-Decentralized Web

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State of the Art of dWeb

- **ipfs://**
  - Decentralized access protocol

- **libp2p**
  - Decentralized Networking Layer

- **FILECOIN**
  - Decentralized Incentivized Storage Layer
Limitation of Current Solutions

**Limited Storage Semantics**
- Mostly work for static files
- Inefficient update and delete
- No data composability

**Steep Learning Curve**
- Users have to learn new wallets/address/token-economy
Section 2

Features Needed in Future Web3
Features Needed in Future Web3

Rich Storage Semantics
Create/Read/Update/Delete BLOBs on Large Dynamic Datasets Programmable by Smart Contracts

Simple User Onboarding
Just Use ETH-Compatible Wallet such as Metamask

End-to-End Fully Decentralized
No Centralized Identity From Frontend to Blockchain to Storage
Solution
Solution to Future Web3

EthStorage: External Data Retention L2 Network
Proof of Storage on Large Dynamic Datasets
~ PB Capacity with CRUD

web3:// Access Protocol
Decentralized Access to Web Objects Hosted by Smart Contracts

Proof of Publication via Data Availability
Increase Data Upload Speed Using KZG Commitment and Reed-Solomon Code
web3:// Access Protocol

- ERC-4804: Web3 URL Standard - an IANA Registered Scheme
- Render Web Objects Hosted by Smart Contracts
EthStorage - L2 to Scale
Ethereum Storage and Enable Future Web3

- A L2 Solution of Ethereum for Scaling Storage
- Instead of computation that most L2 work on
- Support both Ethereum Mainnet and Our Storage-Specific Sidechain
<table>
<thead>
<tr>
<th></th>
<th>Filecoin</th>
<th>Arweave</th>
<th>Ethereum SSTORE/SLOAD</th>
<th>EthStorage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Store Object</strong></td>
<td>Static Files</td>
<td>Static Files</td>
<td>KV Store</td>
<td></td>
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<tr>
<td><strong>Semantics</strong></td>
<td>CRD</td>
<td>CR</td>
<td></td>
<td>CRUD</td>
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<td><strong>On-Chain</strong></td>
<td></td>
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<tr>
<td><strong>Programmable</strong></td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
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<tr>
<td><strong>Proof of</strong></td>
<td>Proof of Space-Time</td>
<td>Succinct Proof of</td>
<td>Fully Replicated</td>
<td>Dynamic Sharding</td>
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<tr>
<td><strong>Storage</strong></td>
<td>with Challenge</td>
<td>Random Access</td>
<td></td>
<td>with Proof of Random Access</td>
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<tr>
<td><strong>Replication</strong></td>
<td>High</td>
<td>Medium</td>
<td>Very High</td>
<td>High</td>
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<tr>
<td><strong>Guarantee</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Storage Cost</strong></td>
<td>Very Low</td>
<td>Low</td>
<td>Very High</td>
<td>Low</td>
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<tr>
<td><strong>Capacity</strong></td>
<td>~ EB</td>
<td>~ 100 TB (Current)</td>
<td>~ 1 TB</td>
<td>~ PB</td>
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<tr>
<td><strong>Access Protocol</strong></td>
<td>ipfs://</td>
<td>N/A</td>
<td></td>
<td>web3://</td>
</tr>
<tr>
<td><strong>Wallet</strong></td>
<td>Filecoin Wallet</td>
<td>ArWallet</td>
<td></td>
<td>ETH-Compatible</td>
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</tbody>
</table>
Applications
The File Hosting Service on Web3Q
Thank you!

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