Project Title: Efficient Water Quality Analysis and Prediction using Machine Learning   **Project Design Phase-I** - **Solution Fit**
Team ID: PNT2022TMID08566

Define CS, fit into CC

1.   CUSTOMER SEGMENT(S) CS

Water is an essential resource, and it is necessary in our day-to-day life.so the customers are all the living being. Humans are our main customer who can analysis the water quality

6 CUSTOMER CONSTRAINTS. CC

The application does not require any cost. The system is subscription free, and anyone can use the system. It is budget friendly. Mobile phones, desktop, tablets, laptops with network connection are required to view the analysis

5. AVAILABLE SOLUTIONS AS

In later days there was no system to predict and analyze the quality of water. Nowadays there are many technologies and software to check and analyze the contaminated water and this water can be made pure by various purification process. The available solution is finding water quality index (WQI) and water quality class(WQC).

Merits; It checks the turbidity, Ph, TDS, BOD
Demerits: It would identify the limited parameters in water.

Explore AS, differentiate

Focus on J&P, tap into BE,

2. JOBS-TO-BE-DONE / PROBLEMS J&P

When water is impure the water must be tested, and the quality should be analyzed in a laboratory and all types of water should be classified. All sewage water must be treated properly

9. PROBLEM ROOT CAUSE RC

Since the rate of water pollution is high and water is contaminated at a high rate. There is a need to purify the water and the customers should consume pure and safe drinking water. Due to lack of sewage system all the wastewater gets mixed with the fresh water and they get contaminated and therefore steps have to be taken to avoid such situation.
Identify appropriate solution. Collect enough data. It is very difficult to find the pure drinking Identify the associated casual factor.

7. BEHAVIOUR BE

When customers are affected with any infections that are prone by water then they can analyze that the water is contaminated and contain infections in it. When water prone diseases increase then there is a high rate of polluted water. So to check the purity of water we develop a model to predict the quality of water

Focus on J&P, tap into BE,

entifystr

3. TRIGGERS TR

This triggers to discover the pattern in user data and then make prediction based on intricate pattern for analyzing the quality of water. It also helps to improve the efficiency and more protected to drink.

10. YOUR SOLUTION SL

Advanced Artificial Intelligence and its significant parameters are used to develop the models and evaluate with algorithms like linear regression ,random forest, Sector vector machine, kNN ,naïve Bayes

8. CHANNELS of BEHAVIOUR CH

ONLINE
   Helps to notify the customer with message by data processing.
OFFLINE
Application is created which predicts its quality when it satisfies all the parameter.

4. EMOTIONS: BEFORE / AFTER   EM

Before there is no technology to analyze the water quality so it caused many infections and health issue. It causes disease such as diarrhea, dysentery, hepatitis, typhoid, polio, and cholera. But now a days it has reduced due to the advance technology in monitoring water system, predicting the rate of impurities and methods of finding pure water.