

LITERATURE SURVEY

1. TITLE: Development of IoT for Automated Water Quality Monitoring System

AUTHOR NAME: Mauridhi Hery Purnomo, Rizqi Putri Norma Budiarti, AnangTjahjono

PUBLICATION: 2019 International Conference on Computer Science, Information Technology, and Electrical Engineering (COMMITTEE)

DOI: 10.1109/ICOMITEE.2019.8920900

YEAR OF PUBLICATION: 2019

ABSTRACT:

The need for water consumption not only for humans but also the other living things as natural supporting elements for continuity of life. Water consumption depends on the availability of water resources like rivers, lakes, and reservoirs. Certainly, water becomes a limited natural resource most of them because of water pollution. It is necessary to manage water quality to fulfill the sustainability of water functions as natural resources. We create an integrated system based on the Internet of Things to measure water quality by developing an environmental water management monitoring system using sensors. The use of raspberry pi as an embedded system will help in the manufacture of detecting sensor devices and the use of remote communications technology can

help the interaction of sending data between things. The result is the IoT water quality monitoring system can be operated as an automated water monitoring system for surface water and its real-time online.

2. TITLE: IOT Based on water monitoring system

AUTHOR NAME: Yu sun, Chen Wei Feng

PUBLICATION: 2020 International Conference on Artificial Intelligence and Computer Engineering (ICAICE)

DOI: 10.1109/ICAICE51518.2020.00057

YEAR OF PUBLICATION: December – 2020.

ABSTRACT:

With the rapid development of the social economy, excessive discharge of industrial sewage leads to water pollution, and it also affects the quality of domestic water. Therefore, it is necessary to monitor the water quality. A practical and convenient water quality monitoring system is designed in this paper, which is based on the MCU (Micro-programmed Control Unit) and Bluetooth technology. This design takes the Arduino development board based on the ATmega328P chip as the core and uses sensors to collect pH, turbidity, conductivity, and water temperature. The measured data is sent to the smartphone via Bluetooth, and abnormal parameters are prompted. The test results show that the system can obtain the water quality parameters in time and accurately, and the overall operation of the

system is stable, which is suitable for many occasions of water quality monitoring.

3. TITLE: Automation System of Water Treatment Plant using Raspberry Pi.3 Model B+ Based on Internet of Things (IoT)

AUTHOR NAME: Riffa Haviani Laluma, Rio falsy Giantara, Bambang Sugiarto

PUBLICATION: 2019 IEEE 13th International Conference on Telecommunication Systems, Services, and Applications (TSSA)

YEAR OF PUBLICATION: 2019

DOI: 10.1109/TSSA48701.2019.8985516

ABSTRACT:

The application of the internet of things technology in the automation system of water treatment plants can be applied in various countries. In the previous system, they used an automatic system using a Programmable Logic Controller (PLC) and were still monitored manually. This previous system could not be monitored and controlled through internet access. This paper focuses on developing an automation system for the disposal of existing sludge in the sedimentation plant on the Water Treatment Plant (WTP) using the Raspberry Pi and adafruit.io cloud server as the MQTT server. In this proposed system, Raspberry Pi has a function to facilitate the computational process and communication connection to the internet network. The adafruit.io MQTT cloud server is used as a receiving broker to publish sensor values and actuator status from Raspberry Pi which can be

accessed by the client.

4. TITLE: Internet of Things (IoT) enabled water monitoring system

AUTHOR NAME: Thinagaran Perumal, Md Nasir Sulaiman, C. Y. Leong

PUBLICATION: 2015 IEEE 4th Global Conference on Consumer Electronics (GCCE)

DOI: 10.1109/GCCE.2015.7398710

YEAR OF PUBLICATION:2015

ABSTRACT:

Water is always a crucial part of everyday life. Due to the global environmental situation, water management and conservation are vital for human survival. In recent times, there was a huge need for consumer-based humanitarian projects that could be rapidly developed using Internet of Things (IoT) technology. In this paper, we propose an IoT-based water monitoring system that measures the water levels in real-time. Our prototype is based on the idea that the level of the water can be a very important parameter when it comes to flood occurrences, especially in disaster-prone areas. A water level sensor is used to detect the desired parameter, and if the water level reaches the parameter, the signal will be fed in real-time to social networks like Twitter. A cloud server was configured as a data repository. The measurement of the water levels is displayed on a remote dashboard.

