












# Real-Time River Water Quality Monitoring and Control System

## PNT2022TMID09930

SCENARIO Testing and Experimenting with various water sources	 PREREQUISTE	 PROJECT FLOW	 WORKING	 BENEFITS	 OUTCOME				
 <b>Steps</b> What does the person (or group) typically experience?	Availability of Internet of Things (IoT) and remote sensing techniques mark the ease of congregating, analyzing and handling of real time data.	It helps to further accelerate measures taken upon to purify the water resources.	This system is necessary to observe the water quality in a large area such as lake, river, and aquaculture.	As per the current world situation, Internet of Things (IoT) and remote sensing techniques are used in heterogeneous areas of research for supervising, congregate and analyzing data from the remote locations.	Recommended android application will be used to reveal the sensor values examined via cloud.	Warnings will be provided to user if the value outstrips the threshold value.	Can diminish the contaminants present in water, which in turn cut off the threats caused due to usage of unclean water for daily life, assuring the acceptable facets of water.	The related authorities can take measures to boost the water quality which makes it more usable for human consumption.	The water monitoring system with high frequency, high mobility, and low powered.
 <b>Survey Details</b> What interactions do they have to teach step along the way? <ul style="list-style-type: none"><li>Existing Systems</li><li>Polluted percentage</li><li>Need for the project</li></ul>	Real-time data access can be done by using remote monitoring and Internet of Things (IoT) technology.	To check water quality by analyzing the parameters such as temperature ,pH, turbidity and conductivity, and so on. By considering all these points, we designed a smart water monitoring system which can perform all these monitoring functions.	If the acquired value is above the threshold value automated warning SMS alert will be sent to the agent.	Real-time monitoring of water quality by using IoT will immensely help people to become conscious against using contaminated water as well as to stop polluting the water.	Due to the limitation of the budget, we only focus on measuring the quality of river water parameters.	This project can be extended into an efficient water management system of a local area.			
 <b>Goals &amp; fulfillments</b>	Customer requires a system that consist of several sensors that are used to measure the physical and chemical parameters of the water.	The main aim is to develop a system for continue the monitoring of river water quality at remote places using wireless sensor networks with low power consumption, low-cost and high detection accuracy for the customer's need.	The sensor data will be stored in the cloud will be implemented using the sensor parameters for the customer to predict the water quality.	The customer requires a low cost system for real time water quality monitoring and controlling using IoT.	The issue is that the agent collects water sample manually and take it to laboratory for testing, lack of real-time data and equipment costs is being resolved for the customer.				
 <b>Advantages</b>	This project has successfully achieved its objective where water quality data (pH, turbidity and temperature) can be monitored, stored in a database, and water pH levels can be controlled using IoT.	The effective and efficient system of water quality monitoring are critical implementation by a reconfigurable smart sensor interface device for water quality monitoring system in an IoT environment.	The proposed system collects the parameters of water pH, turbidity on the surface of water in real time basis from multiple sensor nodes.	Real-time monitoring of water quality by using IoT will immensely help customer to become conscious against using contaminated water as well as to stop polluting the water.	Customers will be satisfied by low-cost water quality monitoring system which has been developed for large area of coverage.				
 <b>Disadvantages</b>	Customer felt that this system is less effective as sensors are installed very deep inside the water and their positions are fixed.	The sensors which work on power source may often require to be replaced in case of malfunctioning.	Mounted Sensors may get damaged during natural disasters and often by aquatic animals.	The maintenance cost is also very high. This leads to higher cost on the regulatory body.	To test more parameters of the water quality for some applications, other sensors can be included in the system.				
 <b>Required Areas</b>	The design and demonstration of a prototype remote, automatic, portable, real time, and low cost water quality monitoring system	Monitoring is necessary to ensure that our waters can continue to support the many different ways we use these resources and to track whether protection and restoration measures are working.	Customer can analyze data continuously and instantly alert users about the changes in the system, reducing the need for unreliable and expensive sampling.	There is no need for the customer 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 by all categories of users.				