THEDATAVAULT.IO

TheDataVault Whitepaper

Purpose: The Data Vault (TDV) is composed of two main features:

1) a decentralized, peer-to-peer cloud storage platform. The storage capacity, security, speed of file sharing and asset exchange capabilities situate it perfectly as a network that grants users autonomy and ultimate privacy over their data, and;

2) smart contracts that enable it to automatically retrieve a user's documents from external institutions like hospitals and port it directly into a secure and private data vault.

Abstract: In a digital landscape where we store our files in several different locations, often manually duplicating documents and forms across platforms, The Data Vault (TDV) is the first true option for an autonomous digital headquarters for consumers and enterprises (Client). Due to its decentralized nature, it allows the client to retain ownership over all the data—instead of data being hosted on centralized servers. Thus, the Client can share with whomever they want, whenever they want with ultimate privacy, whether it's for a transaction or a social interaction.

The two components, the storage platform and the smart contract portal create a unique user experience that saves a user time and energy from having to search and organize external and internal documents. Imagine if your current cloud storage app could automatically retrieve your records from your most current hospital visit as soon as you were discharged, and store them in your secure DataVault in the most organized fashion.

TDV's foundation is blockchain technology, a decentralized, distributed ledger, and target market is behavioral healthcare electronic records companies on the B2B side, and patients on the consumer side.

Why now? Blockchain technology is a tamperproof, autonomous tool that Bitcoin and other cryptocurrencies are built on. It offers a way to decentralize the internet, opening it up to the people, transparently, making transactions immediate, eliminating middlemen, and making it inclusive through its distributed nature.

Millennials are the idealist generation. 70% of millennials sampled in a recent survey indicated online privacy will only be further compromised in the coming years. Further, we see our digital identities belonging to financial institutions, healthcare corporations, Google, data brokers, and Facebook more than they belongs to us. We own very little of our identities because we own very little of our data.

Introduction:

There is integrity and a potential for altruism intrinsic to blockchain technology that TDV aims to work with in order to develop prosperous and secure solutions. TDV is fueled by our VaultCoin Token – a token for decentralized data exchange.

Participant Benefits

1. Automatically receive documents and data without effort to retrieve them.
2. Secure and Private: Data is encrypted at source
3. Tamperproof and Stored: Data is immutable and storage is decentralized
4. Valuable: Data can be monetized by the user easily.
5. Storage Upload Time: Upload times decrease as network increase because of proximity to the nearest server likelihood increases. Due to the decentralized nature of blockchain networks, a localized server could be closer to you then a centralized server of a traditional storage service, thus, allowing you to upload massive files faster and on the go.
6. Control: As a user, isn't it weird that we don't have all our data in one place—in 2018? Why? Because we don't trust one company. Some do some things well, some do other things well, but you do trust yourself to have a tamperproof copy of it all. That's one benefit. Breathe a sigh of relief.
    a. Data from the Source: and on-going access to your market.
    b. Cheaper Data: Eliminate the army of middlemen.

How it Works:

A patient/client begins by logging in with biometrics on mobile device or with email. They are then given a set of keys. This creates a DataVault and simultaneously creates a digital wallet, which sets the Client up with VaultCoins (TDV's native token). This creates a membership to DataVault

in the DataVault mobile dApp (decentralized application). Using biometrics and PKI, the user will securely begin storing and syncing their files.

Business Model

Data Vault is subscription based, similar to Dropbox with individual/patient costs and provider/company costs.

Storage:

Individual: 2GB free; >2GB-1TB $12.99 per month
Provider: 2GB free; >2GB-1TB $12.99 per month per user
EHR/EMR: $99.00 per month up to 2TB

Transaction Fee:

Individual: 2GB free; $.05 per GB thereafter
Provider: 2GB free; $.05 per GB thereafter

Data Vault: Blockchain File Storage

The files are stored separately in cloud-based platform. The user still owns their data and will be the only one who can view it without granting permission but has the added security, anonymity, encryption and immutability of their hashed and sharded data.

Decentralization is the ultimate goal for file storage and will be prioritized as projects roll out.

Data Vault: Blockchain Data Storage

The data will be stored via Bluezelle.

Use Case:

