Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Team ID	PNT2022TMID15853
Project Name	Project - Project - AI-powered Nutrition Analyzer for Fitness Enthusiasts
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Users must create an account in order to use the application. This can be accomplished by creating a persona on the application with a username and password, or by using an existing email ID.
FR-2	User Confirmation	When a user registers for the application, they will receive an email confirmation to the email address they used to register. OTP authentication is used to prevent identity theft.
FR-3	Calorie Calendar Creation	A calendar is created in association with the account when a user profile is created. This calendar is personal to the user and keeps track of calories consumed per day as well as other statistics.
FR-4	Image Capturing and Processing	The application allows users to take pictures of the ingredients they eat. These are fed into the model in order for it to predict their labels, i.e. identify the fruits. The quantity of the fruits should also be determined. The application should be able to work with low-quality and low-resolution images as well.
FR -5	Calorie Value Computation	After locating the ingredient labels and quantities, the net calorie value of the meal is calculated by adding the calories of each ingredient in their respective amounts. Calorie values are obtained from the internet, while frequently used items are obtained from a database.
FR -6	Storage of Data	A backend database stores information about the user and their log in details. In addition, calorific information for frequently consumed ingredients is stored to reduce overhead and complexity.
FR- 7	Calorie Over-Consumption Notification	When a user consumes more calories than allowed for the day, the application sends a notification to that user. The application then recommends low-calorie diets to avoid overconsumption.
FR-8	Diet Plan Specification	Users can choose the type of diet plan they want to follow based on their goals, such as weight loss or muscle building. The application searches the internet for diet plans and food items that will help them achieve their goals.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The application should be easy to use for the users. The interface should be simple to use and understand. The image capture process should be quick and painless.
NFR-2	**Security**	Users' personal information and calorie calendars should not be disclosed or shared with other users. Data privacy must be protected.
NFR-3	**Reliability**	The application must correctly identify the fruits in the captured image and calculate their nutritional value. The calories should be counted and calculated precisely.
NFR-4	**Performance**	The application should be built on a highly efficient prediction model to ensure accurate results. It should consider the complexities of time and space.
NFR-5	**Availability**	The application should be accessible and efficient to its users at all times. It should not experience problems such as application crashes.
NFR-6	**Scalability**	The application should be able to support feature and functionality updates. The system should be designed in such a way that it can be upgraded using the existing underlying architecture.