

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

Date	17 October 2022
Team ID	PNT2022TMID45855
Project Name	Project - Smart farmer-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	raspberry pi	To interface temperature, humidity, soil moisture sensors and irrigation system(motor)
FR-2	IBM cloud	To Store and display sensor parameters and control irrigation using internet
FR-3	Node-RED	TO program raspberry pi and integrate it to cloud
FR-4	MIT app inventor	To create app to display sensor parameters and to control irrigation systems
FR-5	Open Weather API	Get the data and access the resource.

**Non-functional Requirements:**

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

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	The temperature sensor, humidity sensor, soil moisture sensor and irrigation system(motor) is connected to raspberry pi which is connected to IBM cloud ,the farmer can view temperature ,humidity and soil moisture in his smart phone and can also control irrigation using his smart phone connected to internet
NFR-2	<b>Security</b>	User id and password is provided to farmer to prevent third party access
NFR-3	<b>Reliability</b>	It specifies how likely the system or its element would run without a failure.

NFR-4	<b>Performance</b>	Every 10 seconds to raspberry pi will update sensor parameters to cloud
NFR-5	<b>Scalability</b>	IOT enabled smart farming system can be automated autonomously without farmers input and disease detection can be implemented using OpenCV