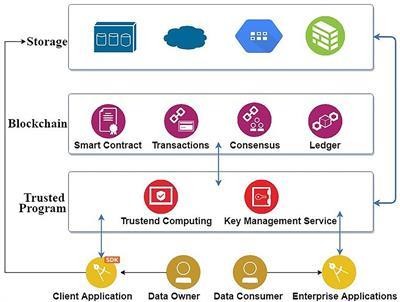
**Project Design Phase-II**

**Data Flow Diagram & User Stories**

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| --- | --- |
| Date | 23 october 2023 |
| Team ID | NM2023TMID01005 |
| Project Name | Food Tracking System |

**Data Flow Diagram :**



A blockchain-based food tracking system is a solution that leverages blockchain technology to enhance transparency, traceability, and authenticity in the food supply chain. It enables the monitoring and recording of the journey of food items from the point of origin (e.g., the farm) to the end consumer.

This innovative system empowers all participants in the food supply chain, from farmers to consumers, to access real-time information about the origin, quality, and safety of food products. It brings transparency and trust to the table, allowing consumers to make informed choices while reducing the risk of consuming spoiled or contaminated products. The system also streamlines supply chain processes, enhancing efficiency, reducing food waste, and facilitating compliance with food safety regulations.

Characteristic of blockchain technologies

Characteristics of a blockchain-based food tracking system include:

1. **Transparency:** The system provides a transparent view of the entire food supply chain, allowing stakeholders and consumers to access real-time data.
2. **Immutability:** Data recorded on the blockchain is secure and tamper-proof, ensuring the integrity and authenticity of the information.
3. **Traceability:** Each food item is assigned a unique identifier, enabling easy tracking of its journey from source to destination.
4. **Security:** Blockchain technology offers robust security features, safeguarding sensitive data and preventing unauthorized access.
5. **User-Friendly Interfaces:** The system includes user-friendly apps and interfaces for various stakeholders to access and contribute data.
6. **Data Verification:** Stakeholder input undergoes verification to ensure the accuracy and reliability of the information.
7. **Smart Contracts:** Smart contracts automate processes and trigger actions, enhancing efficiency and compliance.
8. **Consumer Empowerment:** Consumers have access to detailed information about the products they purchase, promoting informed choices.
9. **Food Safety:** Real-time information on food item condition and handling reduces the risk of consuming spoiled or contaminated products.
10. **Reduced Food Waste:** Informed consumer decisions lead to reduced food waste as products are used before expiration.
11. **Regulatory Compliance:** The system simplifies compliance with food safety and traceability regulations, minimizing legal and reputational risks.
12. **Operational Efficiency:** By streamlining supply chain processes and data management, the system enhances operational efficiency for businesses.
13. **Sustainability:** Reduced food waste and informed consumption contribute to sustainability efforts in the food industry.

These characteristics collectively define a blockchain-based food tracking system, addressing critical challenges in the food supply chain and promoting trust, safety, and efficiency.

**USER STORIES :**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **User Type** | **Functional**  **Requirement**  **(Epic)** | | **User Story**  **Number** | **User Story / Task** | | | **Acceptance Criteria** | **Priority** | | | | **Name** |
| Farmer | User Registration | | USN-1 | As a farmer, I want to register my harvested produce into the system, providing details like crop type, quantity, and harvest date. | | | 1)The farmer can access the system and find a clear option to register newly harvested produce. | High | | | | Chandru |
| Distributor | Updating information | | USN-2 | As a distributor, I want to update information about the transportation and storage conditions of the food items . | | 1)The distributor can log in to the system using their credentials. | | High | | | Sathish | |
| Retailer | Verification | USN-3 | | As a retailer, I want to verify the source and journey of the food items I stock, enabling me to offer accurate product information to consumers. | | | The retailer should be able to offer consumers a user-friendly interface, such as a mobile app, to access food item information. | High | | | | Krishna |
| Customer | System Integrity | USN-4 | | As a consumer, I want to scan a QR code on a food item and instantly access its origin, quality, and any related safety information. | The consumer should be able to access a user-friendly app provided by the retailer or a dedicated food traceability app. | | | | High | Kalidass | | |