Project Design Phase-I

Solution Architecture

TEAM ID:	**NM2023TMID04432**
PROJECT NAME:	**AGRICULTURE DOCS CHAIN**

Solution Architecture Description: The "**Agriculture Docs Chain**" project is a complex solution bridging the gap between agricultural data management challenges and technology solutions. Its primary goals are to streamline data management for end users (farmers and stakeholders), provide a secure and user-friendly interface, and leverage the Ethereum blockchain for data storage and management.

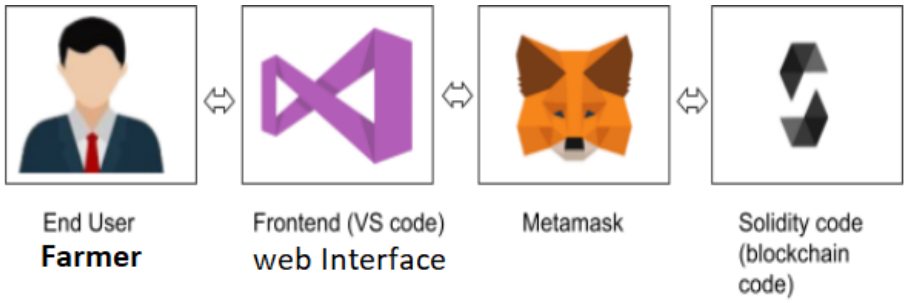
a) End User: The end user, typically a farmer, interacts with the system through a user-friendly web interface and a mobile app.They can securely input and retrieve agricultural data, such as crop yields, weather conditions, and market prices.The system aims to enhance decision-making for farmers and provide easy access to valuable insights.

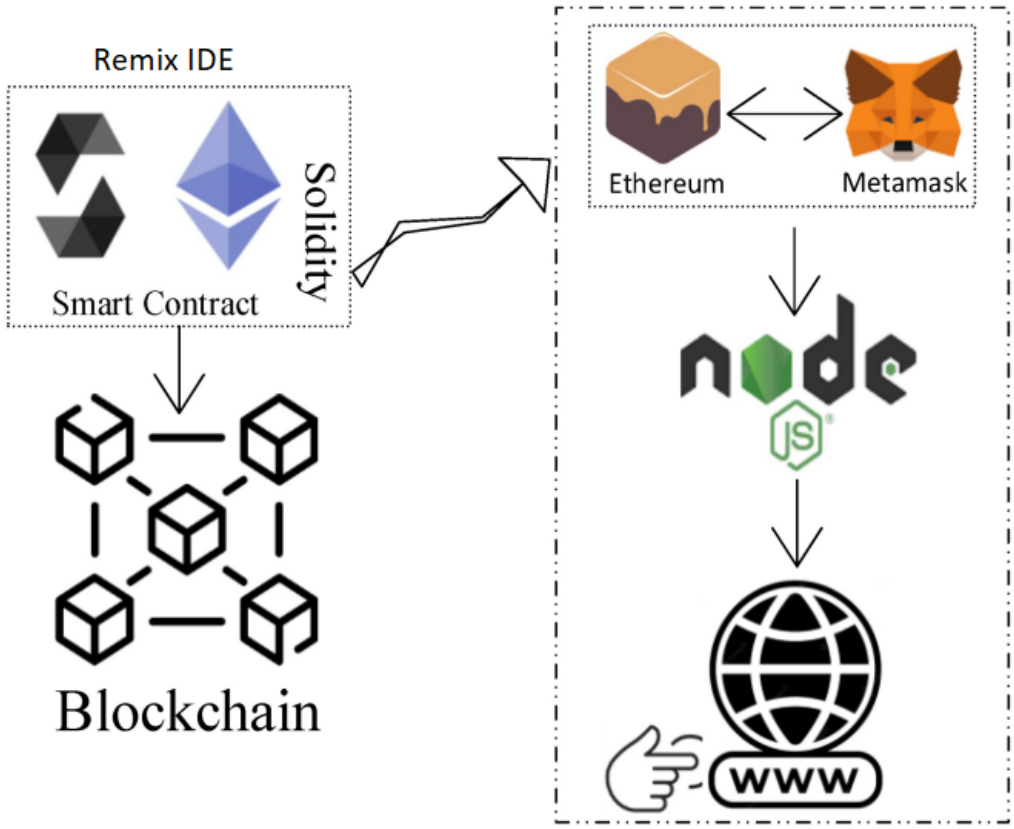
b) b) Frontend (VS Code): The project's frontend development is executed using Visual Studio Code.VS Code serves as the integrated development environment for creating the user interfaces, ensuring an intuitive and appealing design.It facilitates the creation of web and mobile interfaces that connect to the blockchain and interact with smart contracts.

c) Metamask: Metamask acts as the bridge between the frontend and the Ethereum blockchain.It provides secure wallet and identity management for users.Users can securely sign transactions and interact with the smart contracts via Metamask.

d) Solidity Code (Blockchain Code): The heart of the project is the smart contract, written in Solidity.The smart contract defines the rules and logic for storing and managing agricultural data on the Ethereum blockchain.It allows users to add, query, and update data securely.Remix IDE is used for Solidity development and testing.

Solution Architecture Diagram:





In the diagram, the end user (Farmer) is depicted at the top, using the web interface (Frontend) to access the system.
Metamask serves as the bridge between the user and the Ethereum blockchain, ensuring secure interactions with the smart contract developed in Solidity using the Remix IDE.
The Ethereum module connects to the Ethereum network, while Node.js and www (web servers) facilitate the communication between the frontend and the blockchain.
This architecture ensures data security, accessibility, and reliability, aligning with the project's goals of solving agriculture data management challenges with a robust and user-friendly solution.