REAL – TIME RIVER WATER MONITORING AND CONTROL SYSTEM

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1. TITLE: IoT based Smart Water Quality Monitoring System

AUTHOR: Monira Mukta, Samia Islam, Surajit Das Barman and Ahmed Wasif Reza.

DESCRIPTION: This study describes a smart water quality monitoring (SWQM) system that uses the Internet of Things to help with continuous water condition measurement. The four physical factors—temperature, pH, electric field and characteristics of conductivity and turbidity. There are 4 sensors coupled in a distinct manner with an Arduino Uno to detect water parameters. The water parameters can be successfully analysed by the SWQM system, a rapid forest binary classifier is used to determine whether the test is valid.
If the water is fit to drink.

2.TITLE: IoT Based Real-time River Water Quality Monitoring System

AUTHOR: Mohammad Salah Uddin Chowdurya, Talha Bin Emranb, Subhasish Ghosha, Abhijit Pathaka, Mohd. Manjur Alama, Nurul Absara, Karl Anderssonc, Mohammad Shahadat Hossain

DESCRIPTION: The current approach for monitoring water quality is manual, has a tedious process, and takes a lot of time. This research suggests a sensor-based system for monitoring water quality. A microprocessor for system processing, a communication system for inter- and intra-node communication, and a number of sensors are the core elements of a wireless sensor network (WSN). Remote monitoring and Internet of Things(IoT) technology can be used to access real-

time data. data obtained from the use of Spark streaming analysis via Spark MLlib, one site can be visualised on a server PC. Belief Rule Based (BRB) system, deep learning neural network models, and comparison to benchmark values are also included. Automatic warning acquired when value exceeds threshold, SMS warning.

3. <u>**TITLE:**</u> **Real Time Sensor Web Enabled Water Quality Monitoring System Using Service Oriented Architecture**

<u>**AUTHOR:**</u> Shabana Shafi, Aijaz Ahmad Reshi, Dr. M Sridhar, Dr. Rajani S.M

<u>**DESCRIPTION:**</u> "Real Time Sensor Web Enabled Water Quality Monitoring System" is an attempt to develop a general sensor and data model for monitoring water quality. The pH value, turbidity, and temperature are the factors used to evaluate the quality of water. The primary goal of this article is to implement a standardised Service Orientated Architecture (SOA) for sensor data representation in globally accepted standards. The representation ought to work across a variety of platforms.

4. <u>**TITLE:**</u> **IoT based Real-Time Water Quality Monitoring System using smart Sensors**

<u>**AUTHOR:**</u> Anantha Naik G. D, Dr. Geetha V

<u>**DESCRIPTION:**</u> This paper discusses the design and implementation of an Internet of Things (IoT)-based system for monitoring water quality utilising smartsensor networks. Water-related disorders are being reduced by measurements of water's constituents, such as pH,conductivity, turbidity, temperature, etc. These are employed to find the water containment systems. There are sensors constructed with a microcontroller connected to it. The signal is converted by an internal ADC circuit, which additionally processes and analyses the information.

5. **TITLE:** Water Quality Monitoring System Based on IOT

AUTHOR: Vaishnavi V. Daigavane, Dr. M.A Gaikwad

PUBLISHED IN: Advances in Wireless and Mobile Communications, Volume 10, Issue 5, 2017

DESCRIPTION: One of the main concerns for the green globalisation is water contamination. Real-time quality monitoring is required to guarantee the supply of drinking water is secure. IOT (Internet of Things) solution for real-time water quality monitoring. Multiple sensors are employed in the system to measure physical and the water's chemical characteristics. The factors, including the temperature, water's PH, turbidity, and flow sensor. The Arduino prototype serving as a core controller is possible. Last but not least, the sensor data can be seen on internet using a WI-FI network.

6. TITLE: **Internet of things enabled real time water quality monitoring system**

AUTHOR: S. Geetha and S. Gouthami

PUBLISHED IN: Geetha and Gouthami Smart Water (2017)

DESCRIPTION: With the development of communication technology, smart solutions for water quality monitoring are becoming more and more important. The recent research in the area of smart water quality monitoring is thoroughly reviewed in this paper. Using the Internet of Things, a solution for in-pipe water quality monitoring is presented. Data and the built model are used to test water samples. Internet-uploaded files are examined. A remote device is also alerted by the system. When the user's water quality parameters deviate from the previously established set of typical values.

7. TITLE: Real-Time Water Quality Monitoring system

AUTHOR: Dr. Prasanna Kumar S.C, Ashwini Kotrappa, K. Jyothi, Soumya B.L.

DESCRIPTION: The most crucial element for human survival is water, yet as urban populations have grown, water contamination has resulted. Therefore, it is important to regularly monitor and maintain the quality of the water. In this study, a real-time water quality monitoring system for the Vrishabhavathi River of India is designed. Temperature, pH, turbidity, flow, and conductivity are the five parameters being tracked. A sensor node is created by connecting every sensor. The sensor node's data is conditionally processed and the results are shown on an LCD and an open source cloud platform.

8. TITLE: **Real-Time Water Monitoring and control system**

AUTHOR: Mithila Barabde , Shruti Danve

PUBLISHED IN: International Journal of Innovative Research in Computer and Communication Engineering, Volume 3, Issue 6, June-2015

DESCRIPTION: One of the main concerns for the green globalisation is water contamination. Water characteristics including pH, turbidity, conductivity, and other variables must first be estimated in order to prevent pollution because variations in these parameters' values indicate the presence of contaminants. Currently, a chemical test is used to identify water characteristics. The existing technique for monitoring water quality is manual, laborious, and time-consuming. The testing apparatuses can be submerged in the river water to identify pollution more frequently.

9.TITLE: River Water Quality Monitoring and Simulation Based on WebGIS

AUTHOR: N. Maojing

PUBLISHED IN: 2016 Sixth International Conference on Instrumentation & Measurement, Computer, Communication and Control (IMCCC)

DESCRIPTION: River pollution is getting progressively worse as business develops. To control the water environment condition in real time and dynamically, WebGIS technology is utilised to simulate and monitor the river's water quality. Additionally, WebGIS has the benefits of map display and network transmission, which may be used to fulfil the task of monitoring and simulating water quality on many sites, greatly increasing labour productivity.

10. TITLE: Real Time Wireless Monitoring and Control of Water Systems Using Zigbee 802.15.4

AUTHOR: S. Maqbool and N. Chandra

PUBLISHED IN: 2013 5th International Conference and Computational Intelligence and Communication Networks

DESCRIPTION: We have shown how to remotely check the water level in a number of water systems in this essay, including tanks, rivers, the ground water table, and bore wells. Furthermore, we presented how to operate a pump automatically and remotely. Both local and remote flood zone monitoring are options. This undertaking utilises GSM, a 74HC14 inverter, water level sensors, Zigbee 802.15.4, and technology to track the level of the water. Turbidity is one indicator of water quality. Additionally, sensors and dissolved oxygen sensors can be utilised to track the qualities of water.