Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	03 October 2022
Team ID	PNT2022TMID30928
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 Understanding	Based on the sensor data value to get the information about present of farming land
FR-2	User Visibility	Sense animals nearing the crop field and sounds an alarm to woo them away as well as send messages to farmers using cloud service.

FR No.		
FR-3	User Action	The user needs to take action like destruction of crop residues, deep plowing, crop rotation, fertilizers, strip cropping, scheduled planting operations. As soon as the message is sent, the user should take appropriate action to control the situation. The user's action to be taken at that time will also be given in the message.
FR-4	User Reception	The Data like values of Temperature, Humidity, Soil moisture sensors are received via SMS

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 & tasks on computers & mobile devices where practical, given mobile capabilities. The user must be able to access the entire system.
NFR-2	Security	Data requires secure access to register and communicate securely on devices and authorized users of the system who exchange information through it.

NFR-3	Reliability	It has a capacity to recognize the disturbance near the field and doesn't give a false caution signal. The signals should be genuine.
NFR-4	Performance	Must provide acceptable response times to users regardless of the volume of data that is stored and the analytics that occur in the 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 24x7 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 and data retention needs that are based on the upscaling of the solution scope, such as extra manufacturing facilities and extra buildings.