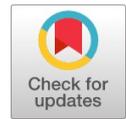


Multiple Water Level Recognizing System using IoT

R. Sundarrajan, S. Dhakchanamoorthy, C. Ganesh Ram, S. Sriram Babu



Abstract: Water are one among the most indispensable and important things that we need in our day to day lives. We need to store water for drinking as well as to conduct our day to day chores efficiently. This will go a great way in managing the water tanks as the user will be aware of the water level in side this tank. This model can in future be implemented for the regular water tanks making their management an easy task. In future models we also hope to include the smart water management as well so that the water level is checked automatically ideally pumping water at low level and stopping at the full level. In android application we can monitoring the tank using motor on/off button manually.

I. INTRODUCTION

Water is a main part of everyday lifecycle. IOT based on android application for smart multiple water tank which is using implements by IOT. In which tank can control and monitor can directly over the smart phone from every where. The android application is developing. In check the level of water and can manually stop the motor if necessary. Automatically the motor can be switched off. when the water level will be reaches to the maximum level and minimum level. The objective of this application is to avoid the overflow of water in urban areas and by calculating the statistics of water send this supply to the rural areas. Same goes for colleges too. Now, their management as become difficult. The purpose of technology is to make our life easier. So with the advantage of technologies like Internet of Things we can change the way we do things in a better way. The management of water saving becomes smart and easy using Internet of Things. In this project main concentration is to manage water level and indication via android application. That application monitoring water level by ultrasonic sensor placed over the tank with threshold volume of the tank. Then informs about the level of water left in the tank via mobile application to administrator. An ultrasonic sensor is fixed on top of the water tank to sense the water level and the distance from water level to the sensor is measured and send to the android application through Arduino. The main goal of this system is monitoring the current water level. It will provide faster, easier and cost effective management.

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II. EXISTING WORK

Water plays a pivotal role in every day's life. In today's Era the Internet of Thing (IOT) Technology is very important to develop the humanitarian project. In this paper, we propose an IOT based solution for water level monitoring system which can measure the current water level and statistics of the water in the water tank. As we know that water plays a very important role in the rural areas. So we have developed these Applications. This paper tells the details about how we Arduino to automate the home. The existing system has the limitations as they can use the Bluetooth device to send the data so it analyses to prove that the Android and Arduino has the better combination. In this system the Android Application acts asa front end. The Microprocessor controls the sensors using the Internet. This paper describes the real time implementation and design of the wireless water level App. The present system can be control manually that is the user can go to the water pump to start and stop it. But the proposed system can overcome this problem.

In the proposed system all this operation can be done using the Internet or Wireless Network. The microprocessor can detect the WI-FI Connection using the WI-FI Modem and as soon as it detects the WIFI connection the water pump will start and stop automatically using the Sensors values.

In this paper we can detect the water level using the internet and this data can be stored in the cloud platform. The proposed system uses the cloud server to store the at a for long time. We can use this data for further purpose using this we can find the statistics of the week or month or year.

This paper describe that the water level monitoring App uses the Float sensor to measure the current level of water. We also create the Android Application which is helpful for the user to see the current level of water or to see the statistics of the water. The Application will be the user friendly. For the creation of this system we use the IOT technique because it is very secure and it can use easily to do the communication between Hardware and Software.

III. MEDHODOLOGY

1. Ultrasonic Sensors:

This Sensor is used to Sense the Water level.

2. 12 Volt Relay:

This is used to control the flow of water pump.

3. ArduinoKit:

This kit is used for connecting all the sensors.

4. WI-FI Modem:

It is used to send the data to server and it is also used to connecting with the mobile device.

5. Android Studio:

It is the software tool which is used to create an Application for the Android phone and then we can use this software to create the Android Application for all the devices.

6. ArduinoSoftware:

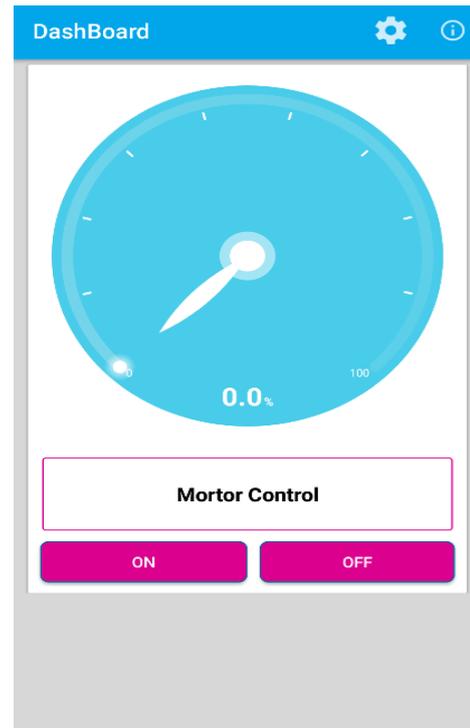
We use this software for writing the code of the Arduino UNO. This can because the Embedded C Language and writing the code.

