Computer Science

IOT BASED WATER LEVEL MANAGEMENT SYSTEM USING NODEMCU

Ms. S. Kavishree	Assistant Professor, CSE Department, SCSVMV University.
R. Sai Rohith*	CSE Department, SCSVMV University. *Corresponding Author
V. Sai Charan Reddy	CSE Department, SCSVMV University.

ABSTRACT In this project we are going to see how to monitor the level of the water in the tanks. When the tanks are filled means the proper intimation cannot be send to all the persons. In order to overcome this problem, we are going to implement the automatic water level indicator. Using this automatic water level indicator, we can automatically get the message when the water is filled or not in the tanks to the required person through IOT.

INTRODUCTION:

To monitor the quality of the water, because in the past ten years, online. It is widely used in many countries known as the serious environmental pollution problems. Water is a limited resource and energy, agriculture and essential for all life on earth among men. Images are formed from some of the inequality of man and of beast, in the water, it would cause great suffering for the salvation and continue to move, and the ecological balance are not among the species. Most were in the 21st century, but by the time it was warming pollution, and by doing so that water is not the world's population. And he hath not drunk water, and with precious stones is dearer to him of all men, that is, what is in the water ought to be in the nature, the pull period of time. Today, the real-time water quality of undergraduate against global warming challenges, limited water resources, population growth, etc. So we need to develop the best methods for monitoring water kind's real time. The World Health Organization (WHO) in India, 77 million people suffer from drinking water does not have to be the WHO estimates that 21% of illness is linked to safe water in India. In addition, more than 1,600 deaths due to diarrhea every day, not only in India. The various parameters of water quality so that the dissolved oxygen (DO), conductivity, pH, temperature, and turbidity pull in it. The pH of the water quality parameter indicates that the water is acidic or basic. Pure water, the pH of 7 is worth less than 7 values indicate more than 7 indicate alkalinity values acidity. In the normal range of pH between 6 and 8.5. If it causes irritation of the eyes, that there is no Dues rhonchus mucous membrane into the water, the pH of the skin. Further, it makes skin disorders. Dissolved oxygen (DO) is oxygen in water is not paid. It makes it better to drink water.

LITERATURE SURVEY:

Title 1: Water Level Monitoring and Management of Dams using IoT
Author: Sai Sreekar Siddula, Phaneendra Babu, P.C. Jain

This paper also proposes a novel idea of collecting and sharing real-time information about water levels to an authorized central command center through far field communication. The authorized central command center then takes a call whether to release the water by opening dam gates or keep them closed.

Title 2: IOT Based Water Level Monitoring System for Lake
Author: Mr.Patil K.N., Mr.Kadam Tushar, Ms.Sawant Swaranjali, Ms.Amange Shreya

In this paper we introduce the notion of water level monitoring and management for lake water storage source for villages. More specifically, we introduced the raspberry pi as controller for water level sensing and controlling in a wired and wireless environment. Water Level management approach would help in reducing the time required for water allocation, need of water in summer season, drought and as well as overcome the wastage of water.

Title 3: WATER LEVEL MONITORING SYSTEM USING IoT & AT mega 328p MICRO CONTROLLER

Author: V. Jeevagan, S. Prem Kumar

Water source is fundamental for all and a significant factor in agriculture, cultivating and it's a key for nature of our life. Monitoring water level of a water supply, For example, Lakes, River, Waterways and Pond etc., plays a major part in rural and agricultural. Even it's helpful for our everyday needs. For example the amount of water drops under the edge level in a bore well, the motor pump may get affected due to dry running. There are many several alternative things wherever water level monitoring is an important task.

Title 4: IOT based water level and quality monitoring system in overhead tanks
Author: Dr K. Raghava Rao, Sanagala Srinija, Kukkala Hima Bindu, D Satish Kumar

This paper proposes a proficient method to water level and quality observing in the overhead tanks to lessen the present water wastage and give better water quality. The venture is about overhead tank checking framework that is we screen the level of water in the overhead tank and furthermore we decide nature of water. Firstly, we have the issue of filling the tanks which are situated far, and for this we have executed a little hypothesis that we put level sensors in the tank, that level sensors detect the water level in the tank and sends us message about water level in the tank. Also, the second preferred standpoint is that really, we utilize different quality parameter sensors like pH and turbidity sensors to screen the water quality in the tank.

