

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	31 October 2022
Team ID	PNT2022TMID04692
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Mark	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 Visibility	The device plays an alarm and sends the farmer an SMS when it detects animals entering the crop field.
FR-2	User Reception	Data such as sensor readings for temperature, humidity, and soil moisture are received by SMS.
FR-3	User Understanding	On the basis of sensor data values, information is obtained on the current condition of agricultural land.
FR-4	User Action	Crop residue removal, deep ploughing, crop rotation, fertilizer application, strip cropping, and scheduled planting procedures are among the user-required actions.

Non-functional Requirements:

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

FR No	Non-Functional Requirement	Description
NFR-1	Usability	Mobile support. Users must be able to interact in the same roles and duties on PCs and mobile devices where possible, given the capabilities of mobile devices.
NFR-2	Security	The ability to register and interact securely on devices with data that requires safe access is required for authorized system users who share information.
NFR-3	Reliability	It has the ability to detect disturbances close to the field and doesn't issue an erroneous warning signal.
NFR-4	Performance	No matter how much data is saved or what kind of background analytics are used, it must nonetheless provide users with respectable response times. It is necessary to provide bidirectional, nearly real-time communications. This criterion is linked to the requirement to enable industrial and device protocols at the edge.
NFR-5	Availability	IoT solutions and domains need highly available systems for round-the-clock operations. is not a critical production application, hence neither operations nor production are impacted if the IoT solution goes down.
NFR-6	Scalability	Based on the scalability of the solution, such as additional buildings and manufacturing facilities, the system must manage growing load and data retention needs.