Project Design Phase-I
Proposed Solution

Date	10 November 2022
Team ID	PNT2022TMID21084
Project Name	Project - Efficient Water Quality Analysis & Prediction using Machine Learning
Maximum Marks	2 Marks

Proposed Solution

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	**Problem Statement (Problem to be solved)**	With the rapidly growing urbanization proposal, safe drinking water is a challenge for everyone. Water is being contaminated by several factors. So analysis of water quality and real time monitoring of water is essential.
2.	**Idea / Solution description**	For Water Quality Index (WQI) prediction several machine learning algorithms have been developed. Using these techniques, our model analyzes the water quality parameters like Alkalinity, pH level, temperature, turbidity, dissolved oxygen, minerals&nutrients(nitrogen,phosphorous). Suitability for the usage of the water for various entities will be deduced based on the WQI calibrated.
3.	**Novelty / Uniqueness**	In addition to just determining the analysis of water sample, we may perform more processing to determine the water's level of usability and its usage for the appropriate reasons with the help of machine learning.
4.	**Social Impact / Customer Satisfaction**	Customer satisfaction is an important goal in total quality management. In the recent years water quality level has declined by various pollutants.. Therefore, predicting the water quality is very important in controlling water pollution and providing safe water to the consumers. In order to meet this goal it is necessary to use on evaluation model for measuring the customer satisfaction.

5.	**Business Model (Revenue Model)**	The technology and production is improved in business side. It increases the profit and also the logistic way. The revenue model enables the users to find out the harmful effects that can be caused by the water body and also categorises the nearby water bodies for different usage capabilities.
6.	**Scalability of the Solution**	Scalability of this solution can handle the amount of data collected from water sourcesto big water bodies and analyze thoroughly inan effective way to instantly serve millions of users.