

Kryptosafe: managing and trading data sets using blockchain and IPFS



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What is Kryptosafe?



**Dataset
trading
system**

**DLT
&
IPFS**

NFT

**SWE:
ABCDE
method**

**GDPR
compliant**

Enabling technologies: IPFS

- Another platform to store big data



Enabling technologies: IPFS

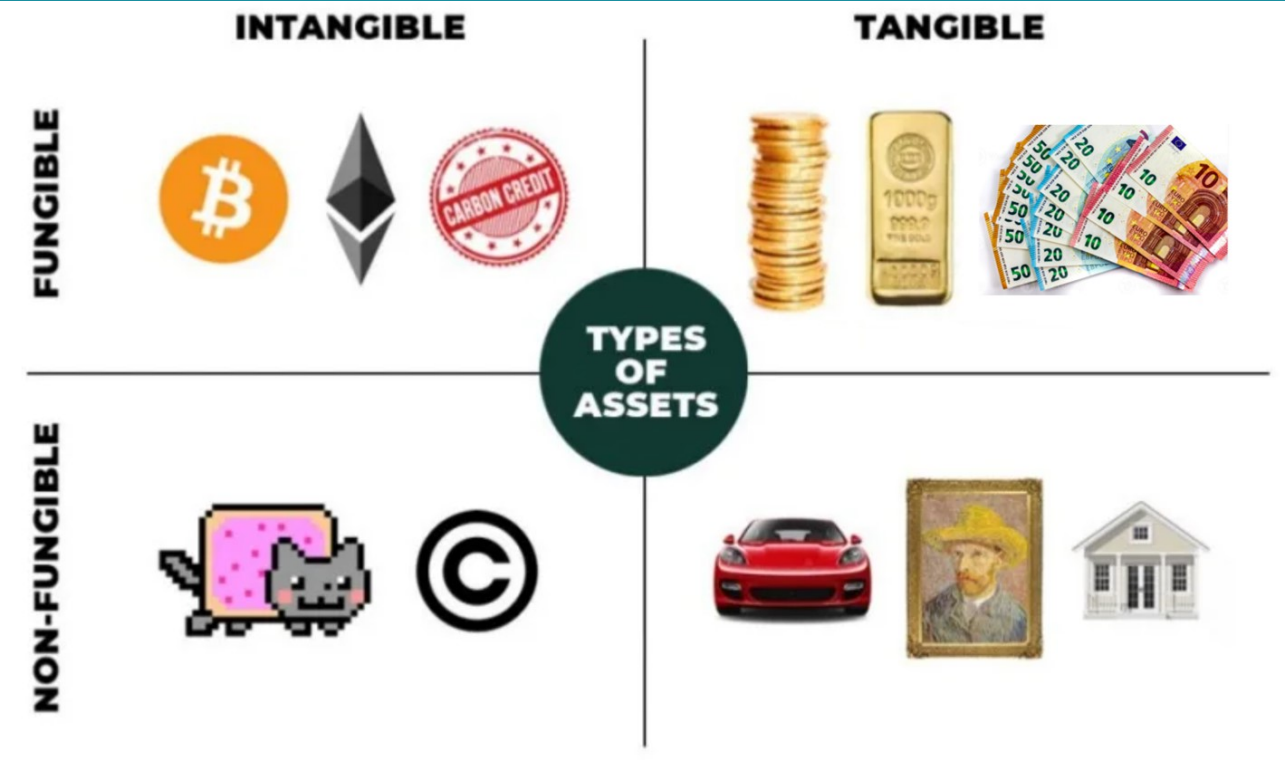
- Another platform to store big data
- A technology running on a P2P network that allows its members to store and distribute information in a completely decentralized way



Enabling technologies: IPFS

- Another platform to store big data
- A technology running on a P2P network that allows its members to store and distribute information in a completely decentralized way
- It uses:
 - a distributed hash table technology
 - Merkle Directed Acyclic Graph data structure
 - content addressing

Types of Assets



NFTs VS traditional TOKEN

Traditional Token:

