**Introduction to Filecoin and Arweave**

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On-chain storage can be gas intensive, sometimes prohibitively so. I wanted to make you aware of additional options you could consider for decentralized storage in your projects. Two of the most popular options out there are Filecoin and Arweave.

I've got a great video detailing Filecoin and decentralized storage available [**here**](https://www.youtube.com/watch?v=Cj9r3pKI2L8). I highly recommend you give it watch.

1. **Arweave**

Arweave is a decentralized storage network that makes data immune to modification, ensuring data validity over very long periods. This is an ideal solution for anyone looking for a permanent database.

1. **Filecoin**

Providing reliable and cost-effective storage, Filecoin is a decentralized protocol that propels the open-market for data storage services.

**Alison from FileCoin**

Alison Haire brings us her expert take from the Filecoin Foundation, providing a deep dive into the motivations and functionalities of the Filecoin ecosystem.

**Filecoin**

Filecoin, since its launch in 2020, has been working tirelessly towards decentralizing the data infrastructure for the internet. Their layer one solution, Filecoin Virtual Machine (FVM), has launched some impressive functionalities.

* **Filecoin Data Deal Making:** It involves setting up an agreement between a client and a miner to store data.
* **Tokenization of Data Sets:** With tokenization, data can be protected securely and transparently.
* **Data DAOs:** Filecoin's on-chain tools allow data to be collectively owned and governed by an organization (DAO - Decentralized Autonomous Organization).

And many more use cases are being developed, showcased in the [Filecoin docs](https://docs.filecoin.io/).

To get started with Filecoin, try deploying a smart contract to FVM, or use the storage helper - [**Web3 Storage**](https://web3.storage/) or [**NFT Storage**](https://nft.storage/), to engage with the technology directly.

**Wrap Up**

With this brief aside complete, we have one major concept I want to add context to in this lesson. Repeatedly we've been using abi.encode and abi.encodePacked to concatenate strings basically. It's about time we learnt what's actually going on under-the-hood.

In the next lesson we're gonna get a little more low-level. I'm sure you're ready for it.

See you soon!