



Time DAO

4TH DIMENSION APPS

- White Paper -

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ABSTRACT



It is Christmas 2031, Shawn is playing with the small wooden figure he's been dragging around for ten years now, waiting for this exact moment to arrive.

When he turned 10, his grandfather gave him that object and told him to keep it carefully for it was the key to a treasure, one that would open on Christmas ten years from now. The wait is finally over, he enters the credentials written in the NFC chip embedded in the object and opens his time capsule. Inside he finds pictures, a note from his grandfather, videos and...a crypto wallet. His grandfather didn't lie, there was indeed a treasure waiting... ”

This short story illustrates what we aim to enable : the emergence of a range of new applications centered around the concept of time-locking, applications like time capsules and time-locked crypto wallets.

For this to happen we'll provide :

1. **A public service dedicated to storing and timelocking digital contents** in a trustless and reliable way.
2. **A DAO dedicated to maintain the service through time.**
3. A **SDK** to facilitate the integration of the service in third party applications and help foment an ecosystem of applications based on time locking.
4. Efficient & reliable ways to store and transmit your time locked assets' credentials (NFC physical objects,NFTs).

1.VISION

1.1 Genesis

The idea originally sprang from a basic assumption : “You can’t send files to the future”. Seemed obvious at the time but...Is that true? If I take a file, encrypt it and store it so that nobody can retrieve it before a set date, one could argue that the file per-se ceased to exist in this temporality (as it is now unfindable and unreadable). So where is the file? It is already in the future. You are the one lagging behind, when you will catch up with the file’s new temporality it will already be there waiting for you.

Ergo...Yes you can send files to the future. But for this to be more than an abstraction, there is one major challenge : the system must stand the test of time.

The idea was intriguing enough to start thinking...

1.2 The missing public service

There is nothing more common than sending something from one place to another. It is so natural we don’t even think about it. But we were not born with the ability to send messages to remote places : there are public services that give us this possibility. Services like the post office, Internet, cellular networks are the infrastructures that make it possible.

What we can’t do up to now though is “send something through Time”, **precisely because there is no “TimePostOffice”, no public service to easily and reliably store something for the future.**

We believe there should be such a public service, we believe it would be a useful and interesting new feature for people at large. A new possibility that will give rise to a thousand usages.

1.3 What are the implications? What can you do with it?

The impact of technologies is best seen through the applications they enable. Initially we will propose two applications of the technology that we think would be useful :

Send content to the future : The Time Capsule Use case

How people will actually use time capsules is unknown but we believe that, as adoption grows, it will become a standard for parents to create a time capsule for their children's 18th birthday with a message recording the day of their birth along with pictures and eventually the private key of a crypto wallet.

Along the same line, it could become common for lovers or friends to create time capsules to anticipate an important commemoration in the future.

Time capsules, especially NFC time capsules, would also be a perfect medium to send a letter to yourself a decade from now.

Send value (cryptocurrencies/NFTs) to the future : The TimeWallet Use case

TimeWallet allows people to time lock their crypto wallets. It works like a piggy bank : you receive the public key of the wallet so you can add more cryptos as time goes by but you won't be able to access them until a predefined date.

1.4 Ambition

This project is resolutely human in its essence. Unlike many others in the field today, it is not about money, it is about people and what they will do with the technology. We believe that, if widely adopted, this public service and its applications have the potential to enhance people's lives by presenting them with new possibilities when it comes to sharing, to transmitting, to preserving, to remembering...

Our ambition is to build this public service.

This short whitepaper is about how we intend to do it.

2.TIMEDAO

ENABLING 4TH DIMENSION APPS

2.1 The Challenge : Persistence in Time

This project poses a major challenge: **To be of any use it must stand the test of time.**

Indeed, what's the point of setting a time capsule for my newborn child's 18th birthday if I am not absolutely sure the company will still exist in 18 years and I can retrieve the data I stored?

Persistence in time is what this project is all about, the service must keep functioning in the future. How to ensure that? Will Ethereum exist 20 years from now ? What will be the technological standards in a decade ? Nobody knows the future, that's why we 'll need to involve human agents in order to anticipate the coming changes. Their action will be coordinated through a DAO: TimeDAO.

