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

Date	6 November 2022
Team ID	PNT2022TMID14644
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	Install Google colab and download libraries.	Install google collab and Import all the required libraries which are used to train the model or visualise the data.
FR-2	Dataset	Initial process 1.Download and import the dataset 2.Read the dataset
FR-3	WQI(water quality index)	The outcome to be found from the dataset, 1.calculate the quality index for each column. 2. Calculate the avg of WQI.
FR-4	Application Building	Use flask architecture which is used to create a user interface . 1.It accepts the individual inputs**(year,D.O, P.H, B.O.D, C.O, N,A, T.C)** and inturn produce the WQI as output
FR-5	Interface sensor	Confirmation via email and it is predicted by water level sensor

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description

NFR-1	**Usability**	The aim of this model is to predict the WQI(water quality index) based on some factors like(PH, B.O.D,Conductivity etc..). WQI helps in determining overall water quality status. Accurate water quality prediction is the basis of water environment management and is of great significance for water environment protection.
NFR-2	**Security**	It provides secured feel for the people while drinking water
NFR-3	**Reliability**	This project helps in protecting people health and the environment.
NFR-4	**Performance**	PH, Turbidity, temperature etc are calculated by sensors and recorded; the data is pre processed and WQI is calculated
NFR-5	**Availability**	By developing and deploying the software we can analyze the drinking water
NFR-6	**Scalability**	The project helps in providing a purified water and pollution free water