LITERATURE SURVEY

Topic: Internet of things based real-time water quality monitoring system for water storage tank.

Reference:

M.S.P.A.,T.K.AND C.B.K., 2020-2020. Water quality monitoring system based on IOT. In: 2020 5th International conference on devices, circuits and system (ICDCS). 2020 5th international conference on device circuits and system (ICDCS). Coimbatore, India ,pp. 279-282.

Abstract:

Water leaving the treatment plant should be safe and of good quality, but contamination could easily happen along the distribution pipelines. This is due to factors like rusty pipes that cause heavy metals to leach and dissolve in water, damaged or broken pipes that let soil and other contaminants or sewage enter the water. Sediment, scale and algae could also build up on water storage tanks over time. In order to keep track of water quality, this study is aimed to develop a real-time water quality monitoring system in water storage tanks that can be implements in society, residential areas and restaurant and food service industry by utilizing Internet of Things (IOT) technology . The intelligence system can alert users at real-time in case of failing water quality.

https://www.google.com/url?q=http://eprints.utar.edu.my/4211/1/1603662_FYP_Report__SHIN_YIN_TAN.pdf&usg=AOvVaw0ova8zhA2cD1VWUh4iG1-e

Topic: Water pollution based on IOT.

Reference:

Nidal Nasser, Asmaa Ali, Lutful Karim, Samir Belhaouari, IEEE.

Abstract:

Water pollution is one of the biggest fears for the green globalization. In ensure the safe supply of the drinking water the quality needs to the monitor in real time. In this paper we present a design and development of a low cost system for real time monitoring of the water

quality in IOT. The system consist of several sensors is used to measuring physical and chemical parameters of a water . The parameters such as temporary, PH, turbidity ,flow sensor of the water can be measured. Finally, the sensor data can be viewed on internet using WI-FI system.

https://www.google.com/url?q=https://www.ripublication.com/awmc17/awmcv10n5_24.pdf&usg=AOvVaw0u5F_Umbh90wDZLHPqbHzH

Topic: Water turbidity, PH and temperature are monitored using a water detection sensor that has a unique advantage and is already connected to a GSM network.

Reference:

Eoin O'Connell,Michael Healy,Sinead O'Keeffie, Thomas Newe and Elfed Lewis, IEEE sensor joirnal, vol. 13, no.7,July 2013,1530-437x.

Abstract:

Water pollution is one among the most important fears for the green globalization .In order to ensure the safe supply of the drinking water the quality needs to be monitor in real time .In this paper we present a design and development of a coffee cost system for real time monitoring of the water quality in IOT .The system contains several sensor is employed to measuring physical and chemical parameters of the water.

https://www.google.com/url?q=https://www.ijres.org/papers/Volume-9/Issue-7/Series11/B09071114.pdf&usg=AOvVaw14cvZi_QykANcE0Fq49RUq

Topic: Monitoring Network and Water Quality Indices for River Nile.

Reference:

CCME. (2001). "Canadian water quality guidelines for the pH aquatic life:
Canadian Water Quality Index 1.0 Technical Report". Canadian Environmental Quality Guidelines, Winnipeg, Manitoba. CCME. (2003).

Abstract:

The history, culture, current and future socio-economic status, and environmental sustainability of Egypt and its people is intricately linked with the River Nile. The Nile River is the primary source of water for a multitude of strategically important water uses such as drinking, fishing, industrial use, livestock and irrigation and there is a critical need to ensure the security of the Nile River against any natural or anthropogenic threats and to develop an effective Water Resources Management System. This paper outlines the concept behind the environmental monitoring network, its scope, and environmental benefits. The paper discusses the progress made to date. It highlights the challenges encountered in establishing the environmental security and water resources management system. The paper presents the results of the initial application of the Egyptian Water Quality Index including how the challenge of the scarcity of use based water quality guidelines was overcome. The paper also outlines how Egypt plans to expand the index network to address trans-boundary monitoring of Nile River and the monitoring of Groundwater and Drainage Water.

Topic: Wireless sensor network (WSN), water parameters, Internet of things (IOT), WI-FI.

Reference:

Stankovic JA, "Research directions for the Internet of Things", IEEE Internet Things J., Vol.1, No.1, (2014), pp.3-9.

Abstract:

The economical and effective system of water quality observation is the toughest implementation of impure water. Drinking water could be terribly precious for all people as water utilities face more challenges. These challenges arise due to high population, less water resources etc. So, different methods are used to monitor in the real time water quality. To make sure that safe distribution of water is done, it should be monitored in real time for new approach in IOT based water quality has been projected. Real time water quality observation is monitored by data acquisition, method and transmission with increase in the wireless device network

technology in internet of things. The measured values from the sensors are interfaced by microcontroller and the processed values remotely to the core controller ARM with a WI-FI protocol. This projected water quality observation interfaces sensors with quality observation with IOT setting. WQM selects parameters of water like temperature, pH level, water level and CO2 by multiple different device nodes. This methodology sends the information to the web server. The data updated at intervals within the server may be retrieved or accessed from anyplace within the world. If the sensor do not get into abnormal then a buzzer will be ON.

https://www.google.com/url?q=https://www.researchgate.net/publication/326415112_Internet_of_Things_Iot_Based_Smart_Water_Quality_Monitoring_System&usg=AOvVaw1MAcqTA3KQ3_OkbD4U6ZKP

Topic: Trans-boundary monitoring, index network, integrated water resource management.

Reference:

Abdel-Gawad, Shaden and Khalil, Bahaa M. (2003). "Site Registry For
The Nile River Water Quality Monitoring Network", Report No.: WQ-TE0307-011-FN, National Water Quality and Availability Management Project, National Water Quality Monitoring Component.

Abstract:

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.

https://www.google.com/url?q=https://www.irjet.net/archives/V5/i3/IRJET-V5I3265.pdf&usg=AOvVaw0GR0SAnB37QIF_ilwTzxP

Topic:

Reference:

P. W. Rundel, E. A. Graham, M. F. Allen, J. C. Fisher, and T. C. Harmon, "Environmental sensor networks in ecological research," New Phytologist, vol. 182, pp. 589–607, 2009.

Abstract:

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 system consists of several sensors which is used to measure physical and chemical parameters of the water. 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. 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.

https://www.google.com/url?q=https://www.researchgate.net/publication/333642226_IoT_Based_Realtime_River_Water_Quality_Monitoring_System&usg=AOvVaw3eJU6T4IW15KwJNH569Mwf