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

Team ID	PNT2022TMID16026
Project Name	Smart Farmer - IOT Enabled Smart Farming Application

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	Registration through Gmail
FR-2	User Confirmation	Verifying by Email Verifying by OTP
FR-3	Temperature measurement	DHT11 Temperature and Humidity Sensor is used for measuring temperature since **high temperature can damage the roots** resulting in substantial reduction in shoot growth.
FR-4	Humidity measurement	DHT11 Temperature and Humidity Sensor is used for measuring relative humidity which is **important to make photosynthesis possible.**
FR-5	Soil moisture measurement	YL69 Soil moisture sensor is used. Soil **moisture is the critical parameter in agriculture**. If there is a shortage or over abundance of water, plants may die.
FR-6	Irrigation of soil if needed	If there is shortage in soil moisture then motor is turned on for irrigation to **improve crop growth and quality.**

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Usability is a quality attribute that assesses how easy user interfaces are to use. It is a measure that the user feels easy to access the project.
NFR-2	**Security**	Ensure that all the data within the system will be protected against theft, malware attacks or unauthorised access.
NFR-3	**Reliability**	The degree to which the result of a measurement is accurate and longer Life Span.
NFR-4	**Performance**	It should be effective to monitor plant growth.
NFR-5	**Availability**	It must be available for 24/7 and should be easy to alter the soil moisture at home.
NFR-6	**Scalability**	Scalability is the ability of a device to adapt to the changes in the environment and meet the changing needs in the future. The proposed work can be integrated with new components in future if needed.