Technical Stack Overview

Our decentralized application (DApp) is built using a robust technical stack that ensures efficient, secure, and scalable operations. This section outlines the key technologies and tools used in the development of the platform.

Front-End

ReactJS:

- A JavaScript library for building user interfaces.
- Ensures a responsive and dynamic user experience.
- Enables efficient development of interactive components.

Back-End

Solidity:

- A programming language for writing smart contracts.
- Used to develop the core logic and transaction processes.
- Deployed on a blockchain network for security and transparency.

Development and Testing

Truffle:

- A development framework for Ethereum.
- Facilitates smart contract development, testing, and deployment.

Ganache:

- A local blockchain for Ethereum development.
- Used for testing smart contracts in a controlled environment.

Digital Wallet Integration

MetaMask:

- A digital wallet for managing cryptocurrency transactions.
- Integrated to facilitate secure payments.
- Enhances the user experience with seamless transaction processing.

Blockchain Layer

Ethereum:

- A decentralized platform for running smart contracts.
- Provides the underlying infrastructure for secure and transparent transactions.
- Ensures immutability and traceability of transaction records.

Tools and Libraries

Web3.js:

- A JavaScript library for interacting with the Ethereum blockchain.
- Enables the front-end application to communicate with smart contracts.