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

Date	03 October 2022
Team ID	PNT2022TMID27900
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 (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Phone Number Registration through Government Official Registration through Gmail
FR-2	User Confirmation	Confirmation via Call,OTP Confirmation via Email Confirmation via Letter
FR-3	User login	The user able to login in to their account. If the user submits incorrect information, the system must display an error message. A user able to save their username and password on the login page.
FR-4	Notification	User gets notification regarding animal activity near field and soil moisture level.
FR-5	System Functionality	Detects movement of animal around the field using sensor circuit and sends notification to the farmer and also detects the soil moisture level. Soil moisture level detected is stored and sent to farmer via app.Farmer can control motors and sprinklers via app.
FR-6	User logout	User able to logout from the system.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	A user friendly mobile/web application has been proposed for crop protection system which is simple, accurate and satisfactory.
NFR-2	**Security**	The system can be only accessed by the registered email and password.
NFR-3	**Reliability**	Customer support will be provided 24/7. Customer's details are secured.
NFR-4	**Performance**	The system can be accessed via internet. The system senses animal movement 24/7. The system can be used in any android devices.
NFR-5	**Availability**	This system replaces the old way of human guarding the field and the usage of manpower for switching on the motors and sprinklers.
NFR-6	**Scalability**	Crop protection system is highly scalable in various aspects. Following this approach, this idea presented an efficient IoT-based and real- time crop protection model for improving the production of crops. This system can be scaled by adding various technologies to it. More sensors can be used to detect position and movement of animals and moisture level of soil even in undesirable conditions. This can also be implemented in farms and gardens . Mobile apps and websites can also be used to monitor the areas frequently.