

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

Date	03 October 2022
Team ID	PNT2022TMID05114
Project Name	SmartFarmer - IoT Enabled Smart Farming application
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 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.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	<ul style="list-style-type: none"><li>• User friendly guidelines for users to avail the features.</li><li>• Most simplistic user interface for ease of use.</li></ul>
NFR-2	<b>Security</b>	<ul style="list-style-type: none"><li>• All the details about the user are protected from unauthorized access.</li><li>• Detection and identification of any malfunctions of sensors.</li></ul>
NFR-3	<b>Reliability</b>	<ul style="list-style-type: none"><li>• Implementing Mesh IoT Networks</li><li>• Building a Multi-layered defence for IoT Networks.</li></ul>

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