

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

Date	20 October 2022
Team ID	PNT2022TMID40948
Project Name	IOT Enabled Smart Farming Application
Maximum Marks	4 Marks

DOMAIN: IoT

Project Title: Smart Farmer – IOT Enabled Smart Farming Application

Team Members:

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Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement	Sub Requirement
FR-1	User Registration	Registration through form Registration through gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	System Login	Check username and password Check multifactor enrollment Check access through a different device Check wrong credentials
FR-4	Data Management	Manage the data of weather conditions Manage the data of crop conditions Manage the data of livestock conditions
FR-5	Manage Modules	Manages system admins Manage Roles of access Manage user permission
FR-6	Logout	Exit

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The proposed system uses robots, drones, remote sensors, analytical tools, and the whole system is monitored and managed through an app on a smartphone. This makes the system user friendly and the usage of this product doesn't require any prior learning.
NFR-2	Security	The proposed system includes Data anonymization which is a process in which any information that can enable personal identification, including name, address, geographic identifiers, are removed from data and Access control which helps in privacy-preserving and security.

NFR-3	Reliability	The use of sensors, specialized software IOT platform and enhanced uninterrupted internet connectivity withstand severe weather events and open space conditions. The system provides an accurate measurement of data, and it can have a longer lifespan.
NFR-4	Performance	The use of modern technological solutions helps to bridge the gap between production and quality and quantity yield. Data Ingested by obtaining and importing information from the multiple sensors for real time use or storage in a database ensures swift action and less damage to the crops increasing the overall performance of the system.
NFR-5	Availability	The present system can be improved easily by integrating new components with enhanced features. Automatic adjustment of farming equipment made possible by linking information like crops/weather and equipment to auto adjust temperature and humidity.
NFR-6	Scalability	The proposed system uses Cloud database deployment which can be visualized as the intermediate medium between hardware system and user's mobile application. With increased production, lowered operation costs and with accurate farm and field evaluation, proposed system is scalable.