Project Design Phase-II

Solution Requirements (Functional & Non-functional)

|  |  |
| --- | --- |
| Date | 14 October 2022 |
| Team ID | PNT2022TMID40695 |
| 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 | Download the app Registration through Gmail Create an account  Follow the instructions |
| FR-2 | User Confirmation | Confirmation via Email Confirmation via OTP |
| FR-3 | Interface sensor | Interface sensor and the application so if animals enter the field it gives alarm. |
| FR-4 | Accessing datasets | Datasets are retrieved from Cloudant DB |
| FR-5 | Mobile application | Motors and sprinklers in the field can be controlled by mobile application. |

# Non-functional Requirements:

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

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The smart protection system defines that this project helps farmers to protect the farm. |
| NFR-2 | **Security** | We have designed this project to secure the crops from animals. |
| NFR-3 | **Reliability** | This project will help farmers in protecting their fields and save them from significant financial losses. This will also help them in achieving better  crop yields thus leading to their economic well being. |
| NFR-4 | **Performance** | IOT devices and sensors are used to indicate the farmer by a message when animals try to enter into  the field and also we use an SD card module that helps to store a specified sound to scare the animals. |
| NFR-5 | **Availability** | By developing and deploying resilient hardware and software we can protect the crops from wild animals. |
| NFR-6 | **Scalability** | Since this system uses computer vision techniques integrated with IBM cloudant services helps  efficiently to retrieve images in large scale thus improving scalability |