Existing System:

Overhead tank digital water level indicator with an LCD display is to show the rising/ falling water level in the tank. In already existing system there is only to tell the water level through some messages type.

DISADVANTAGES:

- Water purifier system is not available.
- Water tank monitoring systems are only provided for PC environment
- Manual operations.
- We need a pc to monitor the water level
- High cost
- Low efficiency.
- Complex installations.

Proposed System:

In proposed we are going to use water level sensor is used to identify the water level in the tanks. Depend upon the level of water, when the tank is filled. It will intimate through the Gmail, SMS and etc. Here we implement the IOT concept and also the remote controlling. When the water level is low, it's automatically give the information to your mobile and saved the data in cloud because it is highly used to identify the how much water we consume in month.

BLOCK DIAGRAM:
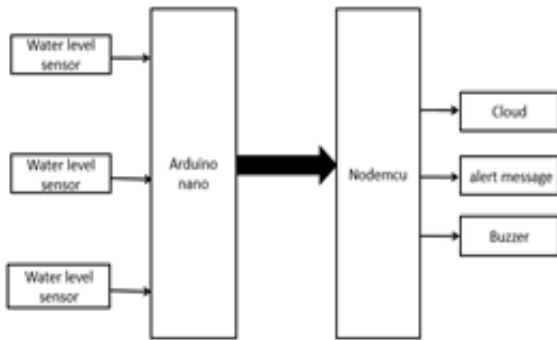
HARDWARE USED:
- Arduino nano
- Nodemcu
- Water level sensor

SYSTEM DESIGN:
Arduino nano
Arduino is a micro controller which is used for measures and controls the certain operation. Arduino is one of the most useful controller, because of programming and assembling the sensor the Arduino is very simple, in Arduino board consists of Atmega328P microcontroller. In this Arduino number of development are there like UNO, nano, mini, Lilly pad and etc.

Nodemcu:
Nodemcu is a microcontroller which combination of Wi-Fi module and Arduino, by using Nodemcu we can easily connects between sensor and microcontroller. And easily interface many things wirelessly and we can monitoring controlled from anywhere in the world by using Wi-Fi module.

Water level:
Water level sensor is used to measure water content in a tank or dam, if the sensor continuously monitor the water level in a tank, when the water level is going to below threshold level it will intimate to the house owner, and automatically switch on the motor.

APPLICATION:
· Agriculture
· Industries
· Household
· Environmental Activities

CONCLUSION:
In this system we are going monitor the water level in three tanks at a time. By using the Nodemcu, Arduino nano and water level sensor. Here Arduino measures the water content in three tanks and given that information Nodemcu. The Nodemcu will measures the thresholds values. If any will low content of water means intimates to the water department they will switch the motor from anywhere in the world. It useful continuous monitor the water in tank.

REFERENCES:
[1] Smart water quality monitoring system, A. N. Prasad; K. A. Mamun; F. R. Islam; H. Haqva, 2015 2nd Asia-Pacific World Congress on Computer Science and Engineering (APWC on CSE), Year: 2015
[2] Application of Wireless Sensor Network in Water Quality Monitoring, Yang Xu; Fugui Liu, 2017 IEEE International Conference on Computational Science and Engineering (CSE) and IEEE International Conference on Embedded and Ubiquitous Computing (EUC), Year: 2017, Volume: 2
[3] Real-time water quality monitoring system using Internet of Things, Brinda Das; P. C. Jain, 2017 International Conference on Computer, Communications and Electronics (Comptelix), Year: 2017
[4] Reconfigurable smart water quality monitoring system in IoT environment, Cho Zin Myint; Lenin Gopal; Yan Lin Aung, 2017 IEEE/ACIS 16th International Conference on Computer and Information Science (ICIS), Year: 2017
[5] Design and development of a water quality monitoring network and system, Yunze Li; Ying Wang; Min Cong; Haoxiang Lang, 2017 IEEE International Conference on Industrial Technology (ICIT), Year: 2017