Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	**19 October 2022**
Team ID	**PNT2022TMID34135**
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	Senses animals 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	Usability	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 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 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.**