Project Design Phase-II

Solution Requirements

Date	**16 October 2022**
Team ID	**PNT2022TMID44579**
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**	Sensor animal's nearing the crop field and 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 Temperature, Humidity, Soil moisture sensors are received via SMS
FR-3	**User Understanding**	Based on the sensor data value to get the information about 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		Mobile support. Users must be able to interact in the same roles & 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 nearthe 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 andthe 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 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 ofthe solution scope, such as extra manufacturing facilities and extra buildings.