mail3

Build valuable connections in the decentralized society

Table of contents
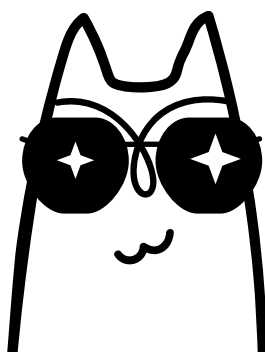
Introduction

Web3 is an inevitable paradigm shift for the Internet.

As the world moves from the centralization to decentralization, the data, privacy and security should be fully owned by the user. The information sharing and distribution should also be controlled in the realm of the user, rather than some centralized authorities. We believe that web3 dapps have the following same characteristics in common.

Protocol Composability

It allows different protocols and applications being combined pomissionlessly to build new services, which would release unlimited possibilities.

DAO Empowered

DAO has completely changed the way of social collaboration and resource integration. It plays an increasingly important role in web3 projects nowadays.

Self-sovereign

Users have full ownership of their own data, identities, assets and social network. No one else can control, monitor, or block user's operations.
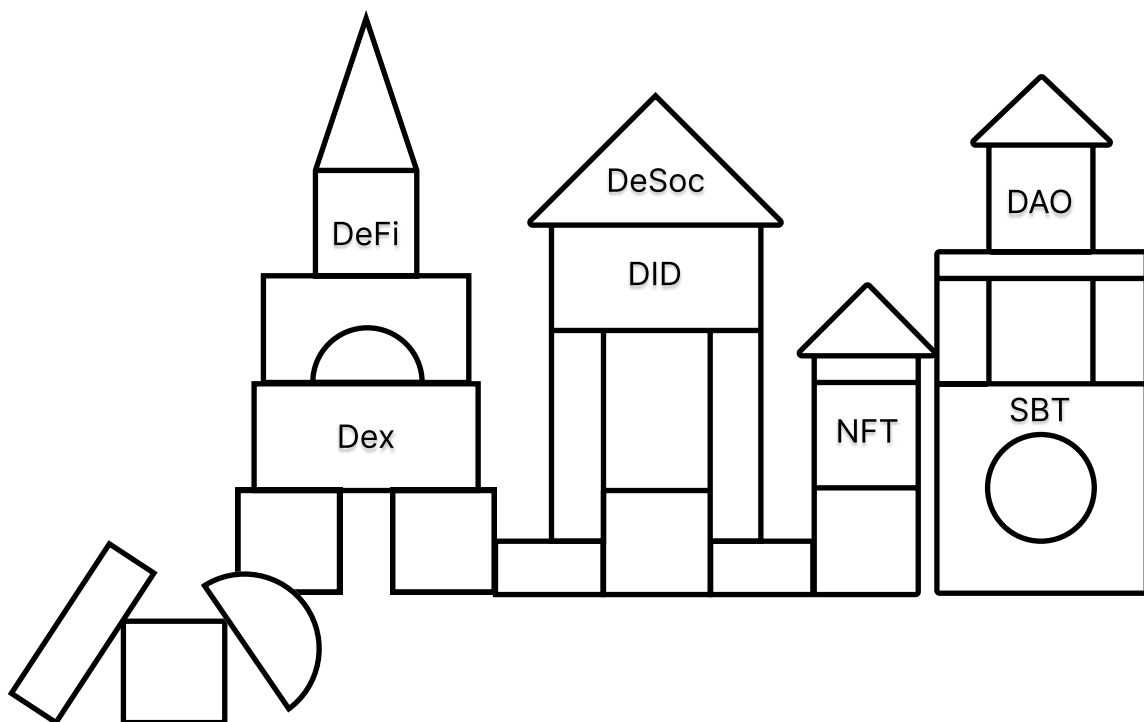
Problems

> ## Email is ubiquitous and irreplaceable,
> ## only too old.

It covers more than 4 billion users and the number continues to grow every day. But Email is too old, it remains almost the same as it was decades ago, along with a series of problems.

