LITERATURE SURVEY

IoT Based Real-time River Water Quality Monitoring System

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Current water quality monitoring system is a manual system with a monotonous process and is very time-consuming. This paper proposes a sensor-based water quality monitoring system. The main components of Wireless Sensor Network (WSN) include a micro-controller 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. Data collected at the apart site can be displayed in a visual format on a server PC with the help of Spark streaming analysis through Spark MLlib, Deep learning neural network models, Belief Rule Based (BRB) system and is also compared with standard values. If the acquired value is above the threshold value automated warning SMS alert will be sent to the agent. The uniqueness of our proposed paper is to obtain the water monitoring system with high frequency, high mobility, and low powered. Therefore, our proposed system will immensely help Bangladeshi populations to become conscious against contaminated water as well as to stop polluting the water.

Real-Time Water Quality Monitoring System

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The need for effective and efficient monitoring, evaluation and control of water quality in residential area has become more demanding in this era of urbanization, pollution and population growth. Ensuring safe water supply of drinking water is big challenge for modern civilization. Traditional methods that rely on collecting water samples, testing and analyses in water laboratories are not only costly but also lack capability for real-time data capture, analyses and fast dissemination of information to relevant stakeholders for making timely and

informed decisions. In this paper, a real time water quality monitoring system prototype developed for water quality monitoring in Residential home is presented. The development was preceded by evaluation of prevailing environment including availability of cellular network coverage at the site of operation. The system consists of a Raspberry Pi, Analog to Digital Converter, Water quality measurement sensors. It detects water temperature, dissolved oxygen, pH, and electrical conductivity in real-time and disseminates the information in graphical and tabular formats to relevant stakeholders through a web-based portal and mobile phone platforms. The experimental results show that the system has great prospect and can be used to operate in real world environment for optimum control and protection of water resources by providing key actors with relevant and timely information to facilitate quick action taking.

River Water Quality Robot Embedded with Real-Time Monitoring System: Design and Implementation

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New sensor capabilities and implementations are being developed by wireless communication. For environmental applications, recent developments in sensor networking are essential. The Things Internet (IoT) allows links between different devices to share and collect data. In addition to automation, IoT expands its capabilities by using Industry 4.0 to resolve environmental concerns. Since water is one of the fundamental requirements of human survival and life underwater, some mechanism is necessary to occasionally control water quality. This paper proposed an autonomous robot occupied with real-time multisensory (pH, temperature, voltage and garbage level) for better water quality. The data were recorded using sensors and transmitted via Wi-Fi to a designed MIT inventor mobile application and stored in the cloud to monitor the water quality. The river water robot is also attached to a self-power generator using a solar cell and wind turbines. Based on the obtained results, it was found that the pH of the tested river water in the range of 2-4.6, which considered to be highly acidic. In conclusion, the designed robot has shown significant functionality in the real-time receiving and transmitted data with no human interfering required