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

Team ID	PNT2022TMID49367
Project Name	Smart Farmer - IoT enabled smart Farming Application

Functional Requirements:

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 to control irrigation using internet.
FR-3	Node-RED	To program raspberry pi and integrate it with cloud.
FR-4	MIT app inventor	To create app which will the display sensor parameters and to control irrigation systems.
FR-5	Open Weather API	Get the data and access the resource.

Non-Functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	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	Security	User ID and password is provided to farmer to prevent third party access.
NFR-3	Reliability	It specifies how likely the system or its element would run without a failure.
NFR-4	Performance	Every 10 seconds to raspberry pi will update sensor parameters to cloud.
NFR-5	Scalability	IoT enabled smart farming system can be automated autonomously without farmers input and disease detection can be implemented using OpenCV.