2.2 The Solution : TimeDAO

2.2.1 Mission

TimeDAO is a Decentralized Autonomous Organization with one exclusive purpose: ensure the technology remains operational. Its mission is to identify the challenges ahead and pilot the necessary adaptations to make sure the service keeps on functioning.

Achieving this objective will require, amongst other things :

- Development tasks : maintaining/upgrading the source code, the web interfaces and the servers
- Administrative tasks : insuring the decentralized cloud fees and server fees are paid if automatic systems fail
- Management/Decision making : putting to vote and implementing the measures/budgets/changes necessary to adapt to the inevitable technological changes that will arise in the years to come. **This could include migrating to other blockchains, other decentralized clouds or change the tech stack.**

2.2.2 Proposed governance structure

DAO systems evolve very quickly therefore the following is not set in stone and governance structure may vary when we implement the DAO.

The DAO will be run by a small group of agents : the Time Council. Time Council members will be in charge of :

- Making proposals to ensure the persistence of the service. Those proposals will then be submitted to a general vote.
- Taking the necessary actions to enforce the proposals approved by a vote
- Reporting to the general assembly of TIME token owners
- Keeping the vault (where the important credentials are stored) safe

To illustrate let's take an example:

2028, nodejs became obsolete, running the gateway servers will soon become problematic with the current binaries.

TheTime council :

- 1. Addresses the problem and decides it is time to develop a new gateway server using a different, more modern, stack.*
- 2. Drafts a document describing the task and gets estimates from freelancers & companies...*
- 3. Submits a proposal and a budget for the task at hand to a general vote.*

If the proposal passes, it is now up to the council agents to :

- 1. Hire the devs*
- 2. Validate the end result*
- 3. Emit the payment for the task on the DAO's funds*
- 4. Publish the source of the new server on the DAO's git repository, etc..*
- 5. Install the new server with the API keys from the Vault*

2.2.2.1 Time Council special fund

In order to incentivize and to valorize the Council members, a special fund will be created that will receive 3% of the profits generated by the TimeApps. This fund will be distributed amongst council members every year.

2.3 SDK & Time Apps

Time Apps are applications centered around the concept of time locking.

TimeDAO provides a trustless time-locking storage service called TimeAtom. TimeAtom powers the TimeApps whether native or developed through the SDK. It is composed of 3 elements :

Blockchain stores the data necessary to retrieve the TimeApps content at a specific date.

Decentralized cloud (currently StorJ) stores some TimeApps content.

Binaries server (nodejs) acting as a gateway between the decentralized cloud and the client. Allows uploading and retrieving

We developed a very straightforward JavaScript SDK for TimeAtom, still in its early phase, that makes it easy for devs to integrate the service to their code. It is available on GitHub.

2.3.1 The first TimeApp : The Digital Time Capsule Service

The first TimeApp developed and managed by TimeDAO is something we hope will be routinely used by people everywhere to store something for the future and transmit it easily : the TimeCapsule.

A Digital Time Capsule is an encrypted, decentralized storage space that will open on a specific date and time. This service allows the creation of time capsules and propose innovative methods to facilitate their conservation and transmission (NFC physical object, QR code, NFT).

We envision the TimeCapsule as a public service, like the post office except you send something sometime instead of somewhere.

As such it must be reliable, cheap and easy to access, which means it can't be a crypto only app. You shouldn't need to have a metamask installed to create a capsule. Our vision is that time capsules should be sold both online with credit card and in retail stores and we are very committed to the idea of expanding the awareness of the concept in the general public.

2.3.1.1 **NFC** & TimeApps

TimeCapsules can be set to open decades from now. How do you store your credentials? How do you transmit them easily?

One answer is physical objects.

We will develop a mobile application to store and retrieve capsules on NFC enabled physical objects. Once transferred you won't need to remember the credentials anymore, you can treat it as you would any object : give it to someone or keep it on your desk until the time comes.

