LITERATURE SURVEY

REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

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

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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.

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

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- Water pollution is one of the biggest and serious threats to society. Water has a significant impact on human health. 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. The sensor data can be viewed on the Thing Speak GUI platform for monitoring and correction of the critical water quality parameters. The sensed data will be stored in the cloud or local storage and a machine learning algorithm will be implemented using the sensed parameters to predict the short term and long-term water quality in phase two of the project. The can are these physicochemical parameters. The sensors are connected to a microcontroller-based measuring node that processes and analyses the data, which is designed from the ground up and implemented with signal conditioning circuits. For communication between the measuring and notification nodes, ZigBee receiver and transmitter modules are used in this design. When the water quality parameters reach unsafe levels, the notification node displays the sensor readings and generates an audio alert. The sensors are shown to work within the accuracy ranges that they were designed for. The measurement node can send data to the notification node via ZigBee for audio and visual display. The findings show that the system is capable of reading physiochemical parameters and processing, transmitting, and displaying the data. water quality monitoring system based on low-power is In three regions of the six sensor nodes for water quality monitoring in pisciculture have been installed. The sensor node is a piece of modular hardware that includes control, communication, and sensor module for measuring pH, conductivity, and temperature. All data is managed by a software platform built with opensource tools, which allows for the control of water pollution and its impact on pisciculture. presents a reconfigurable smart sensor interface device for a water quality monitoring system in an IoT environment.

IoT Based Real-time River Water Quality Monitoring System

Mohammad Salah UddinChowdury, Talha BinEmran

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.