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

Date	21 October 2022
Team ID	PNT2022TMID34110
Project Name	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	**Registration**	User need to register through Gmail and the module contains farmer's data which includes full names,farm location, type of crop grown, farm land area, town, state and mobile number. The farmer is also asked to create username and password.
FR-2	**User Confirmation**	OTP will be sent to the user's phone number for confirmation.
FR-3	**Selection of user's language**	This provides different languages which makes more widely accessible. The availability of regional languages breaks the language barrier and it delivers relevant information in the simplest form.
FR-4	**Subscription**	It is based on the location and area of user farmland as well as the period that the user uses.
FR-5	**Monitoring details**	● The sensors are implanted on the user farmland by which farmers make informed decisions through customized information related to their needs. ● The interface that provides ➔ Information on current weather and also forecast for the next 5 days. ➔ Information on the soil moisture level which turns ON and OFF the pipes of drip irrigation automatically.
FR-6	**Alerts and Popups**	● It generates alerts on the farmer's mobile phone. ● The information that can be transmitted through popups include weather forecasts and soil moisture level which helps the farmers to take timely action.

FR-7	**Rating**	Users can rate the app between 1-5,based on the satisfaction of the user.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	● The app can be easily downloaded in mobile, laptop and desktop. ● It is the most convenient and easy medium for the farmers to use. ● The simple interface helps the farmers to get farm information.
NFR-2	**Security**	● The authentication is included for security features. User verification using username and password.
NFR-3	**Reliability**	● It is accessible from anywhere with a network connection. ● Access to accurate information in the field allows them to harness the power of data to make the best decisions for their operations. ● Cloud based records eliminate the headache of storing, sorting and retrieving physical records.
NFR-4	**Performance**	● Sensors are used to sense the surroundings and collect information about the soil, temperature, humidity and so on. ● The information collected from sensors are sent to IoT based cloud platforms for data analytics. ● Based on the analysis done the farmers make relevant decisions to generate better outputs. ● When the tasks are operated the cycle repeats itself from the beginning.
NFR-5	**Availability**	● Sensors are easy to operate and use and easy to maintain. ● They are cheaper in price and best in quality which are easily available for the users. ● Apps are very easy to use and are compatible with IOS and most android mobile devices.

NFR-6	**Scalability**	● By using more gateways,tens of thousands of sensors are deployed easily .This compatibility is vital to support cases like temperature monitoring. Once the infrastructure is in place, it is vital that new applications can be added without the need to change or replace the infrastructure(gateways).