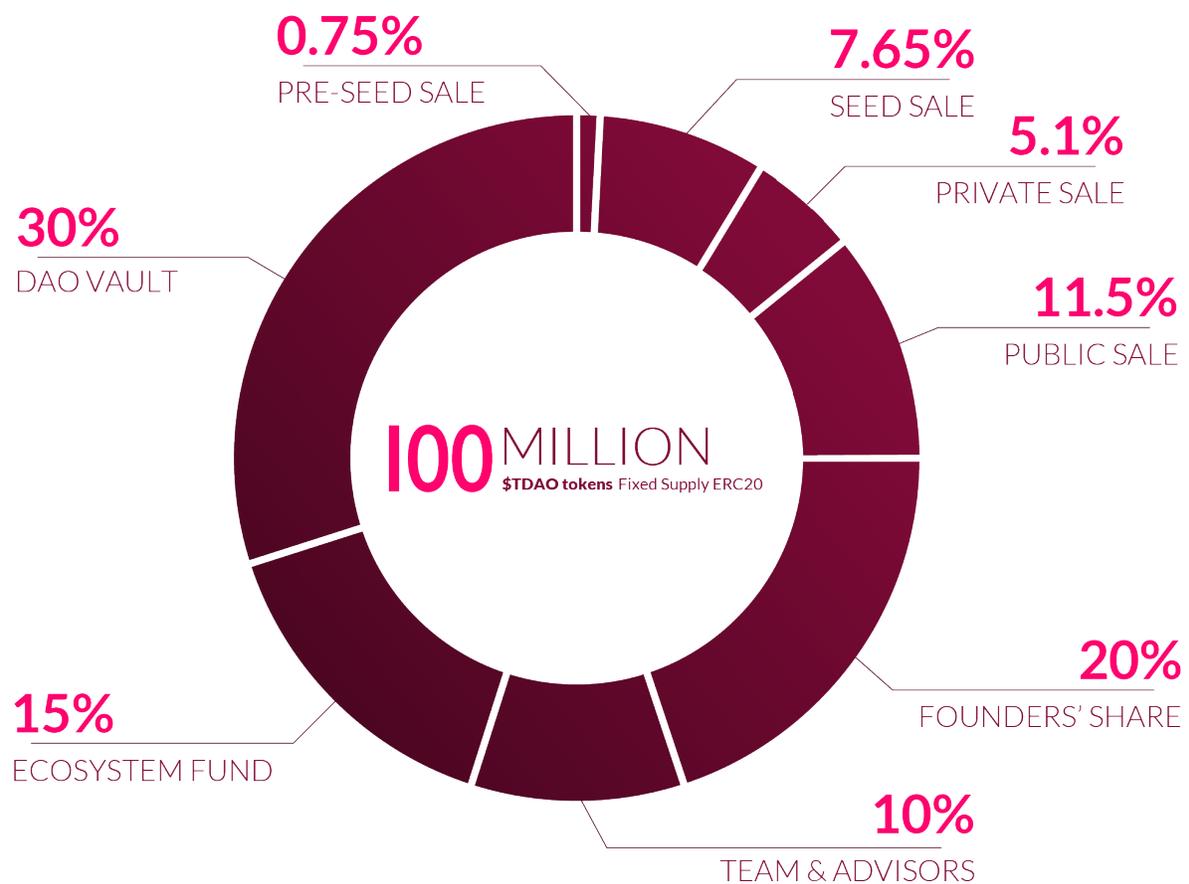
Although TimeCapsules will be transferable to any NFC enabled storage, we will propose a physical object containing a NFC chip specifically designed to hold information for at least 200 years (NFC standard ST25TA512B). This will increase both revenue and brand awareness and more importantly awareness of the concept of TimeApps and digital transmission, the end goal being retail stores.