Privacy sacrifice

Personal data is directly exposed to the mail server, which may lead to the leakage or abuse of sensitive data.

Unfettered authorities

Your Email address and data will be lost forever If the centralized server fails or acts malicious.

Identity imposture

The identity of the mail sender is easy to forge. Digital signature tool is an available option, but it requires a high learning curve, and a trusted off-line public key exchange process to set up.

Floody Spam

About 90 percent of Email traffic is spam. And there are no effective methods to filter the spam in advance.

Behind The Times

It has been a long time since the last exciting innovation occurred in the Email protocol or applications.

To fix these problems and introduce more possibilities, maybe a web3 mail protocol with decentralized architecture is necessary.

Mission

Build valuable connections for the decentralized society, where the trustable collaboration is empowered.

Mail3 is a crypto native communication protocol that promises security, **privacy preservation and self-sovereign identity.** It also enables the users to capture the value of social connection, and accumulate the digital reputation on-chain.

Mail3 aims to be the infrastructure for web3 communication and the platform for valuable information such as relationships, reputation, and trust. Thanks to the decentralized architecture, any user can directly establish a private connection with one another, without the concern of being monitored and censored. And the personal data, social relationship, and corresponding value is stored distributedly and permanently.

The web3 data that users accumulate on-chain is a perfect filter to form a valuable, effective and serious social network. Mail3 will make full use of these invaluable data to provide a spam free, efficiency focused communication protocol.
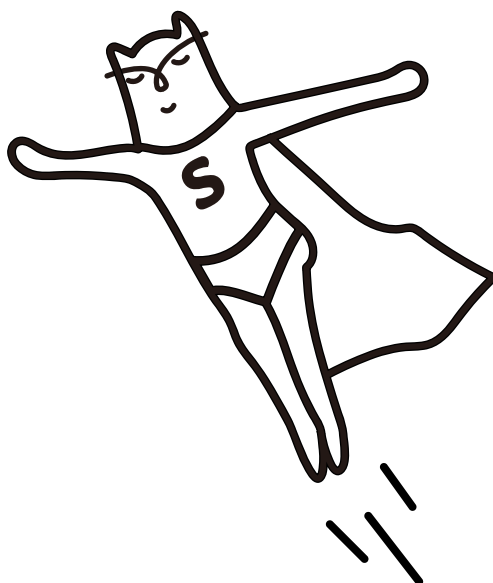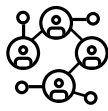
Features

Mail3 benefits users with crypto-native functionalities, and brings numerous possibilities.

Blockchain Agnostic

Besides Ethereum and Metamask, Mail3 supports all kinds of public chains, corresponding wallets, and DID names built on them.

Social Infrastructure

Mail3 will build an open social graph, provide protocol level support for IM, blog, and other kinds of applications.

Crypto Identity

Both the wallet address and decentralized domain name works for the id.

Open Composability

Based on blockchain and open protocols, different applications can freely combine with each other.

Privacy Protection

Fully protect the privacy of users through data encryption, even the server cannot obtain the private information of users

Smart Spam Filter

Mail3 users can automatically filter emails and actively defend against spam based on on-chain data and reputation protocols.

Community Mail

Sending emails to those who hold specific FTs or NFTs. Through Community Mail, project parties can directly reach high-quality web3 communities.

Legacy Compatibility

Mail3 is perfectly compatible with Gmail, Hotmail and other existing email infrastructure, which guarantees a consistent experience.

Communicate to Earn

In Mail3, organizations and projects has the need to accurately reach the target users, so these users have the right to earn corresponding benefits

Permanent Storage

User's encrypted-data is permanently stored in the decentralized service

Community Driven

Mail3 will implement autonomy community through new organizational forms such as DAOs

Technology

Mail3 introduces open protocol and tokenomics to make service decentralized, autonomous, and sustainable.

Anyone can become a service provider and offer secure, trustless and permissionless service to the public.

