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

Date	11 October 2022
Team ID	PNT2022TMID37676
Project Name	Estimation of crop yield using data analytics
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	➢ Registers a new user through registration form or mail .
FR-2	User Confirmation	➢ Confirmation through Email or OTP.
FR-3	Data collection	➢ Data collection. Relevant data is gathered from operational systems, data warehouses, data lakes and other data sources. • Data discovery and profiling. • Data cleansing. • Data structuring. • Data transformation and enrichment. • Data validation and publishing.
FR-4	Data Pre-processing	➢ Data preprocessing a component of data preparation, describes any type of processing performed on raw data to prepare it for another data processing procedure. It has traditionally been an important preliminary step for the data mining process.
FR-5	Model Evaluation	➢ Model evaluation is the process of using different evaluation metrics to understand a machine learning model's performance, as well as its strengths and weaknesses. Model evaluation is important to assess the efficacy of a model during initial research phases, and it also plays a role in model monitoring
FR-6	Prediction Output	➢ Predictive analytics is the process of using data analytics to make predictions based on data. This process uses data along with analysis, statistics, and machine learning techniques to create a predictive model for forecasting future events.

Non-functional Requirements:

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

NFR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	➢ It helps the farmers to monitor the health of the crops in real time, create predictive analysis related to future yield.
NFR-2	**Security**	➢ Data security functions to prevent data breaches, reduce risk of data exposure and ensure the ongoing safe and secure use of private data by minimizing exposure risk.
NFR-3	**Reliability**	➢ The reliability of the data determines whether businesses can make good decisions or not. If the data is unreliable it is useless to the organizations
NFR-4	**Performance**	➢ Regularly evaluating the performance of the organization can help us to understand how much progress we're making towards our goal. A performance analysis is a tool you can use to check important metrics of crop yield for very month or year and make plans for adjustment and improvement.
NFR-5	**Availability**	➢ Data should be available for access at anytime from anywhere.
NFR-6	**Scalability**	➢ The software should be flexible and other developers must be able to improve its capabilities.