

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

Date	15 October 2022
Team ID	PNT2022TMID18045
Project Name	Project - 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	Sub Requirement
FR-1	User Visibility	Sense animals nearing the crop field & sounds alarm to woo them away as well as sends SMS to farmer using Cloud service.
FR-2	User Reception	The Data like values of soil moisture ,Temperature, Humidity,Sensors are Received via SMS.
FR-3	User Understanding	Based on the sensor data value to get the Information about the present of farming Land.
FR-4	User Action	The User needs take action like destruction of crop residues, deep plowing, crop rotation, fertilizers, strip cropping, 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 Support Users must be able to interact in the same tasks on computers & mobile devices where practical, given mobile capabilities.
NFR-2	Security	Data requires secure access to must register and communicate securely on devices and authorized users of the system who exchange information must be able to do.
NFR-3	Reliability	It has a capacity to recognize the disturbance near the field and doesn't give a false caution signal.
NFR-4	Performance	Must provide acceptable response times to users regardless of the volume of data that is stored and the analytics that occurs in background. Bidirectional, near real-time communications must be supported. This requirement is related to the requirement to support industrial and device protocols at the edge.
NFR-5	Availability	IOT Solutions and domains demand highly available systems for 24 x 7 operations. Isn't a critical production application, which means that operations or production don't go down if the IOT solution is down.
NFR-6	Scalability	System must handle expanding load & data retention needs that are based on the up scaling of the solution scope, such as extra manufacturing facilities .