Project Design Phase-I

Proposed Solution Template

|  |  |
| --- | --- |
| Date | 26 September 2022 |
| Team ID | PNT2022TMID00549 |
| Project Name | Project – Efficient water quality Analysis & Prediction using -Machine Learning |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

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

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Parameter** | **Description** |
| 1. | Problem Statement (Problem to be solved) | Water is an essential resource for human existence. In fact, more than 60% of the human body is made up of water. Our bodies consume water in every cell, in the different organisms and in the tissues. Hence, water allows stabilization of the body temperature and guarantees the normal functioning of the other bodily activities. Nevertheless, in recent years, water pollution has become a serious problem affecting water quality. Therefore, to design a model that predicts water quality is nowadays very important to control water pollution, as well as to alert users in case of poor quality detection. Motivated by these reasons, in this study, we take the advantages of machine learning algorithms to develop a model that is capable of predicting the water quality index and then the water quality class. The method we propose is based on four water parameters: temperature, pH, turbidity and coliforms. The use of the multiple regression algorithms has proven to be important and effective in predicting the water quality index. In addition, the adoption of the artificial neural network provides the most highly efficient way to classify the water quality. |
| 2. | Idea / Solution description | To develop a project that focuses on building an efficient water quality analyzer.  We will try to get an idea of the purity of water by checking its pH level, presence of harmful  microbes, colour of the water and the impurities present in the water.  After analyzing these factors, the app will infer if the water is safe to drink.  This application is developed using Machine Learning and Data mining. |
| 3. | Novelty / Uniqueness | * Machine Learning * Data Mining |
| 4. | Social Impact / Customer Satisfaction | This application prevents us from various water borne diseases.  It is used to detect the acidity level, presence of bacteria and any another harmful microbes. |
| 5. | Business Model (Revenue Model) | Business to Customer model (B2C) and On -Demand Business model |

|  |  |  |
| --- | --- | --- |
| 6. | Scalability of the Solution | This Application allows the users to detect the water’s purity within a short period of Time. |