Project Title: Efficient water quality analysis and prediction using machine learning.

Project Design Phase-I - Solution Fit

TEAM ID: PNT2022TMID51187

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

- Urban area people,
- Rural area people,
- Researchers,
- Students.

6. CUSTOMER CONSTRAINTS — CC

- Customer constraints include the high cost of water and sanitation to families of low income, and the shortage of capital for investment.
- Water is essential for every one to sustain.

5. AVAILABLE SOLUTIONS — AS

- The main solution is to analysis the water quality for the purpose of drinking ,household, agriculture due to the healthy life of living things.
- We need to train the datasets to run smoothly and see an incremental improvement in the prediction rate using MLalgorithm on our dataset.
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Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE

- Checking the quality of water.
- To detect the contaminants present in those samples patient dataset such as Temperature, PH, conductivity etc
- To prevent and control the water borne diseases.

9. PROBLEM ROOT CAUSE — RC

- Contamination of water bodies.
- Collect sufficient amount of water.
- Environmental changes.

7. BEHAVIOUR — BE

- Water quality analyst will analyse the quality and develop the policies and plans for control the factor which produce impurities.
- The enter values are given to the saved model and prediction is showcased on the UI.

Focus on J&P, tap into BE, understand RC

3.
TRIGGERS

TR

- User can be benefited by testing the water whether is safe to drink.
- To drink pure and a healthy water.

4. EMOTIONS: BEFORE / AFTER

EM

- Before there is no technology ,customer faced many problems ,they have solutions but it does not sacrifice the customer to analyse the water quality so it cause some health issues.
- But now a days it is decreased .
- The new technology will predict whether the water is efficient or not.

10. YOUR SOLUTION

SL

- Using machine learning techniques, the implementation was done by the Water Quality Index (WQI) which is a single numeric index that mirrors the overall quality of water with high accuracy.

8. CHANNELS of BEHAVIOUR

CH

ONLINE:

- This online application will predict the water quality and gives a high accuracy result.

OFFLINE:

- Using some basic experimental methods to analyse the water quality.By attaining the standard quality of satisfy all parameter is consider as a pure water.