

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

Date	13 October 2022
Team Id	PNT2022TMID21280
Project Name	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 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-2	Output Display	Based on the range of water quality index available,given water samples are analyzed and predicted the final results.
FR-3	Model prediction	Confirming based on water quality index and shows the ML prediction with percent of various parameter.
FR-4	Data handling	File contains water quality metrics for different water bodies.
FR-5	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.