Form 2: Literature Documents

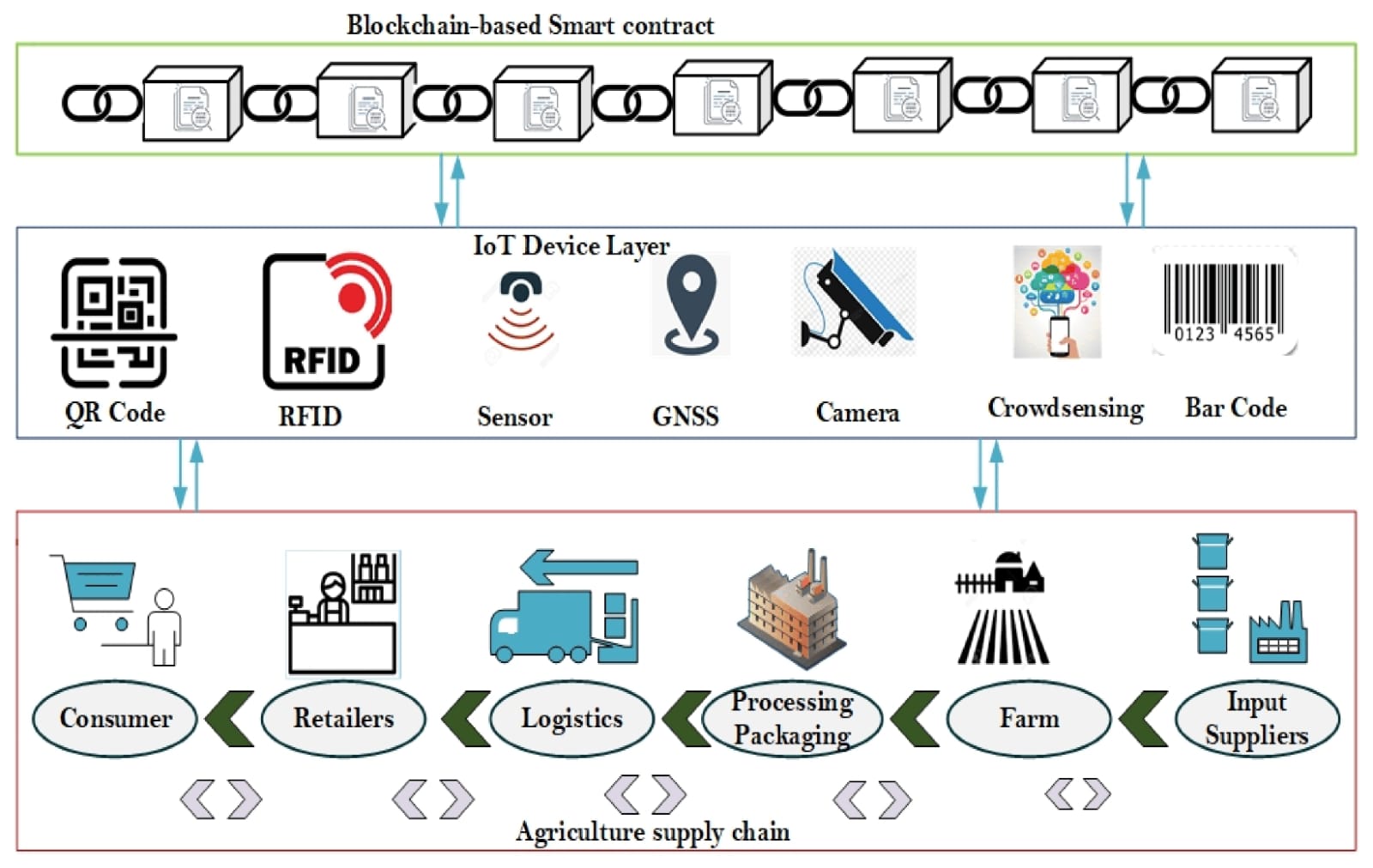
**1. Team No:** 20

**2. Project Title:** Blockchain Technology in Agriculture Product Supply C**hain.**

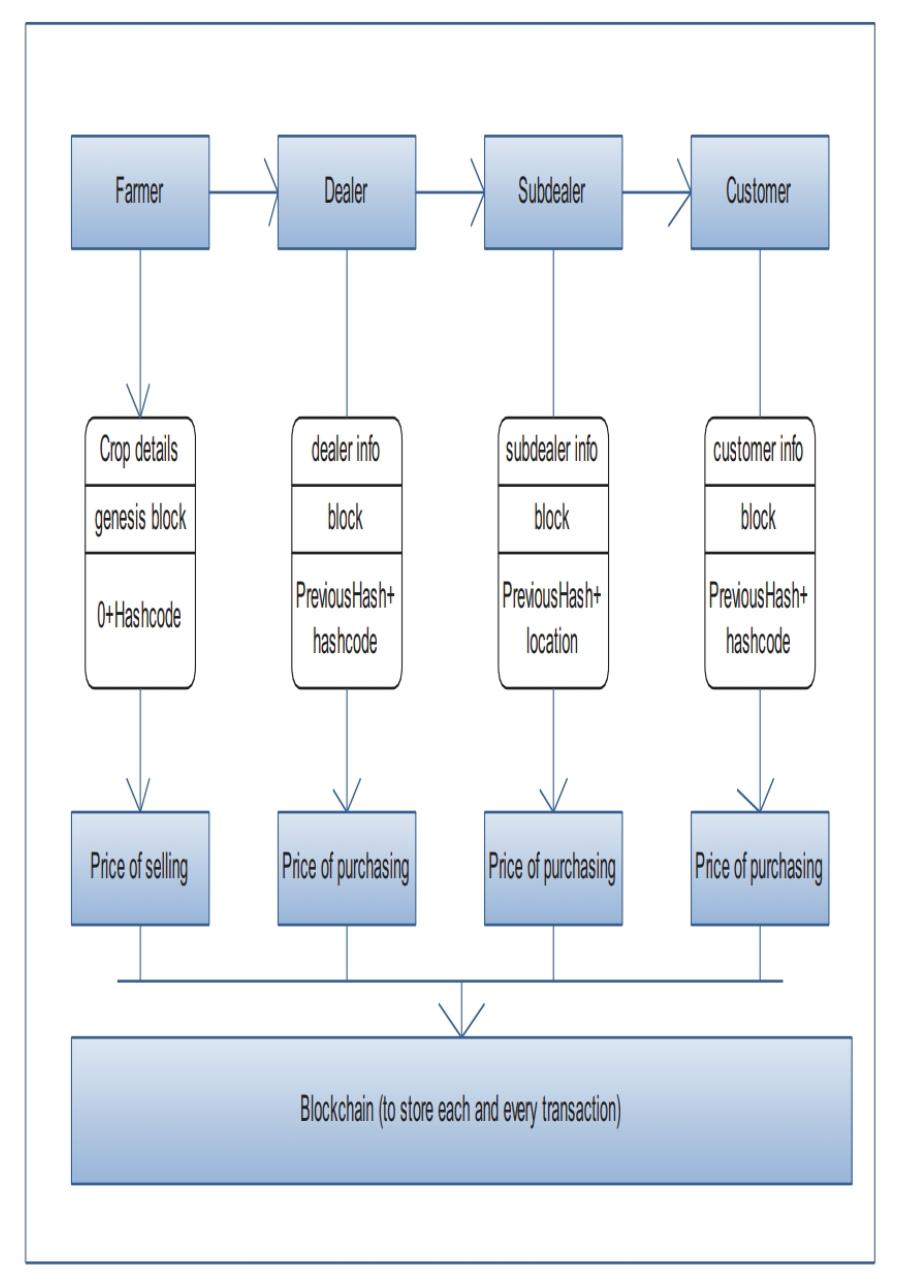
**3. Problem Statement:**

The agricultural product supply chain is plagued by challenges such as lack of transparency,traceability issues, and inefficient record-keeping. These issues lead to difficulties in verifying the authenticity of products, delays in identifying and resolving supply chain disruptions, and increased chances of fraud. Traditional systems fail to provide a comprehensive solution to these problems, necessitating the exploration of innovative technologies like blockchain.

**4.Problem Illustration:**

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**5. Concept Tree**



**6.** **Comparison of Existing Strategies for Problem solve**

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No | Strategies | Advantages | Disadvantages |
| 1 | Data Security and Integrity | IOT devices may be vulnerable to security breaches,posing risks to data integrity and privacy | While blockchain ensures the security and integrity of on-chain data, there may be challenges in securing off-chain components. Metadata, communication channels, or external systems connected to the blockchain may still be vulnerable to traditional security threats. |