2.3.1.2 **NFT** & TimeApps

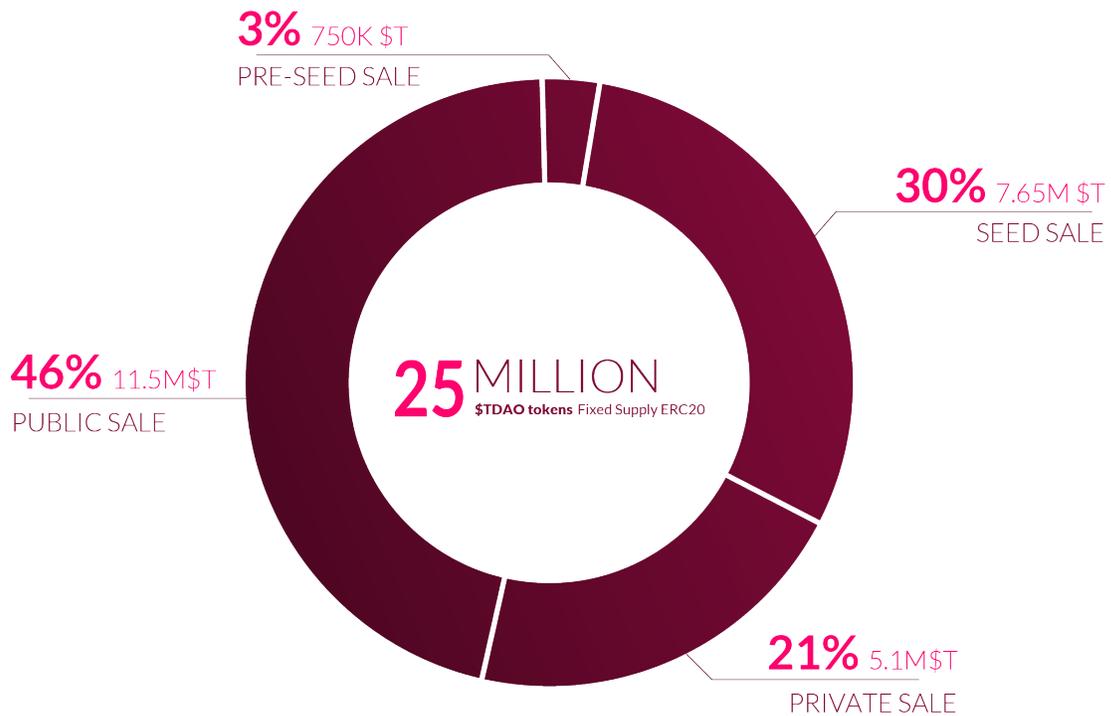
TimeCapsules credentials can be made into a NFT and stored inside an Ethereum wallet, making it easy to store and transmit digitally.

3. \$TDAO TOKEN

TimeDAO's native token is called \$TDAO. It will be created on Ethereum Mainnet as an ERC20 token with a fixed supply of 100M tokens allocated as follows :