IV. PROPOSED SYSTEM

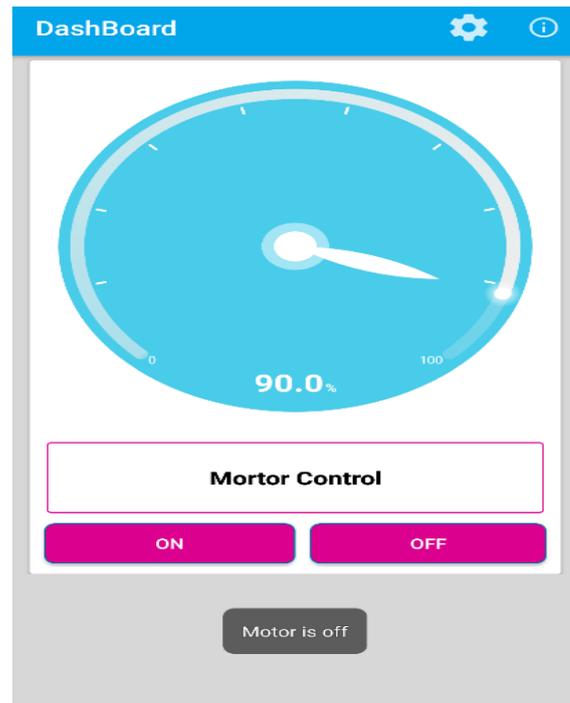
Proposed system generalized the water level in tank and accumulate the information of water level can monitor through application. The android application can be used to automatically shut the motor, and also control by the user, delivered the handler has internet connectivity. Now, we introduce the new type of task when the water has to be reach the level of boundary the motor will be automatically switching off. It would turn on the motor if the water level is slow. The user can check whether the tank filled or empty via on the android application without visit the tank. These system will be improved the easily livelihood in all homes. The most important aspect of IOT has raw sensory data for extraction of high level information. The device analyzes the interpretation data which is used to attain useful information of the implement of device. Arduino board and microcontroller is the core module of the structure. Arduino used to control to the digital connections which act as an end point device between the ultrasonic sensors and android application. The arduino board connects with the Wi-Fi module toward the hotspot provided contact toward the internet. The Reading of the arduino board to transmitted the android application through the Internet. The Wi-fi module provides internet to Arduino facilitate connection between the Arduino make easy way to communication between the Android application. This one be able to associated toward the arduino 3.3volte pin. Though, the Arduino works at 5Volte. If the TX and RX pin of Arduino and Wi-Fi are linked, the circuit may become unbalanced and get broken. Hence, a battery eliminator is recycled to deliver 3.3Volte to the Wi-Fi unit and 5Volte toward the Arduino. Sensors measure the water level confidential the tank. The HC-SR04 ultrasonic sensor is recycled for non-contact sort discovery. It be able to use to control the space to a thing. Its smallest level is 2centimeters and the extreme level is 4meter.Itbeabletousinga5VolteDCpower source.

V. RESULT ANDDISCUSSION:

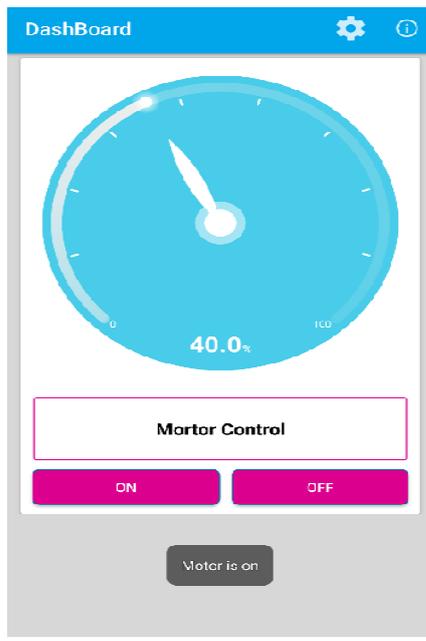
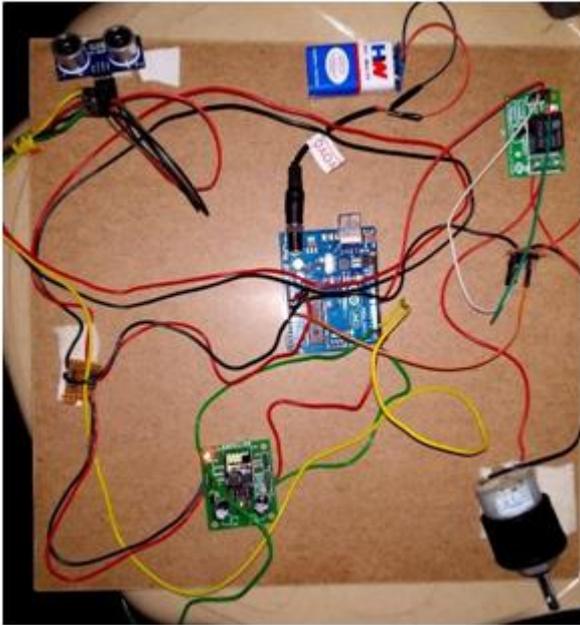
Fig: Circuit connectionlayout



Android application at initial stagewhen launching the app.



The motor switches off when the level isgreater than 90.



The motor switches on when the level is lesser than 40.

VI. CONCLUSION

The Internet is capable of changing the human life. IOT has Great Potential to increase communication between smarter object. The purpose of this project is very simple it can use to start and stop water pump automatically using Wi-Fi Connection. Using this statistic we can save the water. This statistics can be used to send water in rural areas. Android Application can show the current water level. This system is very cost effective so it is a better way to monitor the level of water. Further work involve that the statistics can be used for the public welfare using this statistics they can manage the supply of water in a particular areas. This can save the water which is helpful for the mankind and Environment.

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