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

Date	03 October 2022
Team ID	PNT2022TMID24570
Project Name	Efficient Water Quality Analysis & 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	Data handling	File contains water quality metrics for different water Bodies.
FR-4	Executive administration	Monitoring the water status in the environment and regulatory compliance like pollution and it includes two different functions: early warning/forecast monitoring.
FR-5	Quality analysis	Analyze the various quality of water like PH, Turbidity , TDS Temperature etc..
FR-6	Model Prediction	Confirming based on water quality index and shows the machine learning prediction (Poor, Good, Partially Good.) with the percentage of presence of various parameter.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system provides a natural interaction with the users. Accurate water quality prediction with short time analysis and provide prediction safe to drink or not using some parameters and provide a great significance for water environment protection.
NFR-2	**Security**	The model enables with the high security system as the user's data will not be shared to the other sources.
NFR-3	**Reliability**	The system is very reliable as it can last for long period of time when it is well maintained. The model can be extended in large scale by increasing the datasets.

NFR-4	**Performance**	The performance of this model is very smooth and it can be run on on any device without any system problem.
NFR-5	**Availability**	Our system should run on 32 bit (x86) or 64 bit (x64) Dual-core 2.66-GHZ or faster processor. It should not exceed 2 GB RAM.
NFR-6	**Scalability**	It provides an efficient outcome and has the ability to increase or decrease the performance of the system based on the datasets.