MAJOR PROJECT

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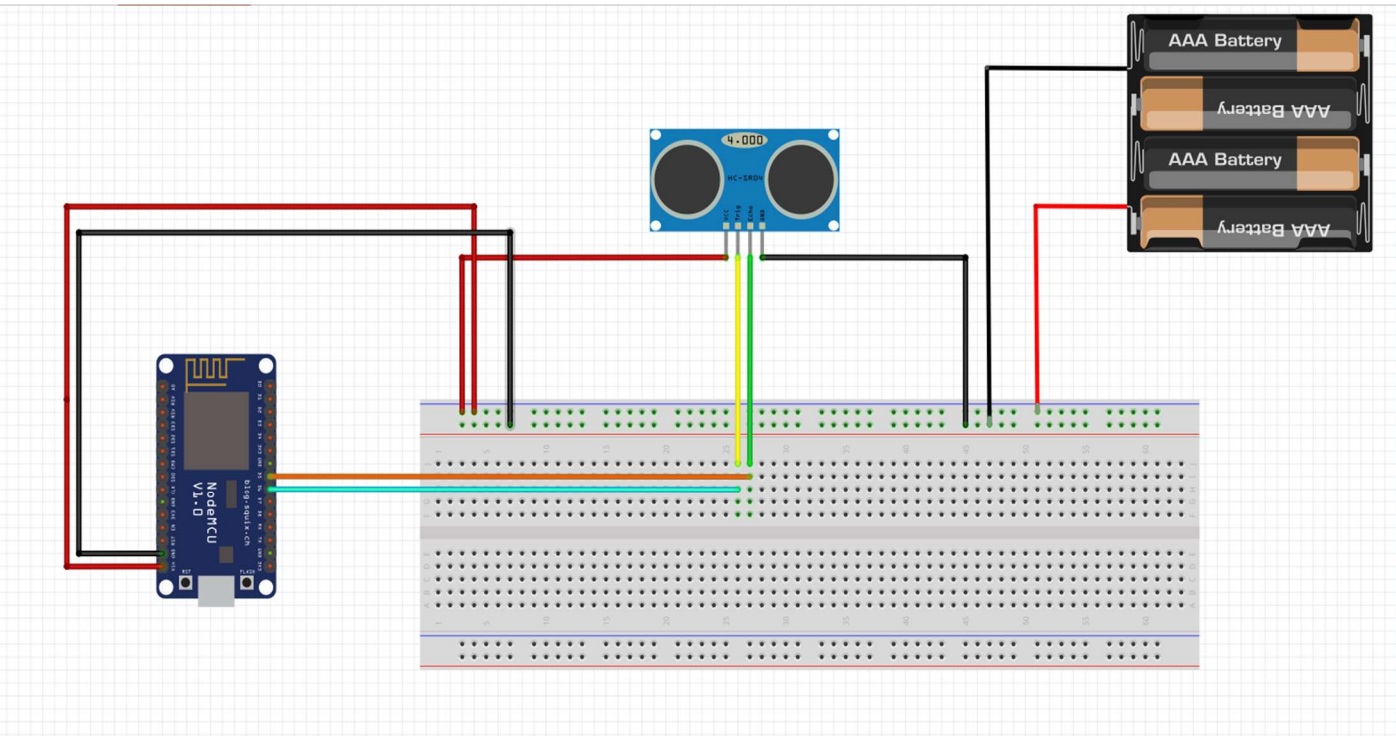
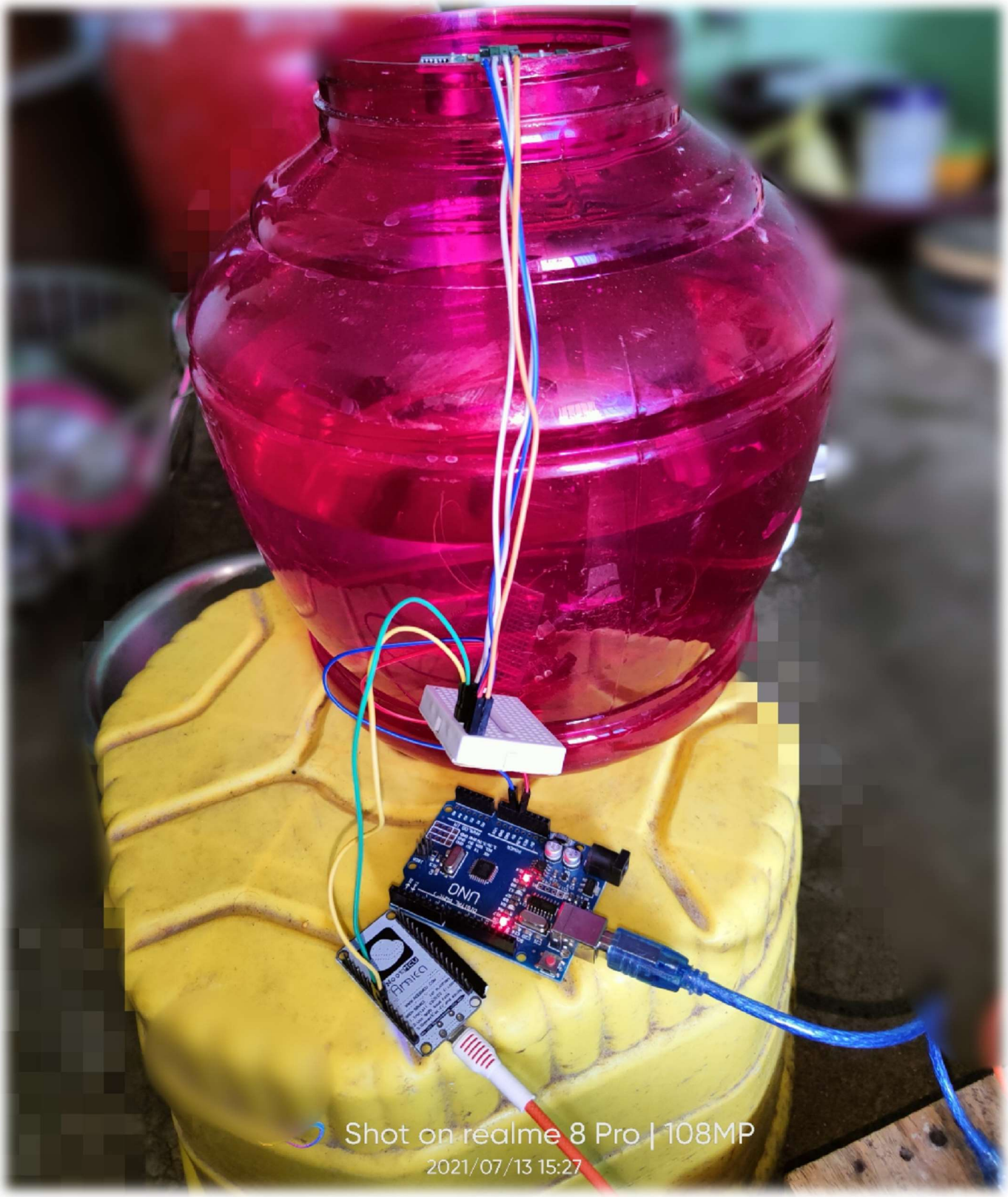
Project:- Water level IoT system that should give live feeds of the current water level in the tank to the application on a smartphone.

