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

Team ID	PNT2022TMID47164
Project Name	Fertilizer recommendation system for disease prediction
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	NAME: Enter Name EMAIL: Enter Mail PASSWORD: Enter Password PHONE: Enter Phone number
FR-2	User Confirmation	Thank you for registering by your email We have received a request from your mail. Please confirm to proceed further. If any queries please contact our help centre to help get you an instant answer to your question.
FR-3	Product Features	It provides data of the fertilizer to full fill the user's demands. Reading soil and plants characteristics by sensors.
FR-4	Testing Features	This estimation of nutrient in soil is done using an NPK monitoring unit with Arduino UNO as the microcontroller to read the values from it. Convolutional Neural Networks (CNN) algorithms recommend appropriate fertilizers that can be used to prevent damage to plants from pathogenic viruses. The fertilizer data is collected from various markets about the brand name and NPK ratio of the fertilizer is collected.
FR-5	Objective	Smart farming and precession farming can be advanced by calculating NPK value for more accurate values.

		Analyzing the soil condition of any region and the requirements of the farmer to maximize the soil production.

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 easily usable for the customer. The customer gets a notification whenever the insufficient nutrient or disease is detected in the plant.
NFR-2	**Security**	Security is very much concerned regarding the data collected and customer details. These securities are mainly related to the cloud services, they have strict security across the network.
NFR-3	**Reliability**	The use of artificial intelligence gives appropriate result. The CNN algorithm model has 95% accuracy. The reliability is more for the customers.
NFR-4	**Performance**	The app runs on a mobile device under various loads and circumstances.
NFR-5	**Availability**	There is a high availability for user's access. Anyone can make use of it.
NFR-6	**Scalability**	It is an effective way to minimize the damages for a plant by early detection of disease and recommending suitable fertilizers.