

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

Date	17 October 2022
Team ID	PNT2022TMID08774
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.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Sensing animals approaching the crop field, the device sends the farmer an SMS and plays an alarm to scare them away.
FR-2	User Confirmation	Data such as sensor readings for temperature, humidity, and soil moisture are received by SMS.
FR-3	User Understanding	Information regarding the current state of farmed land is obtained based on sensor data values.
FR-4	User Action	Actions that must be taken by the user include crop residue destruction, deep ploughing, crop rotation, fertiliser application, strip cropping, and scheduled planting operations.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Mobile assistance. Given the capabilities of mobile devices, users must be able to interact in the same roles and tasks on PCs and mobile devices when practicable.
NFR-2	Security	Authorized users of the system who share information must be able to register and communicate securely on devices with data that requires secure access.
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	Regardless of the amount of data that is saved and the background analytics, it must offer users acceptable response speeds. Communications that are bidirectional and nearly real-time must be supported. The necessity to support industrial and device protocols at the edge is connected to this requirement.
NFR-5	Availability	For 24x7 operations, IoT solutions and domains require highly available systems. is not a vital production application, thus if the IoT solution goes down, neither operations nor production are Affected.

NFR-6	Scalability	System must manage increasing load and data retention requirements based on the scalability of the solution, such as additional buildings and manufacturing facilities.
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