

Project Design Phase-I Problem – Solution Fit

Date	03 October 2022
Team ID	PNT2022TMID51098
Project Name	Real-Time River Water Quality Monitoring and Control System
Maximum Marks	2 Marks

Problem – Solution Fit:

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS Water ecosystems provide food, flood mitigation, water for agriculture, transportation, and recreation because they have the power to alter local climates. Additionally, human economies depend on the quality of the water. Rivers assist agriculture and give us numerous benefits in addition to giving us water for drinking. Monitoring water quality is crucial for preserving ecosystem health and ensuring people's livelihoods.	6. CUSTOMER CONSTRAINTS CC Sensors have been utilized in smart water management to prevent water contamination. The user may monitor the river at any time and from any location thanks to these sensors. When compared to other technologies, IOT-based Real Time River Water is quite effective.	5. AVAILABLE SOLUTIONS AS Bytest method filters Pros: They safeguard state waterways so that we can use them for a variety of purposes, including drinking water, swimming, fishing, irrigation, and more. Cons: There is no remote or ongoing monitoring. There is no in-field surveillance, and testing occurs only rarely.
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Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS J&P Around the world, agriculture is the leading cause of water degradation. Agriculture pollution is the top source of contamination in rivers and streams, the second-biggest source in wetlands and the third main source in lakes. Bathing in contaminated river waters causes skin diseases, allergies and other such ailments, consuming polluted water can cause cancer etc...	9. PROBLEM ROOT CAUSE RC Industrial waste Neutralize acidic pollution from rain or snowmelt Sewage waste	7. BEHAVIOUR BE Good drinking water can be found in the people's streams. Water-producing land. Cleanliness and good health ensure stable employment
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Focus on J&P, tap into BE, understand RC

3. TRIGGERS TR The quality of the water that is available to humans has been greatly impacted by the limited supplies of drinking water, high financial demands, expanding population, urbanization of rural areas, and excessive use of sea resources for salt extraction.	10. YOUR SOLUTION SL The main aim is to develop a system by using a stream gauging for continuous monitoring of river water quality at remote places using wireless sensor networkers with low power consumption. Low cost and high detection accuracy PH, Conductivity, Turbidity level, etc... are the limits that are analyzed to improve the water quality	8. CHANNELS of BEHAVIOUR CH Online In the web application, we provide users of information about certain fields. Offline When you go offline, the application displays the most recent field data.
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Identify strong TR & EM

4. EMOTIONS: BEFORE / AFTER EM Maintaining ecosystem health and population viability depend heavily on water quality monitoring. The condition of surface water bodies is described as a snapshot in time (weeks, months, and years).

Identify strong TR & EM