IOT Project

Distance sensor

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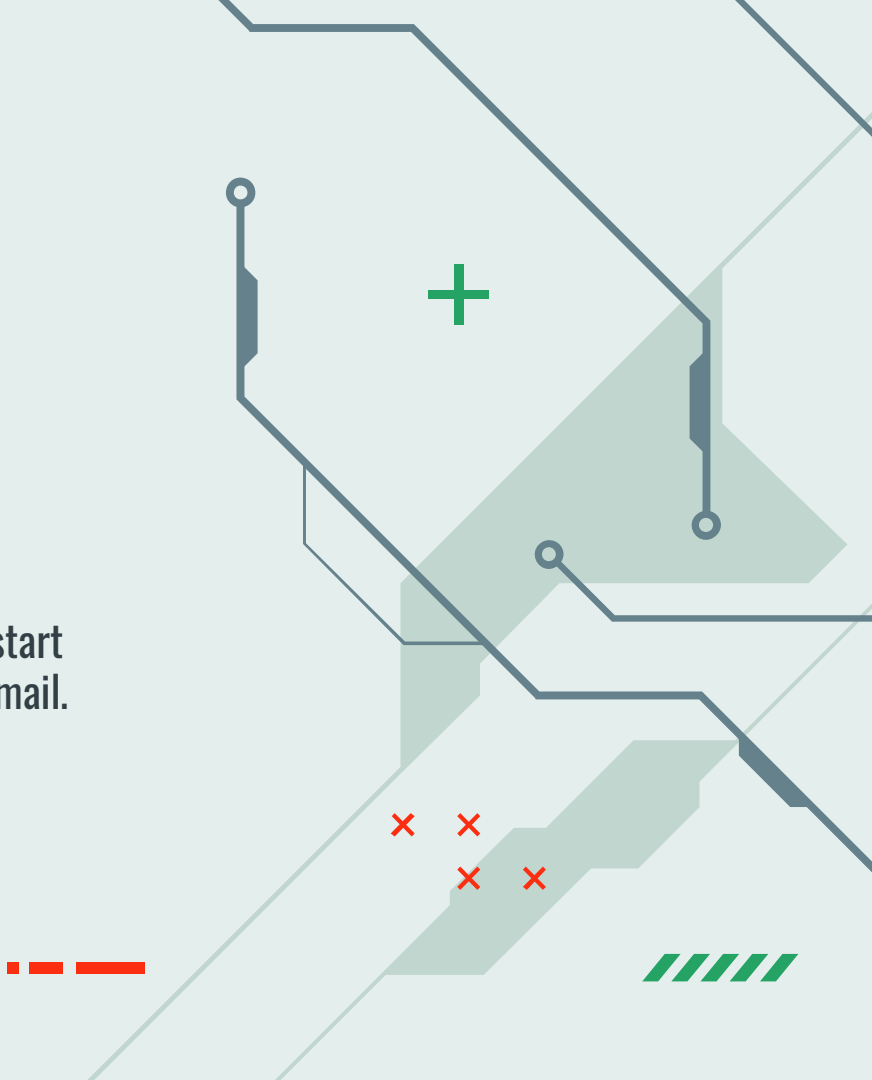
PROJECT IDEA

- Estimate the distance between the sensor and any object.
- when the object is closer than 10 cm An alert will start to make sounds and it automatically will send an email.