| 2 | Decentralization and Trust | Eliminates the need for a central authority,fostering trust among parties in data exchange | Achieving decentralization and maintaining trust through consensus mechanisms can lead to scalability challenges. As the number of participants or nodes in the decentralized network increases, the consensus process becomes more resource-intensive and time-consuming. |
| 3 | Immutable Record Keeping | Ensures that once data is recorded,it cannot be altered,providing a tamper-resistant and auditable record | Once data is recorded on the blockchain and becomes immutable, any errors, inaccuracies, or fraudulent entries are permanent. |

**7. Comparison of Existing Method from selected Strategies**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No |  | Strategies | Advantages | Disadvantages |
| 1 |  | Fraud Reduction | Reduces fraud by ensuring accurate records of the product journey. | Requires consistent participation from all entities in the supply chain. |
| 2 |  | Real-time Tracking: | Enables real-time tracking of product movement, enhancing supply chain visibility.  . | Relies on the adoption of tracking technologies by all parties. |
| 3 |  | Transparency and Trust: | Builds consumer trust by providing a transparent and traceable supply chain. | Implementation may require collaboration among various |
| 4 |  | Decentralized Execution:  . | Executes predefined rules without the need for intermediaries. | Immutability can make correcting errors challenging. |
| 5 |  | Supply Chain Transparency: | Enhances transparency in the supply chain by recording quality-related information | Dependence on accurate entry of quality-related data. |

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