

Real Time Water Monitoring System Using IOT

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ABSTRACT: This subject on completely focus on use of water in household purpose, As well as other maintaining resources. As we know water is a lifeline of human being as well as all living things.7% of area of earth covered by water, in those only 3% water a considered as drinking water. Now a day's world is facing by issue such as water pollution. To supply pure and non-polluted water to areas like agriculture. Therefore, water must have monitored. This system provides low cost & low maintain system to monitor a water using Internet of things (IOT).

I. INTRODUCTION

As we know communication is an important aspect of a human life & use of smart phones are necessary. Smart phone has many applications which gets some data from inputs& give respective output. Here we going to develop an application "Tank boy". The "Tank boy" provides information about the water which is inside the tank on which the system is applied to the application user using some sensors. Quality and cleanness of water plays a very important and major role in health of living things like humans and plants and animal, due to today's polluted world the tap water & manmade resources in rural and urban areas are not safe for use without checking the quality of water. If we use the water from tap or rivers without testing them in that case it may possible that we have to payback a lot for it so checking the water quality is the most important factor before taking that water in use. By using this system, people can avoid wastage of water and surely get pure drinkable water. This system will not inform about the water level but it will also inform about the water quality of the water present inside the tank on which we are applying the system.

II. LITERATURE REVIEW

Water has major area of usage like, agriculture industry and domestic consumer. Therefore, the efficient use of water is constant. That's why water monitoring is used. It can be found in many sector before. It explains important of water level monitoring using Wi-Fi/wireless modules with the help of microcontroller such as Arduino. This deals with brief explanation of using Arduino to automate the homes. The existing system of the Bluetooth method of automation limitations was analysed to prove that android and Arduino make up for a better method of automation. The hardware and software specifications are also explained. A prototype for Water Level Monitoring is developed for detecting water level through the internet. A central device like microprocessor connects to the internet and receives orders to control sensors. A server manages the users and devices. Android Application acts as a front-end to interact.

III. ARCHITECTURE OF DEVICE

This device is a combination of different hardware parts and sensors. The main components of the device will be Arduino UNO, GSM module, Ph. Sensor, LCD display, Water level detection sensor, Relays and the LED light indicator. The Arduino UNO is the main processing unit of the device and this monitor all the activities of the device. For proper working of the device the program is already inserted into Arduino. The ph. Sensor is used to take the reading of the ph. Value of the water inside the tank and that value is evaluated in Arduino and if the value found to be not acceptable then it will inform the user via the RGB indicator, LCD indicator and via the 'Thank Boy' application. The water level sensor tracks the water level of the tank. There are two relays named as 'Relay 1' and 'Relay 2' these relays are used for turn off and turn off of the water pump connected to the relay for the purpose of tank filling.

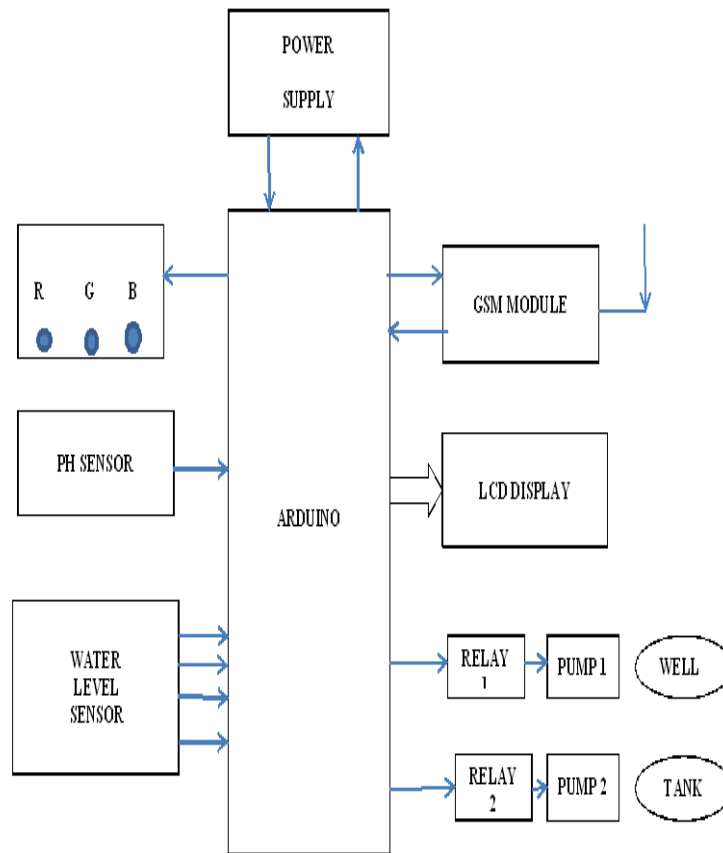


Fig. 1. Architecture diagram of smart water monitoring system.

IV. WORKING OF DEVICE

A System contains a water tank, in which those LED's placed vertically to indicate a water level, all this data sends input to the system. Water level controller take control on it. There is a Ph. sensor in system which used to indicate the water quality such as acidity or basicity gives expressed in Ph. The result generated by sensor sends to Arduino microcontroller and it will give output by displaying the quality on LCD display. Third aspect of the system is usage of GSM module, all the system activity like Motor enabling and disabling, Ph. value indication and level of motor can be access on phone. All the water management can take place by using this system like, daily usage, field work, gardening etc.

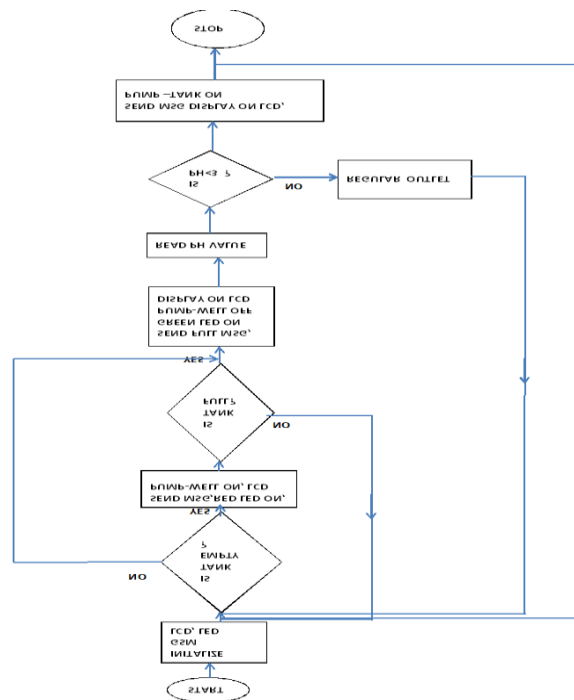


Fig. 2. Flowchart of smart water monitoring system.

V. CONCLUSION AND FUTURE SCOPE

Nowadays water is being wasted in many ways and wastage due to overflowing of tanks is a major contributor for this. Thus, Water Tank Monitoring System helps to reduce the wastage of water due to overflowing by automatically turning off the pump when the water level in the tank reaches a threshold limit. Proposed system can also be enhanced by monitoring the entire activity through an app. An application will develop to help the users turn on the pump through the app and off the pump automatically. A prototype water monitoring system using IoT is present. For this some sensors are used. The collected data from the all the sensors are used for analysis purpose for better solution of water problems. So this application will be the best challenger in real time monitoring & control system and use to solve all the water related problems.

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