# Real-Time River Water Quality Monitoring and Control System

**TEAM ID:**

**PNT2022TMID07167**

| SCENARIO<br>Testing and Experimenting with various water sources | PREREQUISTE | PROJECT FLOW | WORKING | BENEFITS | OUTCOME |
|---|---|---|---|---|---|
| **Steps**<br>What does the person (or group) typically experience? | Techniques<br>purpose<br>Availability of Internet of Things and Remote sensing<br>To purify the water Resources | sites<br>Process<br>It is necessary to observe the water quality in a large area such as lake, river, and aquaculture<br>IoT and remote sensing techniques are used congregate and analyzing data from the remote locations | Info Transfer<br>An android application will be used to determine the sensor values and examined via cloud and warnings will be provided to user<br>The values are then compared with the threshold value | It Can diminish the contaminants present in water<br>It changes to a drinking water | The related authorities can take measures to boost the water quality which makes it more usable for human purpose<br>It has high frequency, high mobility, and low powered. |
| **Interactions**<br>What interactions do they have at each step along the way?<br>• **People:** Who do they see or talk to?<br>• **Places:** Where are they?<br>• **Things:** What digital touchpoints or physical objects would they use? | Real-time data access can be done by using remote monitoring and Internet of Things (IoT) technology.<br>can be displayed in a visual format on a server PC | To check water quality by analyzing the parameters such as temperature,pH and conductivity, and so on<br>It supervising, congregate and analyzing data from the remote locations | If the acquired value is above the SMS alert will be sent to the user | Using IoT integrated Big Data Analytics will immensely help people to become conscious against using contaminated water | It can be extended into an efficient water management system of a local area. |
| **Goals & motivations**<br>At each step, what is a person's primary goal or motivation? ("Help me.." or "Help me avoid..") | Customer requires the system consist of sevrall sensors<br>It is used to measuring physical and chemical parametrs of the water. | The aim is to develop a system for continuous monitoring of river water quality at remote places using wireless sensor networks<br>With low power consumption, need | The data will be stored in the cloud or local storage will be implemented<br>Using the sensed parameters, the customer predicts the water quality | The customer requires a low cost system<br>By the sensors, water contaminants must be detected. | The issue is that the traditional method, such as workers, needs to go to each tank or river to collect data |
| **Positive moments**<br>What steps does a typical person find enjoyable, productive, fun, motivating, delightful, or exciting? | This project has successfully achieved its objective where water quality data (pH and temperature) can be monitored | Implementation by a reconfigurable smart sensor interface device for water quality monitoring system in an IoT environment | It proposed the system collects parameters of water pH, turbidity on the surface of water<br>With high speed from multiple different sensor nodes. | It will immensely help customer to become conscious against using contaminated water as well as to stop polluting the water. | It was satisfied by low-cost water quality monitoring system has been developed for large area of coverage<br>It was attributed to its long duration operation, flexibility, and reproducibility |
| **Negative moments**<br>What steps does a typical person find frustrating, confusing, angering, costly, or time-consuming? | Customer felt that the sensors are installed very deep inside the water and their positions are fixed. | The sensors which work on power source may often required to be replaced in case of malfunctioning. | Mounted Sensors may get damage during natural disasters and often by aquatic animals | The maintenance cost is also very high. | To test other parameters ,the new sensors can be included. |
| **Areas of opportunity**<br>How might we make each step better? What ideas do we have? What have others suggested? | The design of a , real time, and low cost water quality monitoring system | Track whether protection and restoration measures are working | Customer can analyse data continually and instantly alert users to changes in the system.<br>It reduces the need for unreliable and expensive sampling. | No need to compromise the water quality by the presence of infectious agents, toxic chemicals, and radiological hazards. | The system has wide application and it is usable and affordable |