Project Design Phase-I - Solution Fit

Project Title: Essential Water Quality Analysis and Prediction using Machine Learning

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Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Life on Earth is mostly dependent on water. It is the source of life for all life forms. The customers are:

- The general public
- Residents of water bodies & coastal regions
- Manufacturers
- Companies /Organizations purifying water
- Lab technicians

6. CUSTOMER CONSTRAINTS CC

Frequent variation in water parameters

Too much time taken in laboratories

No accurate results

No Realtime monitoring

5. AVAILABLE SOLUTIONS AS

This project of developing a web application detects the quality of water

It gives a clear and accurate classification of whether the water is fit or unfit for usage.

It gives results in a fraction of second

Explore AS, differentiate

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

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

The water quality analysis helps the general public to check the quality of drinking water

The manufacturers can decide with the usage of water based on quality

The lab technicians can produce the results in seconds rather than depending on a equipment with minor accuracy

9. PROBLEM ROOT CAUSE RC

The main root cause of Water quality reduction is Pollution

Industrial discharge has contaminated the water sources

Acid rain, drainage, Oil spills are other factors that affect water quality

Climate changes has also been recorded in the degradation of water quality

7. BEHAVIOUR BE

Existing solutions include equipment like

- Rosette sampler
- Atomic fluorescence Spectroscopy
- Electric conductivity meter

These are cost and time intensive and show minor variations from actual quality

Additionally, these are handled only by technicians and thus requires expert knowledge in operating the equipment.

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

Identify Strong TR and TM

3. TRIGGERS TR

For proper analysis of water quality, the key indicators of water are to be identified. Only then accuracy will improve.

4. EMOTIONS: BEFORE / AFTER EM

Satisfaction of drinking clean water

Industries look for ways to purify water

10. YOUR SOLUTION SL

Our solution to measure the quality of water in a most accurate way is to develop web application which accepts the input parameters such as Dissolved Oxygen, pH, BOD, Conductivity, etc. Based on the input of water parameters, the water is classified as Fit or Unfit for usage.

8. CHANNELS of BEHAVIOUR CH

8.1 ONLINE

This solution of measuring water quality using web application works completely through internet. Current solutions do not support online working

8.2 OFFLINE

Consult laboratories or technicians to measure the quality of water.