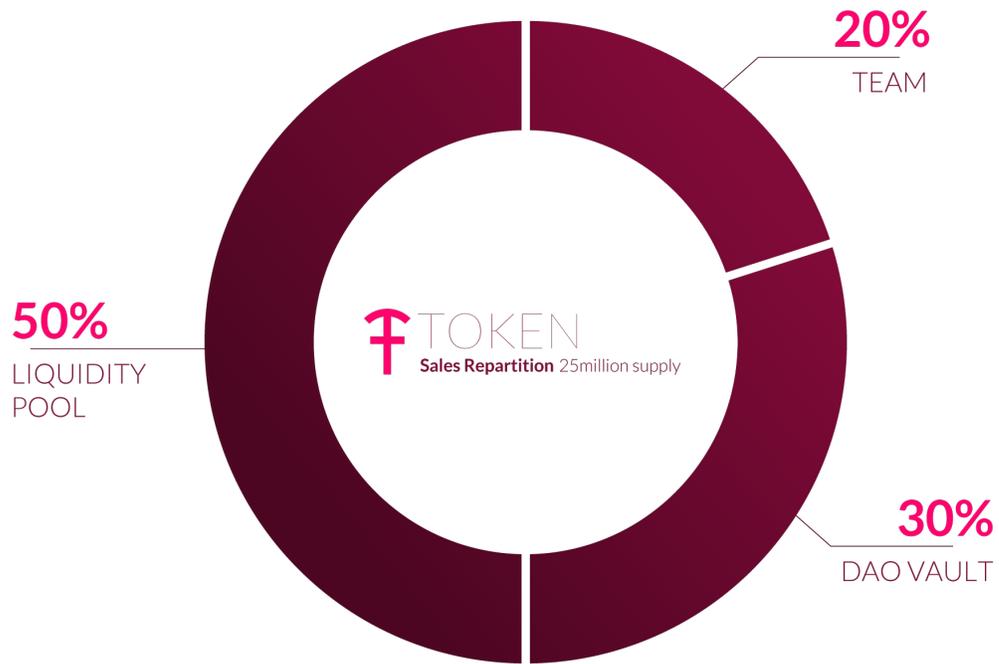
3.1 Token Sale



In order to fund its development, TimeDAO intends to sell 25% of the total token supply in various stages. Please note that the following is a projection and can be modified if needed. Please note that the following is a projection and can be modified if needed. All schedules are based on the public sale debut.

Sale	Supply sold	Estimated Price	Vesting (cliff)	Minimum Ticket
Pre-Seed sale	0.75%	\$0,0650 USD	No vesting (1 month)	Min \$250 USD Max\$500 USD
Seed sale	7,65%	\$0,0650 USD	12 months (6 months)	25 000 USD
Private sale	5,10%	\$0,0975 USD	12 months (6 months)	5 000 usd
Public sale	11,50%	\$0,1300 USD	None	None

The different sales proceeds will be distributed as follow:



Department	Allocation
Liquidity Mining Collateral	50%
DAO Vault	30%
Team	20%

DAO vault	Sub-Allocation
Product Development: TimeCapsule, TimeWallet	33%
Project Development (core, DAO, NFC, SDK)	28%
Marketing	21.5%
Outsourcing, Advertising, Misc.	17.5%

3.2 Token vesting

Token allocation	Supply	Vesting (Cliff)
Token Sale	25%	Variable, see above
Team & Advisors	10%	10% > no lockup 90% > 18 month vesting (6 months)
Treasury	30%	No vesting
Ecosystem fund	15%	No vesting
Founders	20%	60 months (12 months)

3.3 Ecosystem fund

The Ecosystem Fund will be used to maintain liquidity.

But the particularity here is that we are **not only** going to bootstrap liquidity by creating a TDAO-ETH pool, **we are also going to give the DAO a native way to collect the fuel it needs to survive.** And, besides money, what the DAO needs to survive is storage credits, namely here \$STORJ tokens (currently our storage provider, and probably later on other utility tokens like Bluezelle's or SIA's as the project grows). So, with the goal of persistence in mind we'll optimize for "utility token liquidity" by creating TDAO-STORJ pools.

The pools to be created : TDAO-ETH (35%), TDAO-STORJ (5%), TDAO-USDT (30%), TDAO-DAI (30%).

15% of the total supply (15,000,000 \$TDAO) will be distributed over 3 years through various initiatives : mining campaigns, airdrops, liquidity mining and staking rewards.

3.4 DAO Vault

A governable vault will be created. It will be seeded with 30% of the total supply (30,000,000 \$TDAO). Vault resources will be used to fund initiatives that benefit the project like R&D and system optimization. Any vault spending will be subjected to a Council vote.

4. TECHNICAL SOLUTION

4.1 Decentralized storage service

The basic service provided by TimeDAO is akin to a decentralized storage service with a time lock feature.

It is composed of 3 elements :

- **(Layer 2) xDai chain:** Stores the data necessary to retrieve the TimeApps content at a specific date.
- **Decentralized cloud (currently StorJ):** Stores some TimeApps content.
- **Binaries:** Server (nodejs) acting as a gateway between the decentralized cloud and the client. Allows uploading and retrieving.

4.2 Website / React App

All our TimeApps will be offered through a phone app and a dedicated React WebApp. Allowing users to create or retrieve their content using a graphical interface.

4.3 Smartphone App

Store & retrieve capsule with NFC

TimeDAO will do everything in its power to preserve content stored in your TimeApps. But how do we make it easier for you not to lose your credentials?

After wondering about carved objects for a moment we opted for NFC. NFC chips are small and cheap and some NFC chips are specifically designed to retain information for more than two centuries. The perfect candidate.

