**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

|  |  |
| --- | --- |
| Date | 03 October 2022 |
| Team ID | PNT2022TMID05092 |
| Project Name | SmartFarmer - IoT Enabled Smart Farming application |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

|  |  |  |  |
| --- | --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** |  | **Description** |
| NFR-1 | **Usability** | ●  ● | User friendly guidelines for users to avail the features. Most simplistic user interface for ease of use. |
| NFR-2 | **Security** | ●  ● | All the details about the user are protected from unauthorized access. Detection and identification of any malfunctions of sensors. |
| NFR-3 | **Reliability** | ●  ● | Implementing Mesh IoT Networks  Building a Multi-layered defence for IoT Networks. |

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 Gmail  Registration by creating a new username and password |
| FR-2 | User Confirmation | Confirmation via Email Confirmation via OTP |
| FR-3 | User login | Login using the credentials we have used during registration |
| FR-4 | ESP8266 | To interface temperature, humidity, soil moisture sensors and irrigation system (motor) |
| FR-5 | IBM cloud | To Store and display sensor parameters and control irrigation using internet |
| FR-6 | Node-RED | For Programming, Integration and Management |
| FR-7 | MIT app inventor | To create app to display sensor parameters and to control irrigation system |

**Non-functional Requirements:**

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

|  |  |  |
| --- | --- | --- |
| NFR-4 | **Performance** | The use of modern technology solutions helps to achieve the maximum performances thus resulting in better quality and quantity yields. |
| NFR-5 | **Availability** | This app is available for all platforms |
| NFR-6 | **Scalability** | Scalability refers to the ability to increase available resources and system capability without the need to go through a major system redesign or implementation. |