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Development of Water Pollution Monitoring and Data Logging using ARM Mbed Platform

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Abstract

The river's current water pollution monitoring still relies on outdated techniques such as continuous and manual monitoring. This condition makes it impossible to pinpoint the precise position of the pollutant and collect data remotely and in real-time. As a result, in this paper, an automated water quality monitoring system is designed and implemented on the ARM Mbed platform, FRDM KL25Z, incorporating multiple sensors and a GPS module to track the position of pollutants. pH, turbidity, and temperature sensors were among the water pollution sensors employed. The system's overall design includes remote sensing and monitoring components, with both systems communicating through WiFi. The data that has been logged can be monitored on the ThingSpeak server. In addition, when pollution in the river happens, the location is recorded. Experiments were carried out on several types of water, including mineral water, water, reverse osmosis water, tap water, and river water, to evaluate the proposed system's performance. © 2022 IEEE.

Author Keywords

data logging; IoT; Mbedplatform; ThingSpeak; water pollution monitoring

Index Keywords

ARM processors, Beverages, Information retrieval, Internet of things, Pollution detection, Remote sensing, River pollution, Rivers; Continuous monitoring, Data-logging, IoT, Manual monitoring, Mbedplatform, Pollution monitoring, River current, Thingspeak, Water pollution monitoring, Water-water; Water quality

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