

LITERATURE SURVEY

Real-Time River Water Quality Monitoring and Control System

TEAM MEMBERS:

**Sethu Venkatesh M [727719EUEC133]
Shamrin Millet [727719EUEC134]
Shaswatha Thilaka [727719EUEC134]
Siva Dharsan [727719EUEC135]**

1) IoT Based Real-time River Water Quality Monitoring System

Mohammad Salah Uddin Chowdury, Talha Bin Emran,

Science Direct – 2018

This paper proposes a sensor-based water quality monitoring system. The main components of Wireless Sensor Network (WSN) include a microcontroller for processing the system, communication system for inter and intra node communication and several sensors. Real-time data access can be done by using remote monitoring and Internet of Things (IoT) technology.

2) Review of Water Quality Monitoring using Internet of Things (IoT)

Mr. A. P. Roger Rozario, R. Surya

IEEE, 2019

The quality of the water must be monitored in real-time to ensure its safety and supply. Monitoring water in traditional ways takes longer, which can take up to from 24 to 96 hours to identify contaminants in water supplies, which are more time taking. This project aims at developing a water quality monitoring system using sensors and IoT (Internet of Things). The water quality parameters like temperature, pH, and turbidity are measures using sensors and the water quality index is determined. The measured values from the sensors will be processed using a microcontroller, and alert message will be sent to the user via an android application developed using MIT app inventor in case of any abnormalities.

3) A Development and Implementation of Water Quality Assessment Monitoring (WQAM) System using the Internet of Things (IoT) in Water Environment

Muhammad Farhan Johan, S. Abdullah, A. Zanal Saurabh S. Soman, Hamidreza Zareipour, Om Malik

JEVA , 23 November 2021

This paper presents the development and implementation of Water Quality Assessment and Monitoring (WQAM) system. The system development used Wi-Fi enabled microcontroller to connect with the IoT environment and store the data in the IoT cloud server. The microcontroller used is Arduino UNO that interacts with three types of sensor probes which are pH, turbidity and temperature probe. All the data measurements is transferred using a Wi-Fi module which is ESP8266. The IoT cloud used to utilize the data frame is Thing Speak. This system was implemented on Bandar Pereda Lake and Deraa River in Pulau Pinang with two systems implemented at each location. The sensors were placed on the water surface for more accurate measurements. This system continuously measures the readings of pH, turbidity dan temperature on the lake/river for every 1 hour. Twenty readings were taken for every 1 hour within the first 20 minutes with 1 minute interval and the readings were stored in the IoT cloud server.

4) IoT-based System for Real-time Water Pollution Monitoring of Rivers

Mohammad Ariful Islam Khan; Mohammad Akidul Hoque; Sabbir Ahmed

IEEE September 2021

The research proposes a system to remotely monitor the water quality of a river so that the authorities can gather better insights about the condition of that particular river and predict the critical future phenomena. Consequently, they will be able to take auspicious steps in order to protect the rivers and save the environment. The proposed framework can observe the real-time value of pH, conductivity, turbidity, temperature and flow of the water by utilizing various sensors. Furthermore, through our device, effective predictions about imminent floods can be made. Thus, authorities can commence early warning for floods and ensure prompt evacuation. Thus, our technique can significantly minimize the casualties caused by this disaster. In this context, real-time feeds are obtained through Internet of Things (IoT). For wireless data transmission Message Queuing Telemetry Transport (MQTT) is used.

5) Design and Implementation of Real Time Approach for TheMonitoring of Water Quality Parameters

Siti Aishah Binti Makhtar; Norhafizah Binti Burham; AneesBt Abdul Aziz

IEEE - June 2022

Access to safe drinking water is essential to nurturing human life on earth. Polluted air and unsanitary water can cause health problems. Unhygienic water can cause stomach and health-related problems.

A specific range of water quality parameters, mainly temperature, pH, total dissolved solids (TDS) and turbidity, can degrade the growth of this bacteria. This presented paperwork is to develop a smart water quality monitoring system using four sensors and an IoT platform to help determine water quality. It is to analyse the parameters of water samples such as tap water, co way water, river water, pond water, and lake water whether these water samples are in the threshold range for drinking or not. The device is initially used to measure pH, turbidity, total dissolved solids (TDS) and temperature, and then sent the information to the microcontroller Arduino Uno.