Legacy mail proxy service (LMPS)

The Mail3 users communicate with traditional Email users via standard SMTP protocol, and they also share the same cryptography schema such as OpenPGP and S/MIME. This perfect compatibility is achieved by LMPS which translates different protocols from one to another. Users could choose the default LMPS deployed by the community or a dedicated one owned by themselves. Legacy mails will automatically be routed to the right LMPS according to the setup information published by the user on-chain.

DID and profile space

Mail3 users could claim on-chain profile spaces to store their necessary public data for interoperation, including static personal profile, PGP keys for encryption, LMPS selection, and so on. Furthermore, to create more composable possibilities with other web3 protocols, Mail3 allows users to publish their social connections, personal preference, and subscriptions in the profile space. The Mail3 protocol supports decentralized domain service such as Ethereum Name Service as account alias, which makes the addresses much more friendly and distinctive. With profile space and various applications built on it, we shape the decentralized identity from the bottom up.
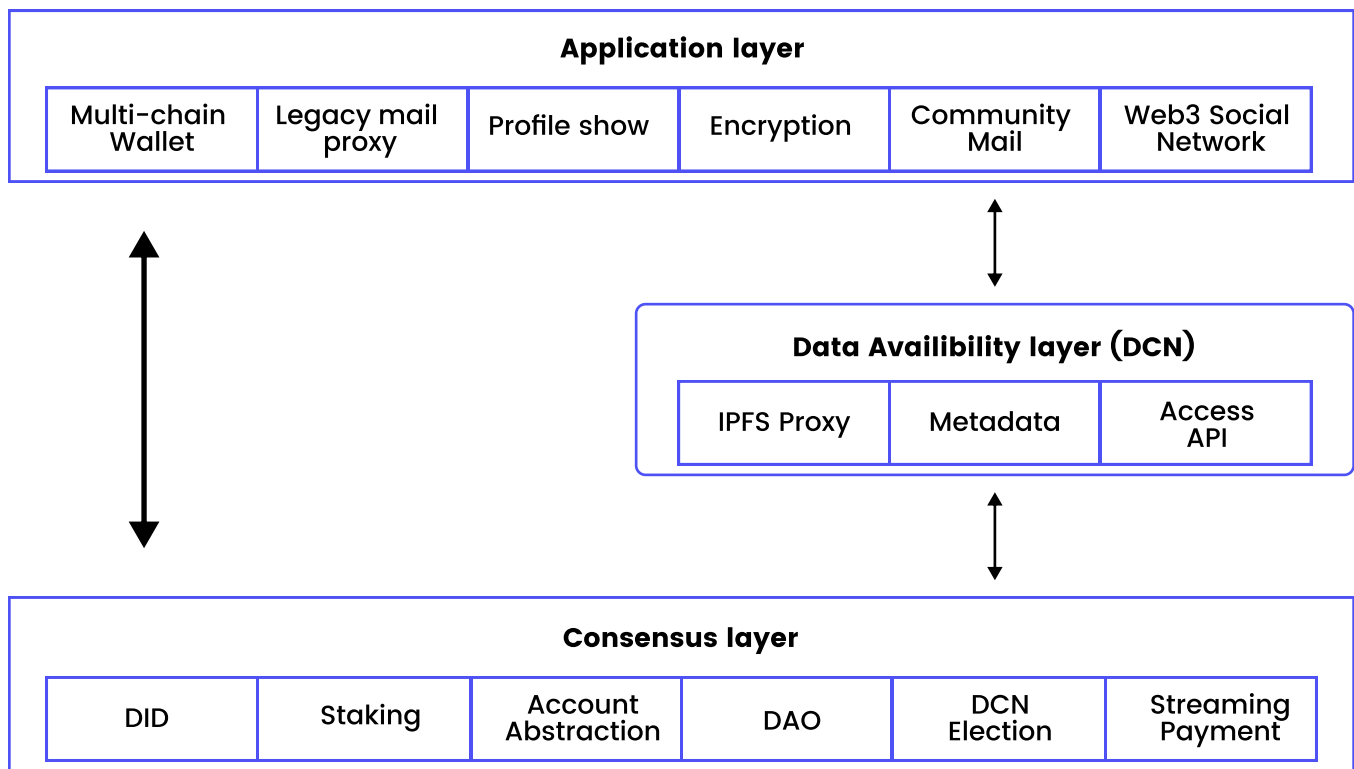
Multi-chain user adoption