The TimeCapsule and TimeWallet mobile apps will also allow you to store and retrieve your capsules' access codes on NFC chips, be it your own chips or the ones that TimeDAO will offer.

4.4 Physical Time Capsules

We will offer physical objects containing a NFC chip specifically designed to hold information for 200 years. Our goal is to have it distributed both online and in retail stores.

Download the mobile app (yet to be developed), place your smartphone over your NFC object to load the capsule's access codes into the NFC chip it contains.

When the time is up, placing your phone on the NFC object again will act as a key to connect with the blockchain. You can now retrieve the capsule content from the decentralized cloud.

5. TOKENOMICS

5.1 Token utility

\$TDAO is a governance token (1 \$TDAO equals one vote in the DAO).

\$TDAO will be stakeable in exchange for rewards.

5.2 Incentive Mechanisms

5.2.1 Airdrops & Liquidity mining program

The ecosystem fund will be used to reward participants who create value for the project. This includes, but is not limited to, airdrops, bounty programs and liquidity mining campaigns.

5.2.2 Rewards Pool

Up to 50% of the fees collected by the DAO through its services will be added to a Rewards Pool. The rewards will be distributed periodically to stakers proportionally to their participation in the staking pool.

6. COMMUNITY

OWNED-AND-RUN PROJECT

We plan on transitioning from a centrally-governed entity to a community owned-and-run project within 3 years. To this effect, at the end of the third year, 65% of the tokens will have been distributed to the community, enabling decentralized control of the evolution of TimeDAO and its associated services.

To facilitate the structuration of the community (and make it more fun) we will develop a gamified community lore through the creation of a “tree of incentives” giving access to exclusive rewards (NFT, airdrops, events, etc.) and advantages.

We will also valorize the Time Council members as much as possible as they will be the warrants of the survival of the project in time.

As an incentive, Time Council members will receive a share of the DAO's profits.

They will also be periodically “glorified” : NFT commemorating their mandates will be emitted and distributed to the community, memes will be created in their honor, etc...

7. BUSINESS MODEL & COMMERCIAL STRATEGY

The project's main source of revenue will come from:

- **The fees earned through our TimeApps:** TimeCapsule and TimeWallet are designed to be both cheap for the user and very profitable for the DAO.
- **The fees earned through third party TimeApps:** Third party timeApps will have to pay fees to have their operations validated on our blockchain.
- **Selling physical NFC-chipped objects as a product :** We will offer a range of nicely designed physical objects and create a Kickstarter campaign around them. This will increase both revenues, brand awareness and more importantly awareness of the concept of Digital Time Capsule/Digital transmission. The end goal being distribution in retail stores.
- **Operating a marketplace for the physical NFC-chipped objects:** By opening a marketplace to a multitude of selected creators offering NFC compatible physical objects, we will provide the public with a rich product ecosystem, the creators with an attractive display, and both the DAO and the \$TDAO token holders with additional revenue streams.

8. PROJECT HISTORY & ROADMAP

Q3 2020

- Rapid prototyping of a POC

Q4 2020

- Development of TimeCapsule POC
- Tokenomics
- White Paper
- Deployment of a test DAO on Rinkeby testnet
- POC is online

Q1 2021

- Migration to Layer 2 xDai chain
- Update of the existing smart contracts and binaries to use xDai
- Development of new features on the POC

Q2 2021

- Team assembling
- Website creation
- Marketing strategy conception

Q3 2021

- Preparation for the ICO
- Creation of the \$TDAO token
- Incorporation of the company
- NFT minting for early investors
- Pre-seed sale (Sep. 24)

Q4 2021

- Seed sale (Oct. 22)
- Private Sale (Nov. 12)
- Public Sale (Dec. 10)
- Creation of Liquidity Pools
- LP Reward program

Q1 2022

- Recruitment of team
- Foundation of the DAO
- External audit of the smart contracts
- Beta release of the TimeWallet
- Development of TimeCapsule App for iOS/Android
- NFC-chipped objects extension for TimeApps
- NFT integration for credentials safeguardings
- Beta Release of the TimeCapsule

Q3 2022 and beyond

- Partnerships with brands and retail stores