Components Required:-NODE MCU, Ultrasonic Sensor ,Wifi Router,5v power Supply.

Circuit Diagram:-




UNO
Shot on realme 8 Pro | 108MP
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PROGRAM:-

```
#define BLYNK_PRINT Serial
 #include <ESP8266WiFi.h>
 #include <BlynkSimpleEsp8266.h>
 #define Relay1  D0
 #define trigPin D6
 #define echoPin D5
 long duration;
 float distanceCm, distanceInch, distanceft ,Watercft
,Waterlitre,Waterft, ECm,Eft,Wft;
  int wper,WCm;
 char auth[] ="6J3qHjOwhoxdNrjxz9Qhcx8NzQGPgybz";
 char ssid[] = "H2K";
 char pass[] = "hariom123";
 BlynkTimer timer;
 void setup()
 {
  pinMode(trigPin, OUTPUT);
  pinMode(D0, OUTPUT);
  pinMode(echoPin, INPUT);
```

```
 Serial.begin(9600);
 Blynk.begin(auth, ssid, pass);
 timer.setInterval(1000L, sendSensor);
}
void loop()
{
 Blynk.run();
 timer.run();
}
void sendSensor()
{
 digitalWrite(trigPin, LOW);
delayMicroseconds(2);
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distanceCm= duration*0.034/2;
distanceInch = duration*0.0133/2;
Serial.print("Distance: ");
```

```
 Serial.print(distanceInch);
 Serial.println("Inch");
distanceft = distanceInch/12;
ECm = (distanceCm-12);
WCm = (82-ECm);
Eft = (distanceft-0.39);
Wft = (2.69-Eft);
Watercft = Wft *3.66;
Waterlitre = Watercft*28.32;
Serial.print("water: ");
 Serial.print(Waterlitre);
 Serial.println("litre");
wper=(WCm*1.21);
Blynk.virtualWrite(V1,Waterlitre);
Blynk.virtualWrite(V2,WCm);
Blynk.virtualWrite(V3,ECm);
Blynk.virtualWrite(V4,wper);
 delay(100);
}
```

PROJECT Explaination:-

- In this project I have made a water level monitoring system using NODE MCU,Ultrasonic sensor and BLYNK Android App.
- BLYNK app is an Android app which helps us to control hardware remotely and it can also display sensor data and we can easily visualize it.I have used this app to visualize the amount of water present inside the tank.
- Ultrasonic sensor helps us to measure the distance of obstacles from sensor and also measure velocity of obstacles.I have used it to measure the amount of water inside the tank.
- NODE MCU is a low cost ESP8266 wifi module along with micro controller.I have used it to connect my smartphone with the BLYNK,So that I can visualize the data collected from the Ultrasonic Sensor on the BLYNK App.
- I have connected the D5 pin of NODE MCU to echo pin and D6 Pin to the trig pin of Ultrasonic sensor and I have powered the Node MCU and Ultrasonic Sensor using a 5V DC source.

Conclusion:-

After doing this project,I have learnt to use Ultrasonic sensors and Node Mcu.

This project helps us to save water and electricity too because many people turn on the motor and forgot to turn off.In many cities people does not use water level monitoring system to measure the current water level in the tank and due to this lot of water is wasted.

Now I will surely going to make a water level monitoring system for my home's water tank too and I will also aware everone to use it.