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

Date	03 October 2022
Team ID	PNT2022TMID54441
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 Registration	• User registration • Registration through phone number • Register through gmail • Manual registration • Registration through webpage
FR-2	User Confirmation	• Confirmation via Email • Confirmation via OTP • Confirmation via phone call
FR-3	User Requirement	• Crop protection from birds and animals • Automatic sprinkler system • Monitor soil humidity temperature of the farm
FR-4	User login	• A dashboard is created for the user and the login credentials are given to him • Using this login credentials, the user will be able to login to his/her account • If the user enters incorrect username or password then the system will notify them using an error message • By using this user can able to autosave their login credentials in their Web page itself so need to enter the details again and again
FR-5	User Notification	• User gets alert message regarding animal activity near the farmlands • If soil moisture levels are low user will get notifications to turn on the sprinkler
FR-6	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

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	• Have a clear and self-explanatory manual. • Easier to use • Even an illiterate farmer have to use the product

		without any difficulties
NFR-2	**Security**	• Application has to be secured with 2 step authorisation Passwords and passkeys will be assigned as per the users need.
NFR-3	**Reliability**	• Hardware requires a regular checking and service Software may be updated periodically Immediate alert is provided in case of any system failure.
NFR-4	**Performance**	• The application must have a good user interface It should have a minimal energy requirement it has to save water and energy
NFR-5	**Availability**	• All the features will be available when the user requires. • It depends on the need of the farmer and the customization the user has done.
NFR-6	**Scalability**	• The product has to cover all the space of land irrespective of the size or area of a farm field.