5. TITLE: Industrial process monitoring through IoT
using Raspberry pi

AUTHOR NAME: Elizabeth Kadiyala, Shravya Meda,
Revathi Basani

PUBLICATION: 2017 International Conference on Nextgen
Electronic Technologies: Silicon to Software (ICNETS2)

YEAR OF PUBLICATION: 2017

DOI: 10.1109/ICNETS2.2017.8067944

ABSTRACT:

Internet of Things (IoT) is developing systems of ordinary items from customer merchandise to mechanical machines that can share data and complete and while you are occupied with different exercises. This system is planned with minimal effort and expandable permitting a variety of devices to be monitored. In this project only sensors have been monitored for better results; they have to be controlled wirelessly through IoT. Methods/Statistical analysis: All the sensors that are connected to the Atmega are sensing the values at different conditions and displaying the values in LCD as well as the values stored in the cloud. Whenever there is a change in the measured parameter the changed values are updated. This ensures the correctness of the system at every instant of time in real-time is automatically updated in the cloud. Findings: Global industrial process monitoring IoT is a system that uses a computer or mobile devices

to monitor functions in the industry. It is intended to spare electric force and human vitality. The sensors that can be checked are temperature, light intensity, water level, current, and voltage. These sensors are associated with Atmega and interface with Raspberry pi and observed qualities are put away in the cloud. The modern procedure monitoring system varied from other systems by permitting the client to work the system from any place around the globe through internet association. The system will consequently change based on the sensor's information.

6.TITLE: Water Monitoring Prototype Using Internet of Things Technology

Published on : 2019

Publisher : IEEE

Summary :

- Parameters measured :
 - Temperature(DHT11), pH, turbidity, and conductivity.
- Materials used :
 - Arduino MKR Wifi 1010 which has the IOT platform.
- According to the result performances, the system displays the water quality using IoT Platform.
- Hence, information about water quality can be monitored and accessed everywhere and anytime.

7.TITLE: Implementation of Wireless Sensor Network for Real Time Overhead Tank Water Quality Monitoring

Published on : 2017

Publisher : IEEE

Summary :

- Parameters measured :
 - pH, temperature, conductivity.
- Materials used :
 - Wireless Sensor Network (WSN) technology composed of number of sensor nodes with networking capability
- Sensor node - Arduino microcontroller, Xbee module and water quality sensors
- Solar panel - Power the system for each node.
- Data collected from remote nodes are displayed in the user PC
- This developed system will demonstrate online sensor data analysis and has the advantages of power optimization, portability and easy installation.

8.TITLE:IoT based Water Pollution Reporting System : An IoT based system for controlling pollution in water

Published on : 2021

Publisher : IEEE

- Parameters measured : Turbidity and pH
- Materials used : Arduino UNO micro-controller and a hand-held device running on the Android operating system,sensor modules.
- Thus would help the remote regions to test the water source prior to consumption.
- Constant monitoring of these water parameters at the source would also help keeping the pollution in check,
 - especially for the running water.

9.TITLE: Design and development of IOT based water quality measurement system.

Published on : 2020

Publisher : IEEE

Summary :

Parameters measured: pH, Conductivity and Turbidity.

Materials used :

- LMC 6001 IC - different configuration
- STM32F411RE microcontroller - Data acquisition and scaling of the data
- SN8200 Wi-Fi module - Interfaced with a microcontroller to send data on the cloud server

Deployment of IOT, remote measurement is possible.

Three sensors are used

All measured data stored on the cloud database and used for further analysis of water quality.

Low-cost IOT based portable approach for water quality measurements system.

10.TITLE: Analysis of the Water Quality Monitoring System

Published on : 2019

Publisher : IEEE

- Summary :
- Parameters measured :
PH sensor and turbidity sensor, connected to the Arduino family microcontroller.
- Materials used :
Arduino software ,GSM module is connected to the Arduino, Wifi module
- The data will be transferred constantly from the remote sensor organize through microcontroller and wifi module
- Wifi module is used to send data to the webpage via internet which is connected to the microcontroller.
- The inferred data is displayed in the webpage and is analysed in the form of graph, pie chart and values are given in the table.