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WIRELESS ULTRASONIC WATER LEVEL TRANSMITTER

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ABSTRACT: Although the Earth's surface is covered in water, only around 5% of it is beneficial. As a result, water conservation has become a serious challenge, necessitating the implementation of specific water management measures. We aim to regulate the water level in this application using an ultrasonic sensor that detects the quantity of water in the tank and returns the amount of water present in it. There is a motor, an over-head tank, and a resource tank in this system. This project will increase efficiency and make life easier. In the meantime, this will be beneficial to physically challenged persons. Using such a project will attempt to make our daily lives easier.

Many applications in the oil industry necessitate the monitoring of multiple liquid level interfaces, typically under difficult conditions. An ultrasonic approach was devised in this work to investigate the propagation of ultrasonic waves in oil, water, and mixed oil-water liquids. On the device, preliminary tests have been carried out. The design and operational characteristics of this device are discussed in this study, as well as proof for its satisfactory functioning.

KEYWORDS—ESP8266 WI-FI Module,UBIDOTS.com cloud, Ultrasonic device,HC12 Transceiver.

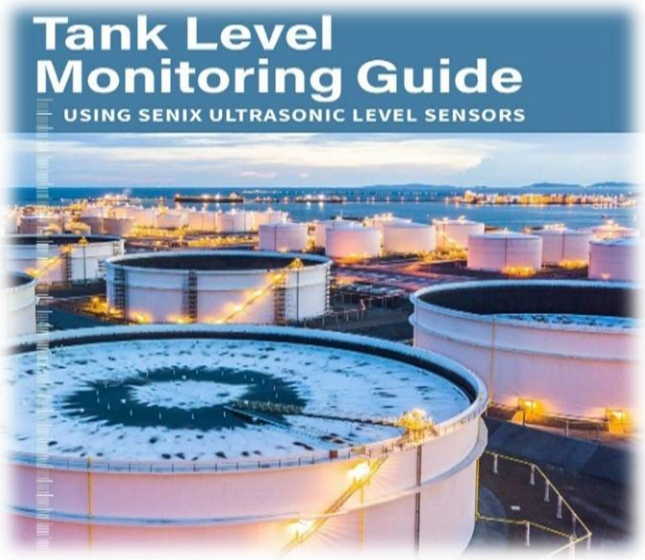
1.INTRODUCTION

The water level measurement is major issue so new methods can be adopted to control the water level. In this we are trying to make day to day life more convenient. The ultrasonic sensor plays major role in this project. The project describes how to manage water level. This is very useful and simple system. This proposed system works under automation.

As we know that water is our basic need. Now a days saving water is task. This become major issue so that we need to adopt new methods to save water. In this project we are going to manage water level using sensor. Such applications are very useful specially for physically disabled people and

It is also used in the industrial sector. The purpose of this project is to create a "Ultrasonic Water Level Transmitter." The core concept behind our product is to alert the user to the amount of water remaining in the water tank. At the horizontal level of the tank, an ultrasonic transmitter and receiver are installed on a pedestal. The ultrasonic sensor is installed on the top of the tank and can readily detect the level of water in the tank.

Water covers the majority of the earth's surface, although only around 5% of it is useful. As a result, water conservation has become a key concern, necessitating the implementation of specific water management measures. Water level measurement is an important responsibility for both the government and the general public. As a result, current management systems must be changed. In this study, we look at how to regulate water levels using an ultrasonic sensor that detects the amount of water in a tank and returns the capacity of that water.



2.LITERTURE SURVEY

1) The paper focuses on essentiality of water for human beings, plants and animal. The key aim of paper is to reduce human time as well as energy.

2) Ultrasonic sensor used for sensing This Paper provides an idea in order to control the westage of water. For this ,ultrasonic sensor plays key role. The UBIDOTS are used used as storage of information.

3) Arduino nano used as microcontroller.Arduino nano is utilized as a microcontroller which is used to produce clock of precise frequency using constant voltage.

4) HC-12 Transceiver This project used to creat a wireless link between two things .so here we are using HC-12 transceiver for connecting the circuits.

3. OBJECTIVES

The main objectives of are:

1) The primary goal of this is to notify user about the amount of water present in water tank.
2) Measure the water level when circuit indicates when tank is half or full.
3) It emphasis on monitoring and managing the water flow.

