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

Date	13 October 2022
Team ID	PNT2022TMID11573
Project Name	Project - Efficient water quality analysis and prediction using machine learning
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 Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User input	Users are required to give chemical components of their water which they need tested. The chemical components such as Temperature,pH,DissolvedOxygen,Fecal Coliform,Biochemical oxygen demand,conductivity and Nitratenan details are must.
FR-4	Output Display	Based on the range of water quality index available,given water samples are analyzed and predicted the final results.
FR-5	Model prediction	Confirming based on water quality index and shows the ML prediction with percent of various parameter.
FR-6	Data handling	File contains water quality metrics for different water bodies.
FR-7	Quality analysis	Analyze with acquired information of water across various water quality indication using different models.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	System is stand up to the customer's expectations. When an application is, users can easily navigate its interface. The user can determine what feature and what it can do.
NFR-2	**Security**	Various forms of question for calculating the water quality index(wqi) and securely stored in database.
NFR-3	**Reliability**	If the number of failures is low, it means that the system operates properly. reliability of Track the

		time between critical feature can help you understand
NFR-4	**Performance**	Our system should run on a 32 bit(x86) or 64 bit(x64) dual-core 2.66-GHZ or faster processor. It should not exceed 2 GB ram.
NFR-5	**Availability**	The system should be available for the duration of the user access to the system until the user terminates the access.
NFR-6	**Scalability**	It provides an efficient outcome and ability to increase or decrease the performance of a system based on datasets.