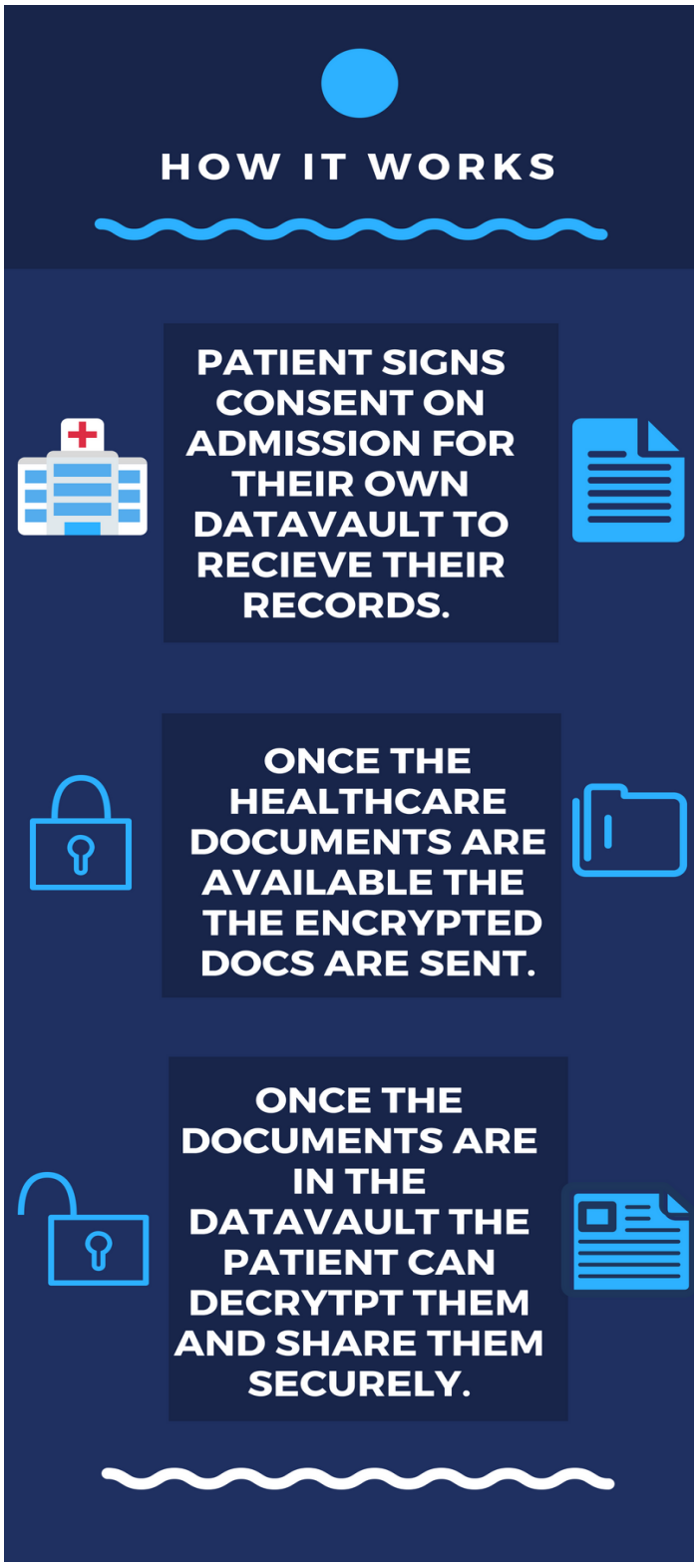
Business Application: Breathe Treatment Center needs a system that releases medical records to patients when they discharge so the patient

doesn't have to request them once they've already have left the facility.

As the client admits, in the electronic health record, the admissions coordinator opens a consent which is a API that links to TheDataVault. This API allows the patient to create a username and password, which then creates an pair of keys. The consent is now ready to be filled out. The patient can mark if they want labs, doctor's orders, medications, x-rays, etc. to be sent directly to their DataVault when they discharge.

This consent is called a smart contract because it will self-execute on the decided discharge date, and the documents will be secured to the patient's own TheDataVault and will be tamperproof. This allows the decreases the time and cost of having to help a patient locate records post-discharge whether through fax, mail or online portal.

There are three main benefits of this: 1) it automatically creates a network effect of requiring users to register with TDV, thus storing their most complicated and protected information first. 2) It associates the technology with a legitimate source—healthcare information and provides a narrow, yet large market. 3) Once the client is in there, they will already have the cryptocurrency per the use of the smart contract, thus having a stake to use other features of TDV.


HOW IT WORKS
PATIENT SIGNS CONSENT ON ADMISSION FOR THEIR OWN DATAVAULT TO RECIEVE THEIR RECORDS.
ONCE THE HEALTHCARE DOCUMENTS ARE AVAILABLE THE THE ENCRYPTED DOCS ARE SENT.
ONCE THE DOCUMENTS ARE IN THE DATAVAULT THE PATIENT CAN DECRYTPT THEM AND SHARE THEM SECURELY.

HOW IT WORKS

User Interface

Sample Smart Contract Template for a Hospital

Technical Solution Details

TDV at the time of this publishing is developing an API that integrates with existing electronic healthcare systems. As a necessity to employ smart contract capabilities and build a pluggable, portable virtual ecosystem, and to ensure scalability on TDV's terms the system will utilize Ethereum's platform.

Digital Identity Records and Encryption:
To start, a user will sign in to the Data Vault application using their email and biometrics like they would most any other mobile application. Digital identity refers to the identity information of a person, organization or thing that exists electronically. In these cases, it can refer to the data provider, the individuals seeking to store and sell their data or company or individuals hoping to retrieve data.

A pair of keys will be generated for a user who will then be required to store the keys several different ways because the keys are not stored by Data Vault Inc. The user can opt in to use biometrics to access the application, but will need their keys in order to send tokens or data.

The application for TheDataVault is structure using these components:

1. Data Storage – File Storage: AWS → Filecoin
   a. Decentralized: Not controlled by any single party. Nodes will hold select portions of the data. And, in fact, separate drawers will be in separate locations for added security.
   b. Security: Encrypted at source and immutable
   c. Data can be Searched and Queried

2. Operating System: Ethereum

Data/File Storage	AWS → Filecoin
Operating System	Ethereum
Application	TheDataVault

Smart Contract Architecture:

1. Every User will have a data vault public address where medical records can be stored.
2. Access to the medical records will be given through smart contracts.
3. Every user will have her own smart contract which are generated/governed via master data vault smart contract.
4. User can give access to any specific medical record/group of medical record via smart contract.