**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

| Date | 20May 2023 |
| --- | --- |
| Team ID | NM2023TMID13113 |
| Project Name | Reducing-the-Environmental-Footprint-of-Food-A-Comprehensive-Management-system |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

DFD & User Stories

User

Data Flow Diagram & User Stories

Reducing-the-Environmental-Footprint-of-Food-A-Comprehensive-Management-system

ChatGPT

Data Flow Diagram (DFD):

A Data Flow Diagram is a graphical representation of the flow of data within a system. It illustrates how data is input, processed, and output in a system. Here is a high-level Data Flow Diagram for the "Reducing the Environmental Footprint of Food: A Comprehensive Management System":

sql

Copy code

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| User |

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|1. Login

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| System |

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| Data | | Data |

| Collection | | Analysis |

+--------------+ +----------------+

User Stories:

User stories are short, simple descriptions of a feature or functionality from a user's perspective. They help define the requirements and capture the user's needs. Here are a few examples of user stories for the "Reducing the Environmental Footprint of Food: A Comprehensive Management System":

As a user, I want to be able to create an account and log in to the system.

As a user, I want to input data about the food products I consume.

As a user, I want the system to analyze my food consumption data and provide recommendations on reducing environmental impact.

As a user, I want to view reports and visualizations of my environmental footprint based on my food consumption.

As a user, I want to be able to set goals for reducing my environmental footprint and track my progress.

As a user, I want to receive personalized notifications and tips on sustainable food choices.

As a user, I want to be able to compare my environmental footprint with other users or benchmarks.

As a user, I want to be able to export my data and reports for further analysis or sharing.

As a user, I want the system to provide educational resources and information on sustainable food practices.

These user stories serve as a starting point for understanding the desired functionality of the comprehensive management system and can be further refined and expanded upon during the development process.

Functional Requirements:

User Registration: The system should allow users to create an account by providing necessary information.

User Login: Users should be able to log in to their accounts using valid credentials.

Data Input: Users should be able to input data about their food consumption, including details such as food type, quantity, and source.

Data Analysis: The system should analyze the input data and calculate the environmental footprint of the user's food consumption.

Recommendations: Based on the data analysis, the system should provide personalized recommendations to users on how to reduce their environmental footprint.

Reporting: Users should be able to view reports and visualizations of their environmental footprint, including historical data and trends.

Goal Setting: Users should be able to set goals for reducing their environmental footprint and track their progress towards those goals.

Notifications: The system should send notifications to users, providing reminders, tips, and updates related to their environmental footprint and goals.

Data Export: Users should be able to export their data, reports, and visualizations for further analysis or sharing.

Educational Resources: The system should provide users with access to educational resources and information on sustainable food practices.

Non-functional Requirements:

Security: The system should ensure the confidentiality and integrity of user data, implementing appropriate security measures such as encryption and access controls.

Performance: The system should be able to handle a large number of users and process data efficiently to provide timely responses and analysis.

Usability: The user interface should be intuitive, user-friendly, and accessible, allowing users to navigate and interact with the system easily.

Reliability: The system should be reliable, with minimal downtime and the ability to recover from failures gracefully.

Scalability: The system should be designed to accommodate growth in user base and data volume without significant degradation in performance.

Compatibility: The system should be compatible with different devices and platforms, enabling users to access it from various devices (e.g., web browsers, mobile apps).

Data Privacy: The system should comply with relevant data protection and privacy regulations, ensuring that user data is handled appropriately and not shared without consent.

Integration: The system should be able to integrate with external data sources or APIs to enhance its functionality and provide more accurate analysis and recommendations.

Localization: The system should support multiple languages and cultural considerations to cater to a diverse user base.

Maintainability: The system should be designed and developed using modular and well-documented code, making it easier to maintain, update, and enhance in the future.

| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| --- | --- | --- |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through Facebook |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | Two-step verification | Confirmation via Email  Confirmation via OTP |
| FR-4 | Place order | Conform the food and order it |
| FR-5 | Pay the amount | Pay the Amount using the Credit (Or)debit Card(Or)UPI |
| FR-6 | Cancel the order | Cancel the order and refund the amount |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

| **FR No.** | **Non-Functional Requirement** | **Description** |
| --- | --- | --- |
| NFR-1 | **Usability** | It is very useful with compare to others |
| NFR-2 | **Security** | It is highly secured by the firewall |
| NFR-3 | **Reliability** | Special occurrence |
| NFR-4 | **Performance** | It get the order with in 5 sec |
| NFR-5 | **Availability** | It give the proper availabilities |
| NFR-6 | **Scalability** | It have hi-tech machines to pack the foods |