4. METHODOLOGY

4.1 COMPONENTS USED

1) Ultrasonic Sensor
2) ArduinoNano
3) HC-12Transciver

4.2 Block Diagram

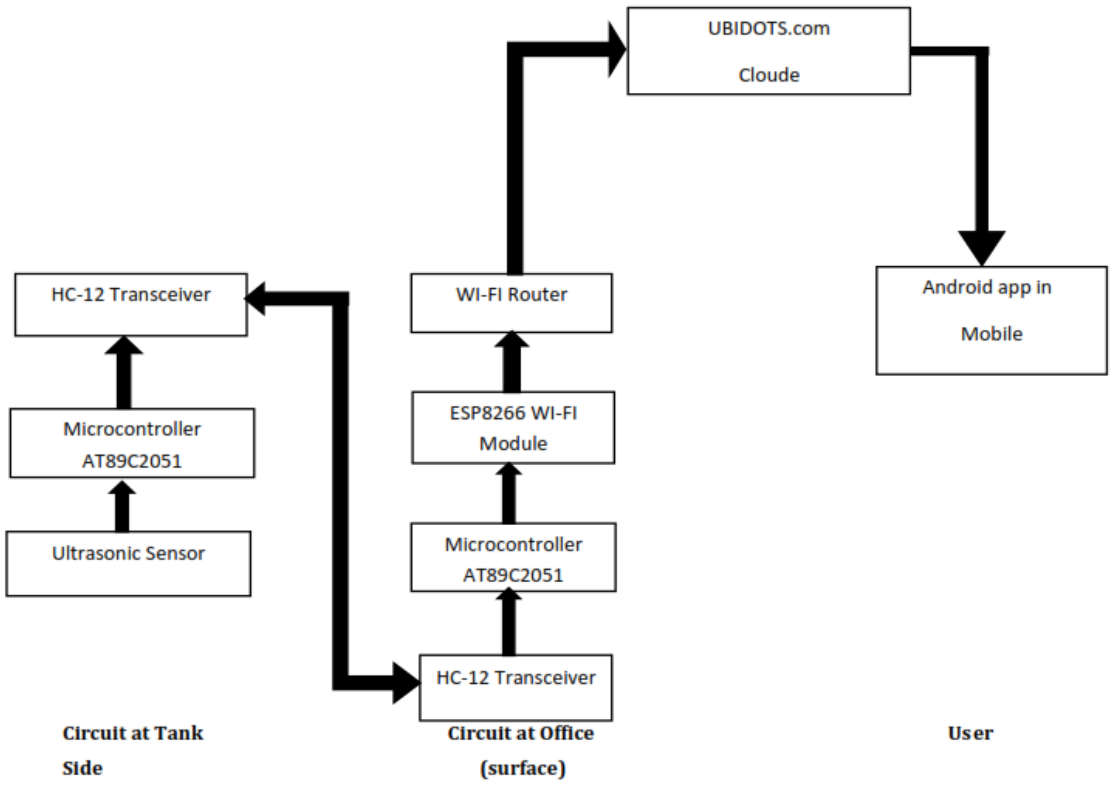


Fig.1. Block Diagram of Wireless Ultrasonic water level transmitter

The water level is sent using an ultrasonic sensor in this method. When the water level rises to a certain level, the sensor sends a logic signal, and action is required. This system is critical for increasing. With the technological improvements of recent years, a household or housemates do not have to be concerned about wasting water. The goal of this project is to create a water level system that is simple, economical, and effective.

This project will monitor the water levels and display the time when the water begins to fill the tank and reaches its full capacity as they rise. The total volume of water in your tank is expressed in litres, and the average water flow rate is expressed in litres per minute. The level of water in the circuit is calculated using an ultrasonic water sensor.

5. RESULT

Fig2.Final Setup of Project

6. APPLICATION

This system designed here can be used in different areas such as,

1) We are used this system to implement on wastage of water controller.

2) We are using this system which send the notification related to water tank.

3) This system is used for such people who are physically disabled.

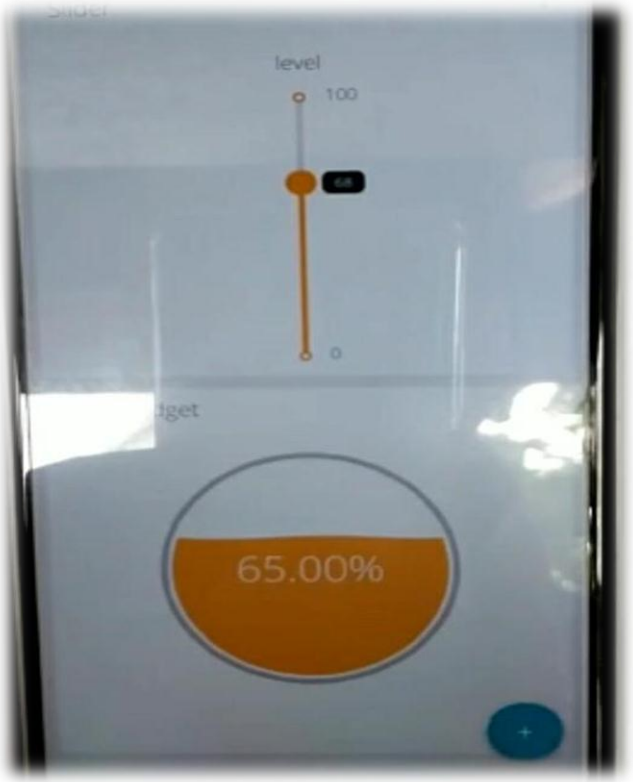


Fig3.Final Output On Mobile

7. CONCLUSION

This research paper proposes an Arduino based water level control system for controlling the wastage of water in day to day life. All though the system expected to work well on its base functionality it suffer from hardware limitations.

The connections to system should be made carefully.If there is any mistake in connection joining the whole system will not work properly. The future scope of this research must include, we can measure the level of oils, pertols and other such fluids.

The data will be sent to cloud using wi-fi module. The cloud send the collective information to users mobile on UBIDOTS.

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