

## Project Design Phase-I

### SOLUTION FIT

Date	26 October 2022
Team ID	PNT2022TMID17661
Project Name	REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEMS
Maximum Marks	2 Marks

Define CS, fit into CC

#### 1. CUSTOMER SEGMENT(S)

Government Authorities, to monitor the water quality continuously.

Fishermen will require this product to check the quality of water, so as to decide the quality and scope of fisheries.

Can be used by industrialists, to monitor the effluent levels in river water

#### 6. CUSTOMER CONSTRAINTS

The customer may not want to buy the product because of regular annual maintenance.

The need to provide electricity/ powering up the apparatus continuously, may induce extra charges.

Lot of hardware components with wirings, which makes the maintenance work difficult.

#### 5. AVAILABLE SOLUTIONS

The solution that is readily available at the market includes the pH sensor, and temperature sensor that is coupled with a cheap microcontroller, and displays these contents over a LCD display.

But, information displayed on LCD is ineffective as the user will have to manually go and check the readings given by each sensor, whereas our product has an application that stores all real time data and can be viewed at all times.

Focus on J&P, Tap into BE, understand

#### 2. JOBS-TO-BE-DONE / PROBLEMS

The main problem occurs when the Government authorities fail to monitor the water quality and get alerted early, which our product addresses.

The product sends alerts on a regular basis and also provides feedback on what could be done further when water quality is really bad.

#### 9. PROBLEM ROOT CAUSE

Water Quality has been degrading over decades, As the common man as well as various industries being reckless/careless.

The reason behind making these products are to periodically determine the water quality and alert the civilians about the bad water quality

Hence as a result, we can prevent people from using bad water

#### 7. BEHAVIOUR

Like any normal person, every user would like to investigate in market for the most precise sensors available, at the same time the sensors needs to be cost effective.

Calculation of the monthly electricity bill would be computed, as some amounts of electricity will be utilized for powering the product 27x4.

Enquiring more on related topics socially.

#### 3. TRIGGERS

TR

As people are getting more and more environmental conscious, people would always get triggered towards buying products that could not only detect water quality but also with the help of the knowledge of water quality, they can take preventive measures.

#### 4. EMOTIONS: BEFORE / AFTER

EM

The customers will experience a sense of comfort, as this product is based on IoT technology, which means, the person is able to monitor all the parameters related to water quality, anywhere and everywhere.

#### 10. YOUR SOLUTION

SL

To make a self standing tool for monitoring the river water quality continuously, that is, checking parameters such as pH, temperature and turbidity levels and provide feedbacks messages via SMS in case of worsened water quality.

The solution also involves the induction of an Decision System that states what needs to be done, so as to ensure the water quality could be restored.

#### 8. CHANNELS of BEHAVIOUR

CH

Users involve in actions that include spreading awareness online, regarding to the consequences that might evolve if we keep polluting the river water.

Demo of the product can be posted online, by which more and more number of people could buy the product.

Organizing public campaigns.

Explore AS, differentiate

Focus on J&P, Tap into BE, understand