# PROJECT DESIGN PHASE-1

PROPOSED SOLUTION

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| DATE | 16 OCTOBER 2022 |
| TEAM ID | PNT2022TMID16214 |
| PROJECT NAME | Efficient Water Quality Analysis and Prediction using Machine Learning. |
| MAXIMUM MARKS | 2 marks |

**PROPOSED SOLUTION :**

| PARAMETER | DESCRIPTION |
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| Problem Statement (Problem to be solved) | Water a vital compound plays an important role in the life on earth. It has a direct impact on public health and environment. It is a foundation for the prevention and control of waterborne diseases. However, predicting the urban water quality is a challenging task since the water quality varies in urban spaces non-linearly and depends on multiple factors, such as meteorology, water usage patterns, and land uses. The main aim of this project is to predict the water quality using machine learning technology. |
| Idea / Solution description | The solution is obtained from the data sets by comparing the accuracy rate with previous data set and the current data set. Thus the Machine Learning techniques are used to predict the water quality index which denotes the healthiness of the water. |
| Novelty / Uniqueness | Used todetermined whether the water can be recycled or reused. Its user Friendly. Using ML techniques (Regression models) to predict the quality of water instead of using physical measurements or sensors to obtain the quality of water. Thistechniques improves the accuracy of measurement over existing chemical and physical techniques as it is infeasible to obtain all the required features to predict the water quality. |
| Social Impact / Customer Satisfaction | Water's quality is more important which should be considered as many water-borne diseases are more widely known. The proposed solution will help in identifying water pollution and helps the customer to drink healthy water.Beneficial for people health. By analysing the quality of water, good and healthy water is provided. |

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| Business Model (Revenue Model) | First the application is tested with few people. Later on it comes into the picture where everyone can see by networking. By conducting various activities regarding the importance of quality of water.Industries that provide sanitation facilities and products (like water purifiers, quality testers etc.) can deploy this solution to provide more waste water treatment plants, better insights in health concerns and there may also be an increase in awareness and demand for better water quality testing and availability. People willstart looking for treatments related to water-borne diseases as the awareness increases. |
| Scalability of the Solution | The solution proposed will be deployed as webapplication to make it easily accessible by anyone who has internet services and has no specific software and hardware specification .Thushelping in getting all required aspects of water. |