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

Date	03 October 2022
Team ID	PNT2022TMID37200
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 Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Specific Requirements	Cloud, Cloudant Database, Object Storage
FR-4	Capturing module	If the animals are entering into the farming, the camera modules are set to capture the animals
FR-5	Humidity, temperature, moisture and pressure sensor	These sensors are used to measure the amount of water content in soil, temperature in the farm, moisture content of the soil and pressure in the atmosphere.
FR-6	Smart irrigation system	Method of delivering the water to area where the user wants to irrigate.
FR-7	Protection System	The protection setup will work according to the animals detected near the field.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The main use of crop protection system is to provide security to field from animals and birds and also to maintain the temperature, moisture level, etc.,
NFR-2	**Security**	Security is significantly for the crop health and farm protection. It should not disturb the actual environment and the humans too.
NFR-3	**Reliability**	The crop production is mainly dependent on the health of the soil, humidity and water content of the soil, which depends on the accurate measurement of the parameters. So, the measurements should be reliable for the farmers response.
NFR-4	**Performance**	This system is 24 hours continuous working method. Farmer can watch and monitor the farm if they aren't around the farm. Also, the security of the field is ensured.
NFR-5	**Availability**	The application and user can access the farm whenever they want to operate and the response in the farm is send immediately by pre-determined algorithms.
NFR-6	**Scalability**	The Scalability refers, how the sensors adopt their climate and temperature of the field. The user can easy to understand the modules, setup and application.