

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

Date	14 October 2022
Team ID	PNT2022TMID46736
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

<b>FR No.</b>	<b>Functional Requirement (Epic)</b>	<b>Sub Requirement (Story / Sub-Task)</b>
FR-1	User Registration	Registration is done through Gmail which is available in the playstore .
FR-2	User Confirmation	Confirmation via Email as a invitation Confirmation via OTP through user's mobile number.
FR-3	User Login	It is necessary to Login through website or App using the respective username and password given by the user.
FR-4	User Access	User might allow all the requirements for better experience.
FR-5	User Guide	Guides the basic steps of using the application.
FR-6	User Upload	User should be able to send the data
FR-7	User Solution	Data report should be generated and delivered to user for per every 24 hours
FR-8	User Data Sync	API interface to increase to invoice system

### Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Monitoring crops, surveying, and mapping the fields and providing data to farmers for rational farm management plans to save both time and money.
NFR-2	<b>Security</b>	A network typically designed with sensors (Light, Humidity, Temp, Soil Moisture, etc.) To monitor the crop field and automate farming activities.
NFR-3	<b>Reliability</b>	The Reduction Of Risks, Mechanization Of Industry, Enhancement Of Production, Inspection Of Livestock, The Monitoring Of Environment Conditions, Roboticization Of Green houses, and Crop Monitoring nearly every sector, Like Smart Agriculture modified by Internet-Of-Things (IoT)-based Technology.
NFR-4	<b>Performance</b>	It performs surveillance which is mainly for human intruders, but we tend to forget that the main enemies of such farmers are the animals which destroy the crops.
NFR-5	<b>Availability</b>	Protection of crop yield is one of the most challenging concerns faced by farmers. Some of the factors that challenge crop protection are changing weather conditions, unplanned seed sowing, unpredicted locus attacks, and irregular irrigation.
NFR-6	<b>Scalability</b>	<ul style="list-style-type: none"><li>➤ Monitoring of climate conditions.</li><li>➤ Greenhouse automation</li><li>➤ Crop management and Cattle monitoring management.</li><li>➤ Precision farming and agricultural drones.</li><li>➤ Predictive analytics for smart farming.</li><li>➤ End-to-end farm management systems.</li></ul>