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

Date	03 October 2022
Team ID	PNT2022TMID04647
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	➤ Install the app ➤ Sign up with Gmail or Mobile number ➤ Creating a profile ➤ Understanding the guidelines.
FR-2	User Confirmation	➤ Confirmation via Email ➤ Confirmation via OTP
FR-3	Accessing Datasets	Data's are acquired using Cloudant DB.
FR-4	Interface Sensor	Connect the sensor and the application so that an alarm is issued when animals enter the field.
FR-5	Mobile Application	It is used to control motors and sense animals near the crop field, sounds alarm to woo them away as well as sends SMS to farmers using cloud service.
FR-6	Authorization and Business rules	➤ Healthcare provider group ➤ Decision making ➤ Marketing

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	➤ Through the implementation of a smart crop protection system, this project contributes to agricultural protection. ➤ Indicates how effectively and easily the users can use and learn about the smart systems. ➤ Crop yield predictor will help the farmers to make decisions in future recommendations of best crop and help

		them to grow crops that will benefit in their respective region and discussion forum to communicate.
NFR-2	**Security**	Guarantees that all of the data inside the system, or at least some of it will be safe from malware assaults and illegal access.
NFR-3	**Reliability**	➢ Realisability guarantees that a farmer can complete a field work quickly and also cuts down on lost time and productivity. ➢ Indicate the likelihood that the software will operate without error for a particular number of users or period of time.
NFR-4	**Performance**	➢ Measures the system's response time under various load scenarios. ➢ Regardless of the amount of data that is saved, it must offer consumers acceptable response times and must support analytics that take place in background bidirectional communication.
NFR-5	**Availability**	➢ Describes how likely the system is accessible for a user at a given point of time. ➢ IoT solutions and domains demand highly available systems for 24x7 operations. ➢ It is not a vital production application, thus if the IoT solution fails, operations or production won't be affected.
NFR-6	**Scalability**	➢ The system's integration of computer vision algorithms with IBM Cloudant services improves scalability by improving the efficiency of photo retrieval at scale. ➢ Determines the maximum workload that the system can handle while meeting the performance requirements.