- fungible assets
- not distinguishable
- they can be exchanged for other assets

Non-Fungible Token:

- unique
- non-interchangeable

NFT

Ethereum Standard:

- ERC-721: not-duplicable
- ERC-1155: duplicable

Combining NFTs with SCs will give users the flexibility to unlock a wide range of use cases

Contract structures and complex agreements can be created

ACTORS

- **Owner:** who owns the data and decides to sell it. S/He owns the relative NFT token and the password to be able to generate the decryption key
- **Buyer:** who is connected to the platform, can view the accessible contents of the datasets, can make queries and can purchase data
- **Data Protection Officer:** who has the responsibility to protect the data from unwanted alterations and to guarantee access
- **Data Manager:** who is responsible for the type of content displayed depending on the type of user connected, allows a search on datasets and the execution of queries

Features



- Dataset encryption
- Personal datasets visualization
- Dataset tokenization
- Sale of datasets

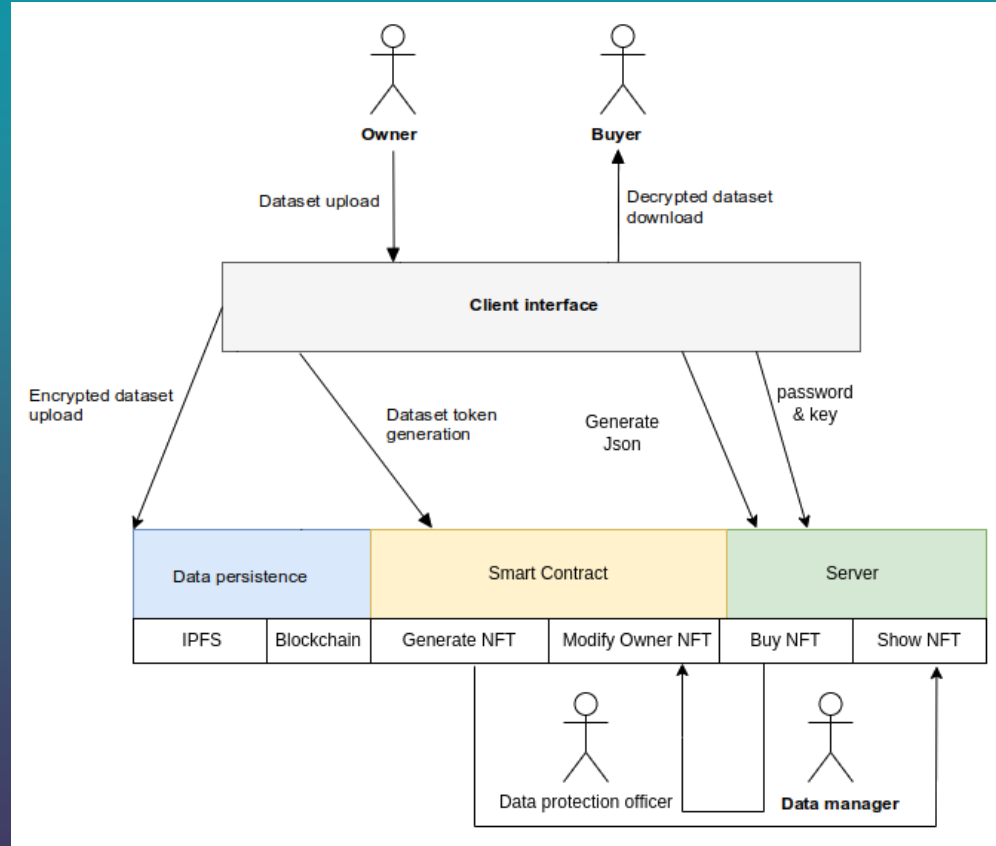


- Datasets public visualization
- Query datasets
- Dataset purchase
- Dataset decryption

