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DECENTRALIZED FINANCE

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Abstract:

Decentralized Finance or De-Fi is a web 3.0 based financial system built on blockchain that enables individuals to transact Ethereum without the need for traditional intermediaries such as banks.This enables instant settlement, reduces transaction costs, and increases transparency and efficiency.Users can send and receive Ethereum and transaction history is maintained by etherscan itself. To maintain these Smart contract solidity is used at the backend. While on the frontend ReactJS is used which is highly responsive and user friendly. It is ideal for building DeFi frontend interfaces that can communicate with the smart contracts. Sepolia test network is used to test and deploy the smart contracts.

Keywords: De-Fi, Ethereum, ReactJS, Solidity, Smart-Contracts ,Blockchain, Sepolia.

Web 1.0:

The early versions of the web which were introduced in the late 1990's were just basic static web pages which did not allow users to interact with the web pages.

Web 2.0:

After the launch of web 2.0 in 1999 the websites also evolved which can interact with the users and take their feedback.

Web 3.0

Peer to peer systems also called Decentralization which is introduced in this version to eliminate the drawback of centralization of the previous versions.

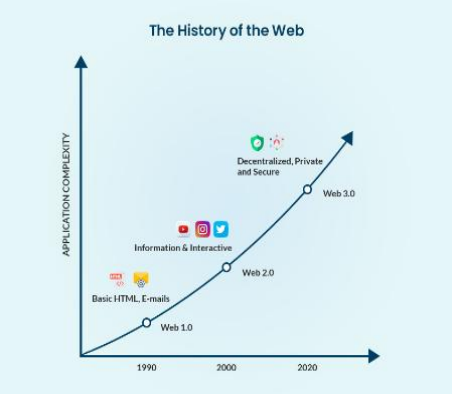

Fig.1 Evolution of the web

Literary Survey:

Existing System:

CeFi (Centralized Finance):

CeFi refers to traditional financial systems and services that are centralized, meaning that they are controlled by a central authority or institution. Examples of CeFi include banks, stock exchanges, and other financial institutions that require users to trust them to manage their funds and transactions.

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Proposed System:

DeFi (Decentralized Finance):

DeFi refers to a new wave of financial systems and services that are decentralized, meaning that they are not controlled by any single authority or institution. Instead, they are built on blockchain technology and use smart contracts to execute financial transactions automatically.

System Analysis

Software Requirements

Software Requirements	
Operating System	Mac os/ Windows 8(or)higher/ Linux based
Text Editor	Visual Studio Code/Sublime Text (recommended)

Table 1: Software requirements for construction

Hardware Requirements

Hardware Requirements		
	minimum	recommended
Processor	intel i3/amd ryzen3	intel i5/amd ryzen5 (or) higher
CPU	1.8 Ghz	2.0 Ghz(or) faster
RAM	2 GB	8 GB (or) higher
ROM	10 GB	50 GB(or) Higher
Architecture	32 bit	64 bit

Table 2: Hardware requirements for construction

System Design

System Architecture

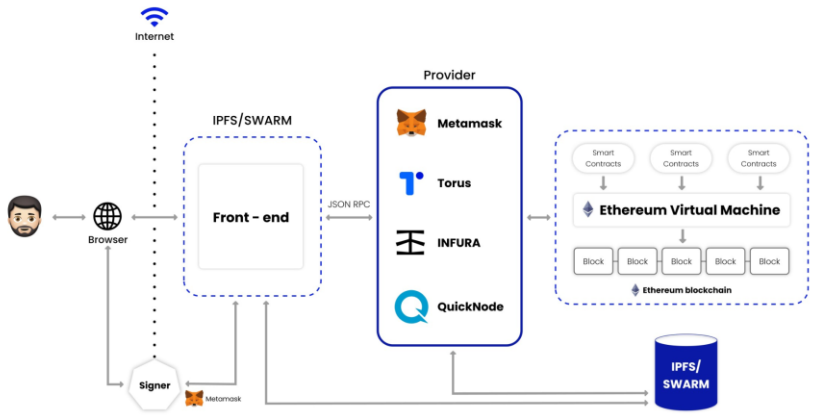

Fig.2 System Architecture

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Mechanism

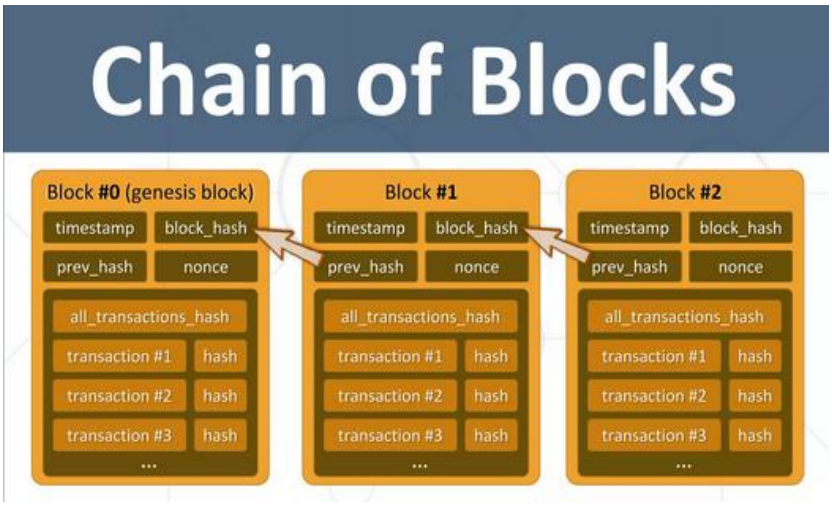

Fig.3 Mechanism

A blockchain is a decentralized, distributed ledger,It also records transactions. In a blockchain, transactions are grouped into blocks and added to a chain of blocks in a specific order, creating a permanent and unalterable record of the transactions.

Conclusion

Here in this project we have successfully implemented a dApp which can send and receive Ethereum,which also has an interface to interact with the user implemented using ReactJs.The whole testing process is carried out using the Sepolia Test faucet.Users can transact their crypto with minimum gas fees and all the transactions are transparent.

Future Scope

Market Place: Integrate a marketplace where users can sell and buy their assets like NFTs (Non Fungible tokens) and many other different kinds of digital assets.

Inhouse Wallet: To create an own wallet rather than integrating by importing API's.

Mobile Application: To create a mobile application which can work seamlessly on mobiles rather than accessing from the website.

Qr support: Easily send crypto just by scanning qr code.

Support Multiple Coins: Current application allows transactions only in Ethereum, So for the further development we would like to add different coins like bitcoin, dogecoin, tether etc.

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