**ARWEAVE**

**What is the ARWAVE?**

Arweave is a protocol to allow users to store their data permanently, sustainably, with a single upfront cost. Its target audiences are individual or organizations that need to store data or host content permanently. It is a decentralized network and all data stored is backed by a sustainable endowment ensuring the data is available in perpetuity.

It uses a form of database to store data that cannot be deleted or changed and uses economics to incentive people to store the data for long period of time for the first time ever.

Designed to provide scalable, cost-effective, and permanent data storage, Arweave is built on a blockchain-like data structure called the blockweave. The blockweave underpins what’s called the permaweb — a collection of data, websites, and decentralized applications (dApps) that form a permanent, decentralized information network that’s accessible through regular internet browsers, and which motivates users to participate. Key to Arweave’s function is its native Arweave token (AR), which is used to incentivize miners to maintain copies of data and pay for transaction fees.

Demo GitHub Link: <https://github.com/jinningxian/arweave_project>

**How does ARWEAVE works?**

Arweave is a new type of technology that uses a form of database to store data that cannot be deleted or changed, and uses economics to incentive people to store the data for long periods of time for the first time ever. This combination makes either public or private data permanent.

Two Layer: blockweave and permanweb

Blockweave:

* Data Store: it can not only store transaction information and store the data information on each block
* deploying a brand-new consensus mechanism called SPoRA, a proof of access
  + receive block rewards, you must prove to blockweave that you have complete access to the data in the **previous block**, along with some **randomly selected recall block**

permaweb (Arweave protocol uses HTTP)

* a decentralized web built on top of the Arweave blockchain
* stored the Arweave DApps
* able interact with the WWW
* permanent Dropbox (ArDrive)

POA and POW

**Advantages and Disadvantages**

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| --- | --- |
| Advantages | Disadvantages |
| 1. store data or host content permanently 2. only pay a single upfront cost（Pay once, save permanently.）- NFT, Web3 3. new economic model - endowment pool - support long-term sustainable development 4. AR token has immense utility within Arweave’s ecosystem 5. Partnership with Solana    1. Solana is a **public blockchain platform with smart contract functionality.** Its native cryptocurrency is SOL. Solana claims to **offer faster transaction times and lower costs** than its main competitor, Ethereum.    2. high-performance blockchain supporting builders | 1. can’t edit and change data 2. ROI is low 3. Size of storage is low (compared to its competitor – Filecoin ) 4. The solution stored on the chain determines that the data cannot be changed once uploaded, resulting in high iteration cost of the program and insufficient flexibility 5. Not suitable for sensitive data as it opens to public |

Other consideration

* Filecoin

References:

<https://arwiki.wiki/#/en/Arweave>

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