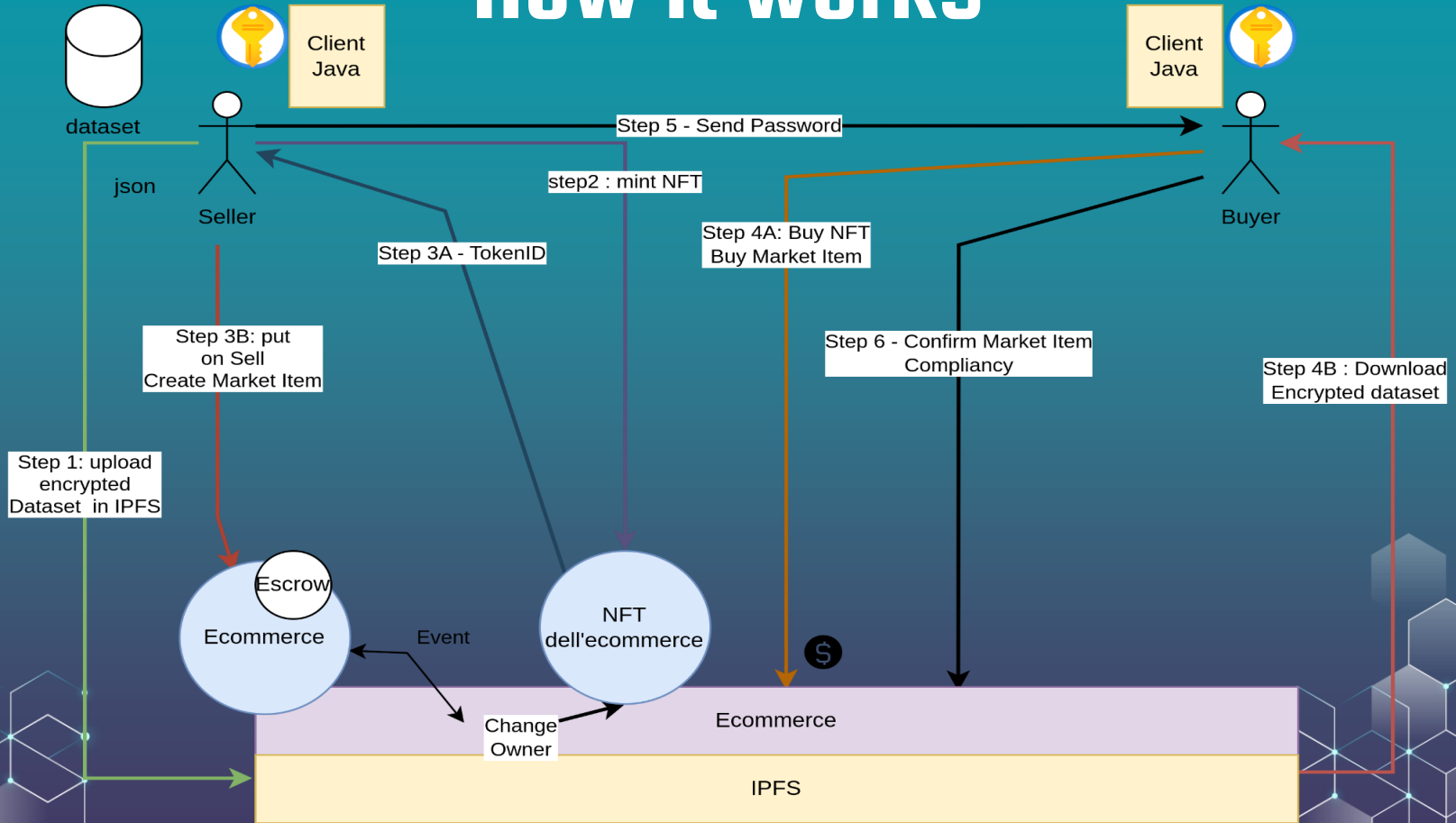
Architecture

4 modules:

- **Client- interface:** user-side functionalities
- **Data persistence:** store data
- **Smart Contracts:** allows the creation and management of the NFTs
- **Server:** displays datasets according to the user



How it works



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