Mail3 protocol requests digital signatures signed from wallets to authenticate users. It supports all kinds of public chains, including the non-programmable ones such as Bitcoin and Dogecoin. Thanks to the exclusive account abstraction technology, users from different chains and different wallets could share the same consensus. Users could directly manage Mail3 related crypto assets such as tokens and identities, as well as transfer values to any other users.

Data collator network (DCN)

DCN consists of a group of elected nodes that provides distributed data storage and access services. It develops the idea of IPFS, evolving into an incentive layer with a batch of specific optimizations for the Mail3 usage scenarios. DCN nodes get general reward from consensus to provide basic data availability service. Additionally, an explicit number of DCN nodes could be assigned to sync users' excess data with extra streaming payments from the users.

Architecture

Application layer					
Multi-chain Wallet	Legacy mail proxy	Profile show	Encryption	Community Mail	Web3 Social Network

Data Availibility layer (DCN)		
IPFS Proxy	Metadata	Access API

Consensus layer					
DID	Staking	Account Abstraction	DAO	DCN Election	Streaming Payment

Application Layer

The application layer is the bridge between users and core services. It connects various chains and wallets to identify users, links legacy Email systems by LMPS, encrypts and decrypts contents, ensures the genuineness of message, delivers the community mails to specific groups, and maintains a portal to access users' web3 profile, reputation and social connections.

Consensus Layer

Built on blockchain, the consensus layer takes charge of the token staking, DCN node election, and streaming payment to constitute the protocol-level incentive mechanism. With the account abstraction and DID module, users from different chains communicate with each other trustlessly and smoothly. The consensus layer also makes decentralized governance possible, which keeps the ecosystem thriving and sustainable.

Data Availability Layer

The Data Availability Layer is also known as DCN. Every node in DCN connects with each other as well as the IPFS network. A limited storage and bandwidth quota is provided by default for every user automatically. Users could directly pay to the DCN nodes to guarantee multi-site availability, bandwidth, and response priority. Running a DCN node would require a number of staking and voting from the community, which means malicious or bad-act nodes cannot last long in this game.

The Postoffice DAO

> As the governance pivot of Mail3, the Postoffice makes the community a sustainable DAO and keeps every member aligned.

Decentralized governance

The governance aims to constitute a digital commons to maintain, operate, develop and grow the Mail3 community. It will mint both fungible and non-fungible tokens to incentivize the development of the protocol, to keep the availability of the service, and to accelerate the growth of the community. The token holders could join the Postoffice and participate in the public decision-making.

Tokens can be delegated to the DCN nodes to elect the main data storage and service liveness providers. The nodes have the obligations to provide the basic infrastructure for the average users and thus get an inflation reward for that. If any of the elected nodes behave negatively, like refusing to back up the basic quota of data, or neglecting the normal download request , their tokens would be slashed and holders would withdraw the delegates.

Unstoppable service market

System tokens are paid for the value-added services, including more storage capacity, more guaranteed data copies, more network bandwidth and higher response priority. The payment is micro, continuous, and programmed, which is achieved by the payment channel off-chain. And the settlement happens periodically and trustlessly on-chain. This mechanism ensures the user has full control over their money, they can cancel the payment once the nodes' behaviors mismatch the expectation. On the other hand, the nodes could get paid instantly, and a long-termist would gain substantial reward because it would get numerous subscription payments from long-term users.

Sustainable community

Overall, our faith is that the Postoffice governance and the token incentive mechanism will make the community a self-driven, and self-organizing DAO, which should be the key to the prosperity and sustainability of the web3 ecosystem.

More about the project

Official Website

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