# PROJECT DESIGN PHASE – I

# PROPOSED SOLUTION

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| DATE | 27-09-2022 |
| TEAM ID | PNT2022TMID39608 |
| PROJECT NAME | EFFICIENT WATER QUALITY ANALYSIS AND PREDICTION USING MACHINE LEARNING |

## PROPOSED SOLUTION:

| S.NO | PARAMETER | DESCRIPTION |
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| 1. | Problem Statement (Problem to be Solved) | Water is an indispensable resource and is vital for sustaining all kinds of life. Safe and readily available water is important for public health, whether it is used for drinking, domestic use, food production or recreational purposes. Due to rapid industrialization, the various sources of water is getting polluted and the quality of it is degraded day by day. So, it is necessary to predict the quality of water samples so as to determine and detect the contaminants present in those samples which may cause adverse effects on human health, environment, etc. |
| 2. | Idea / Solution Description | This system is built by using the Regression and Classification algorithms of Machine Learning. By using this system, we can predict the level of quality of any kind of water samples at anytime and at anyplace. This system also provides the appropriate purification techniques that can be carried out based on the analysis of water quality. |
| 3. | Novelty / Uniqueness | This system carries out the prediction in a flawless way and also provides various |

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| | | visualisations of the interpreted results. It also provides various information regarding the purification techniques to be employed. |
| 4. | Feasibility of Idea | The feasibility of implementing this idea is moderate neither easy nor tough because the system needs to satisfy the basic requirements of the customer as well as it should act as a bridge towards achieving high accuracy water quality prediction considering all the necessary parameters. |
| 5. | Business Model<br>(Revenue Model) | This system provides more reliable service to the wide variety of customers who wish to test any kind of water samples and also the system ensures the trust to the customers who are using it. |
| 6. | Social Impact / Customer Satisfaction | By using this system, the users can predict the nature and quality of water they are using and can learn the purification technique to be employed based on the nature of water sample analysed.<br>It gives assurity on enhancing the level of water quality and reduces the ill effects of using the polluted or contaminated water for household works, food production, etc. |
| 7. | Scalability of the Solution | By implementing this system, the people can efficiently and effectively predict the quality of water samples they wish to use at anytime. This system can also be integrated with the future technologies. |