

# The Immutable Network: Scalable, Decentralized and Immutable publishing platform

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## Abstract

The market is plagued with products for both writers and readers which have been parasitizing on their naivety by endangering their privacy, censoring their work, or making it prohibitively expensive for them to actually use a simple service. The immutable network and subsidiary tools aim to be a platform where people can both read and write content without any fear of censorship, expenses or privacy endangerment. We aim to achieve this by using a plethora of technologies that already exist such as IPFS, the Ethereum and-or Binance Smart Chain network, ENS, etc.

## 1 The medium problem

It's a mammoth problem for a person to have unbiased, uncensored, cheap material to read or to publish[1]. "In waging our war, we do not throw bombs", declared the socialist newspaper Hamburger Echo on 27th September 1910. "Instead we throw our newspapers amongst the masses of the working people. Printing ink is our explosive."

This remark captures the widespread belief that the press played a crucial role in every facet of society, including war. We can infer it meant not just the war between countries but also that between the dominant classes and other elements of the population. This was one of the major themes of nineteenth-century history. Fast forward 2 centuries and we still

have to make such remarks. The advent of advanced technology namely the internet has made it extremely convenient to access information that is written down, but there is a significant cost that comes along with it, which unfortunately until this day hasn't been adequately solved.

The internet brought about new issues of it's own.[2] But even with those flaws there have been significant advances in the technologies that could add fuel to the fire that is the new print revolution. When a person looks forward to producing or consuming content there are a few things that they subconsciously look for:

1. **Usability:** This is one of the biggest factors why the current decentralized publishing platforms haven't taken off yet, their products are simply too difficult to use[3]
2. **Economic Viability:** It should always be free or close to free if a person is to be made to use a platform on the internet. Supposedly free alternatives make for a compelling argument in the eyes of billions.
3. **Information Viability:** The information that is displayed on the platform should be viable for the end user. Even though tailoring content for a user in a decentralized network model is incredibly hard, making it easier for them to discover without any bias or prejudices is simple.

## 2 Implementation Stack

There are a lot of ways to go about this novel problem, but only very few can make for a compelling solution. We intend to use some of the state of the art technology to make this happen:

1. **IPFS:** The Inter Planetary File System is a peer-to-peer distributed file system that seeks to connect all computing devices with the same system of files. In some ways, IPFS is similar to the Web, but IPFS could be seen as a single BitTorrent swarm, exchanging objects within one Git repository. In other words, IPFS provides a high throughput content-addressed block storage model, with content-addressed

hyper links. This forms a generalized MerkleDAG, a data structure upon which one can build versioned file systems, blockchains, and even a Permanent Web. IPFS combines a distributed hashtable, an incentivized block exchange, and a self-certifying namespace. IPFS has no singlepoint of failure, and nodes do not need to trust each other.[4]

2. **Ethereum:** A decentralized, open-source blockchain with smart contract functionality. Ether (ETH) is the native cryptocurrency of the platform. After Bitcoin, it is the second-largest cryptocurrency by market capitalization. Ethereum is the most actively used blockchain.[5]
3. **ENS:** The Ethereum Name Service is a distributed, open, and extensible naming system based on the Ethereum blockchain.[6]
4. **DAO:** A decentralized autonomous organization (DAO), sometimes called a decentralized autonomous corporation (DAC) is an organization represented by rules encoded as a computer program that is transparent, controlled by the organization members and not influenced by a central government. A DAO's financial transaction record and program rules are maintained on a blockchain.[6]

### 3 Connecting the technologies

A big part of our project is the actual symphony created by the aforementioned technological stack. From a top down perspective there are 2 pieces to this puzzle. The user interface and the business logic.

#### 3.1 The User Interface

This is perhaps the most important part as far as the user is concerned, and it has to be impeccable for the project to be deemed a success. We intend to host the front end of the application that will be used for consumption of data on IPFS with an ENS domain with eth.link[7]. This would mean any browser that is currently on the market will be able to use it without installing any additional software.

Another user interface will be provided as a web extension which can also be installed on popular browsers which can be used for transferring existing or even new content to the Immutable network.

## **3.2 The Business Logic**

This section deals with things that will go on behind the curtains away from the users eyes.

### **3.2.1 Adding content from the user**

Users can publish already existing or new pieces of content using our web extension/gateway. The extension communicates with our gateway and passes on the details of the content in question. This content is then packaged and made ready for the IPFS network. The packaged content's content id along with a unique identifier is then stored on the blockchain permanently, where it cannot be deleted or changed from.

### **3.2.2 Interfacing with the old web**

Due to the nature of the web2 architecture, it's very difficult for a regular browser to fetch content in a fast and efficient way. This is where our gateway comes in. It can be used by any developer for ease of viewing the content that is stored on the blockchain.

### **3.2.3 Storage for content**

The DAO elects members who will provide the storage space for user(s)' contents to be stored in, this is a critical part of our ecosystem. They are incentivized according to the DAO consensus and will not be running the IPFS peers altruistically.

## **4 The token**

As mentioned earlier, there is a need for a token, specifically a utility token that can be deployed on an Ethereum based network, we have come up with some numbers for how the tokenomics[8] should be.

There will be a total of **42,000,000** coins as Total Supply.

% of Tokens	Use case	Vesting Period
36 %	Public Sale	<b>nil</b>
10 %	DAO Fund	<b>Permanently</b>
15 %	Advisory Fund	Over 12 months
15 %	Team Fund	Over 12 months
21 %	DARA Liquidity	Over 12 months
3 %	Marketing and Promotion	<b>nil</b>

## 5 Conclusion

Professionals involved in the field of research and writing face the constant trouble of being met with the inaccessibility to platforms that engender freedom of expression. Our project extinguishes this adversity and aides the writers and researchers to publish their literature to the world free of the shackles of censorship. We aim to be the torch bearers of free speech.

## References

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