

## **Project Design Phase-I**

### **Proposed Solution**

|               |                                                                        |
|---------------|------------------------------------------------------------------------|
| Date          | 28 September 2022                                                      |
| Team ID       | PNT2022TMID29722                                                       |
| Project Name  | Efficient Water Quality Analysis And Prediction Using Machine Learning |
| Maximum Marks | 2 Marks                                                                |

### **Proposed Solution :**

| S.No. | Parameter                                | Description                                                                                                                                                                                                                                                                                                                      |
|-------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | Problem Statement (Problem to be solved) | Anand is about to start a water Treatment business.His main goal is provide healthy water to all kinds of customer,so he wants to ensure the quality of water by implanting the monitering devices analysing its chemical parameters.                                                                                            |
| 2.    | Idea / Solution description              | <ul style="list-style-type: none"><li>• The main idea is to analyse and predict the quality of water using ML algorithms<ul style="list-style-type: none"><li>➤ Support Vector Machine(SVM)</li><li>➤ Random Forest</li><li>➤ Decision Tree</li><li>➤ Linear and logistic Regression.</li></ul></li></ul>                        |
| 3.    | Novelty / Uniqueness                     | To estimate the <ul style="list-style-type: none"><li>➤ Water Quality Index(WQI).</li><li>➤ Water Quality Class(WQC).</li></ul>                                                                                                                                                                                                  |
| 4.    | Social Impact / Customer Satisfaction    | <ul style="list-style-type: none"><li>• The main purpose of this application is to provide Overall satisfaction in analysing and predicting the water quality .</li><li>• Customers can use apps or software to predict whether the water is efficient to drink.</li><li>• Can drive to the vision of healthy nation..</li></ul> |

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|----|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. | Business Model (Revenue Model) | <ul style="list-style-type: none"> <li>• Can sell our service/product to water purifier companies.</li> <li>• Can collaborate with governments in analysing and providing the water quality solutions.</li> </ul> |
| 6. | Scalability of the Solution    | <ul style="list-style-type: none"> <li>• It is important to develop a solution to analyse the quality of water for benefits of humankind.</li> <li>• To ensure the quality of water efficiently.</li> </ul>       |