ENCHERES

(Digital and Physical Assets Auction Marketplace)

Project Mentors

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Problem Statement:

- A digital asset is something which is completely digitalized and intangible which could be as simple as a digital art piece to as advanced as virtual worlds. But there is always a risk to creators of these assets about its ownership, trade and maintenance especially when an asset is something one of a kind. These include:
  - Where to store them?
  - How to trade between them?
  - How to showcase them to the world.

  If one chooses to go to a third party to do so then then these parties have access to that asset which restricts the control of the original creator on the asset, not only this they also charge high for the showcase of the asset. Still if one chooses to sacrifice all this then also the security isn't guaranteed completely due to a centralization of the network.

- Security is not just a concern for digital assets but also for the trading of expensive physical (tangible) assets like antiques.
- Moreover, traditional marketplaces don't always leave both sellers and buyers to an advantage. Marketplaces should not completely decide the pricing of their items considering their own profit, rather buyers should also have some authority to decide the price of assets based on their interest and rarity of asset.
- Many times, creators/sellers underestimate their assets and might not get the true value due to lack of competition.
- Many times, buyers are unsatisfied with their purchase as the estimation of profit might go wrong and the asset might not turn as valuable as expected.

Proposed Solution:

To address all the challenges and problems associated with traditional market places we decided to create our own marketplace which will have following features to resolve all the above-mentioned challenges:

- The marketplace will support the storage, trading and maintenance of digital assets which are unique in some form, i.e. Non-fungible (NFT's).

  We will use Ethereum Blockchain network which is distributed and addresses the issue of central authority, and the inner working of Blockchain network makes it the most robust and secure for the purpose of trade. Here the creator will have complete ownership of their assets with allowance of transferability of ownership to trade the assets securely.

- The marketplace will also support the trade of normal physical assets (Tangible) which will be similar to other marketplace in sense of centralization for storage purposes which is required to provide the services to customer at same price as the

competitors, but the actual transaction for the physical assets will also occur on Blockchain with cryptocurrency. This will provide advantage of more security at same prices for the sale of physical assets.

- Our marketplace will allow the auctioning of assets which will provide some authority to buyers about the decision of price based upon their interest and asset rarity.
- Auctioning will not only provide advantage to buyers but also creators/sellers might get much more profit from the competition.
- Marketplace will also provide assistance to the customers about the tentative estimated price of an asset (future price) so that buyers can make better decision of the price of asset which they can pay to make more profit in future.
- To assist the customers and provide best services to them the platform will have an intelligent agent (Chat-bot) built-in.

Tech-Stack Overview:

Frontend

React.js, Redux, Bootstrap

Centralized Backend Network

Nodejs, Express (REST API)

MongoDB (Database)

Decentralized Backend Network

Ethereum Blockchain, Web3.js, IPFS

ML/AI model building

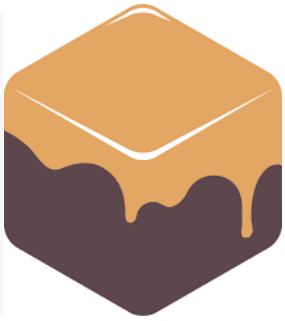
Tensorflow, Keras, Numpy, Matplotlib

Aiding Tools and frameworks

Truffle (framework to facilitate smart-contracts development)

Ganache (Tool to simulate the Private Ethereum Blockchain locally for development)

Metamask (Crypto Wallet to aid transactions).



Programming Languages:

Javascript, Python, Solidity