Real-Time River Water Quality Monitoring And Control System

Problem Statement:

Due to the fast growing urbanization supply of safe drinking water is a challenge for the every city authority. Water can be polluted at any time. So the water we reserve in the water tank at our roof top or basement in our society or apartment may not be safe.

Still in India most of the people use simple water purifier that is not enough to get surety of pure water. Sometimes the water has dangerous particles or chemical mixed and general purpose water purifier cannot purify that. And it's impossible to check the quality of water manually in every time. So an automatic real-time monitoring system is required to monitor the health of the water reserved in our water tank of the society or apartment. So it can warn us automatically if there is any problem with the reserved water. And we can check the quality of the water anytime and from anywhere.

Who does the problem affect?	There is a strong tie between the river water quality deterioration and water borne diseases. High incidence of water borne diseases means having high mortality rates which is very important problem
What are the boundaries of the problem?	Businesses and Households without access to the sewage network due to the low rate of investment and lack of political interest
What are the resources?	To develop a system for real time quality assessment for water health at residential places using Raspberry Pi. Sensors are used to gather different parameters in River water to monitor water health in real time. IoT integrated big data analytics is appeared to be a better solution as reliability, scalability, speed, and

	persistence can be provided
What are the objectives?	● To measure various chemical and physical properties of water like pH, temperature and particle density of water using sensors. ● Send the data collected to a Raspberry Pi, show the data in display and send it to a cloud based Database using Wired/Wireless Channel. ● Trigger alarm when any discrepancies are found in the water quality. ● Data visualization and analysis using cloud based visualization tools.
What are the purposes?	The main aim is to develop a system for continuous monitoring of river water quality at remote places using wireless sensor networks with low power consumption, low-cost and high detection accuracy.
Why is it important that we fix the problem?	Keeping rivers and lakes clean is the duty of every citizen as they are the source of our drinking water and food production. Once these water streams are polluted, there is hardly a way out.