

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING****IBM NALAIYA THIRAN PROJECT****Project Design Phase-II**

Date	13 October 2022
Team ID	PNT2022TMID03479
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

Solution Requirements (Functional & Non-functional)**FUNCTIONAL REQUIREMENTS:**

➔ Following are the functional requirements of the proposed solution.

S.NO.	Functional Requirement.	Sub Requirement.
1.	User Visibility	Sends an SMS to the farmer via cloud service when it detects animals approaching the crop field and sounds an alert to entice them away.
2.	User Reception	The values of the Data, the SMS messages are delivered from temperature, humidity, and soil moisture sensors.
3.	User Understanding	To obtain information about the current state of farming land, based on sensor data value.
4.	User Action	Actions that user must take include agricultural residue destruction, deep ploughing, crop rotation, fertilisers, strip cropping, and scheduled planting activities.

NON-FUNCTIONAL REQUIREMENTS:

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

S.NO.	Non-Functional Requirement	Description
1.	Usability	Given the capabilities of mobile devices, Mobile Support Users must be able to interact in the same roles & duties on desktops & mobile devices, if possible.
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.
3.	Reliability	Data could detect disturbances close to the field and doesn't issue an erroneous warning signal.
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 edge protocols at the edge is connected to this requirement.
5.	Availability	Systems with high availability are necessary for IOT solutions and domains to operate around the clock. is not a vital production application, thus if the IOT solution goes down, neither operations nor production are affected.
6.	Scalability	The system must be able to handle growing load and data retention requirements based on an upscaling of the solution scope, such as additional buildings and manufacturing facilities.