Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	29 October 2023
Team ID	NM2023TMID03811
Project Name	Project – Agriculture Docs Chain

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

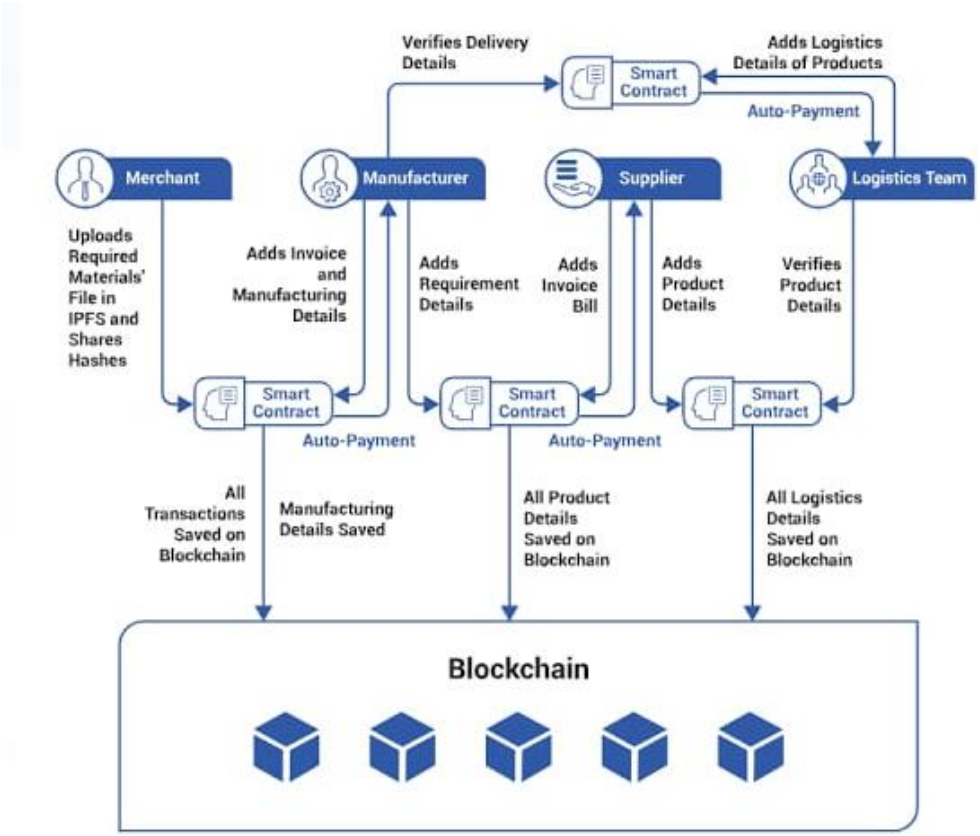

FIG: TECHNICAL ARCHITECTURE

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Develop user-friendly web interfaces	HTML, CSS, and JavaScript.
2.	Database	The core of the blockchain, it stores all transactions and data.	Distributed Ledger
3.	Cloud Services	Host your application on cloud platforms like for high availability	AWS, Azure, or Google Cloud
4.	File Storage	It will depend on the specific use cases, data volume, and regulatory constraints.	Centralized Storage, Cloud Storage, GlusterFS
5.	External API	For integrating with other systems and enabling data exchange.	REST or GraphQL
6.	Data Analytics Tools	Utilize data analytics tools for extracting insights from supply chain data.	Apache Spark or Elasticsearch
7.	Reporting Tools	Implement reporting frameworks for generating visual reports.	Tableau or Power BI
8.	Infrastructure	Involves a combination of hardware, software, and network components to support the application's functionality and performance	BC Nodes, Firewalls and Security, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Agridocschain should utilize open-source blockchain frameworks and this provides transparency, community support.	Ethereum, Hyperledger Fabric & Corda
2.	Security Implementations	Security is paramount, especially in a Doc chain management system. It should implement robust security measures.	SHA-256, Encryptions, Digital Certificates
3.	Scalable Architecture	This involves the ability to handle increased data and transaction loads without compromising performance or security.	Load Balancers, Docker and Kubernetes

S.No	Characteristics	Description	Technology
4.	Availability	Implementing redundancy, failover mechanisms, and 24/7 support is essential to ensure continuous availability.	Cloud Service, Content Delivery Networks (CDNs)
5.	Performance	This includes efficient transaction processing, low latency, and the ability to handle a large number of concurrent users and data without slowdowns.	Caching Mechanism, Database Sharding & CDN