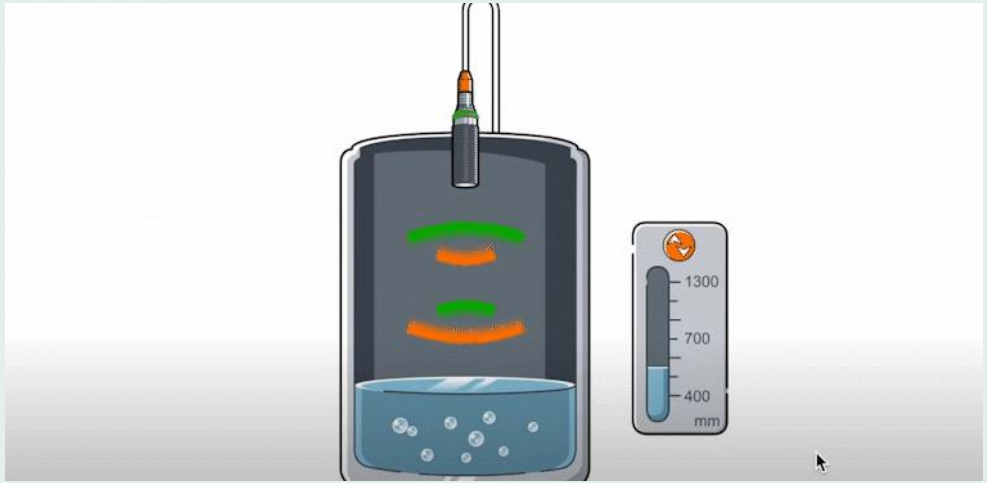


Applications in real life

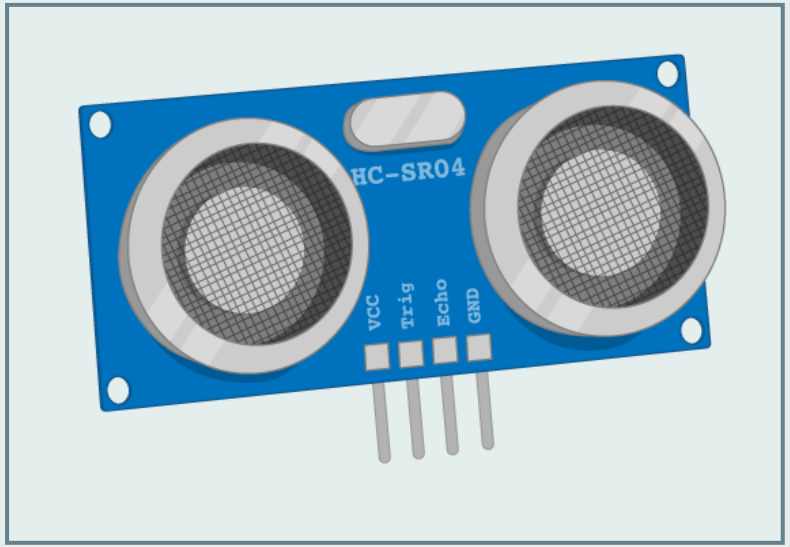
automobile self-parking technology

Applications in real life

liquid level measurement

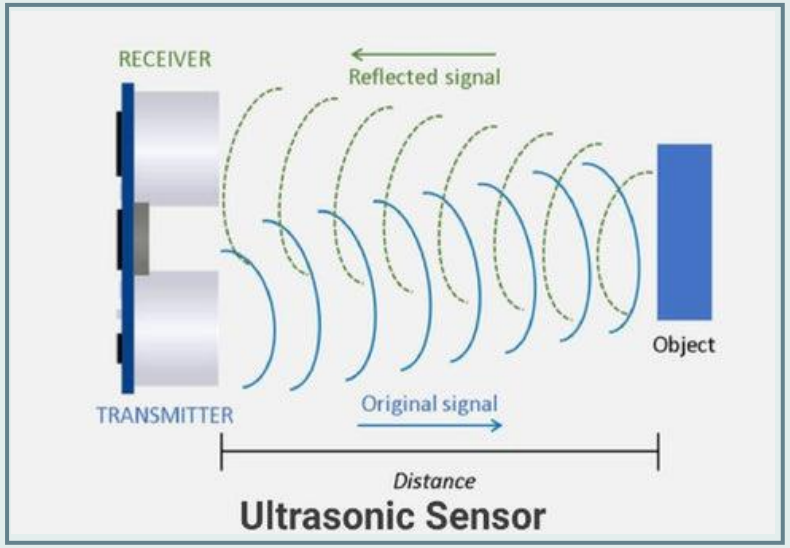


SENSOR TYEP:



ULTRASONIC SENSOR

SENSOR TYEP:



How its work ?

Connect hardware with software

The Distance sensor has fourth parties , positive party , ground party , trigger party and echo party. The trigger and ego parties we connected with the node MCU.

One of the buzzer party connected with node MCU and the other one connected with the ground.

Connect hardware with software

One of the led party connected with node MCU and the other one connected with the ground.

The node MCU we programmed it to do specific task to controlled the electrical circuit

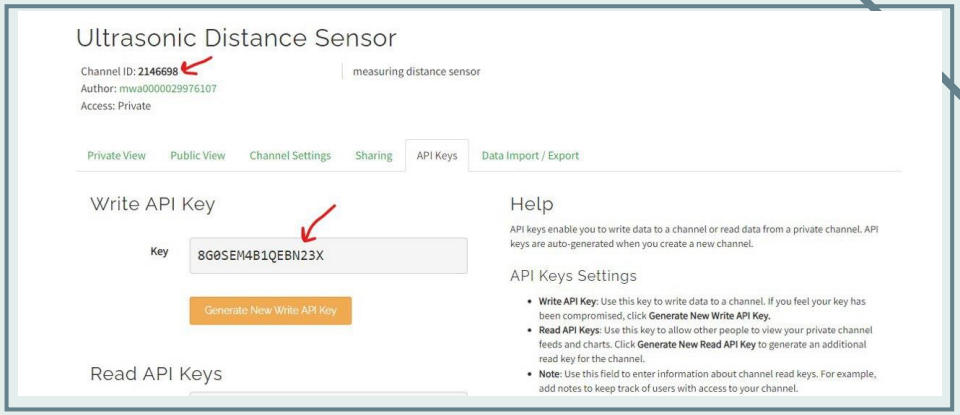
Connect hardware with software

Code application

```
sensor_reading=read_ultrasonic_sensor();
cloud_connect();  // send data to thingSpeak

 if(sensor_reading>0 && sensor_reading<10){
                     cloud_connect();
                     delay(1000);
                     send_email_using_ifttt();
                     Serial.println("Email is Sent");
                     delay(1000);
                     send_email_using_ifttt();
                     for(int x=0;x<30;x++)
                     {
                       digitalWrite(led,HIGH);

                       digitalWrite(buzzer,HIGH);
                       delay(200);
                       digitalWrite(led,LOW);
                       digitalWrite(buzzer,LOW);
                       delay(800);
```

Code application

Matching channel ID and API key in the code and Thingspeak



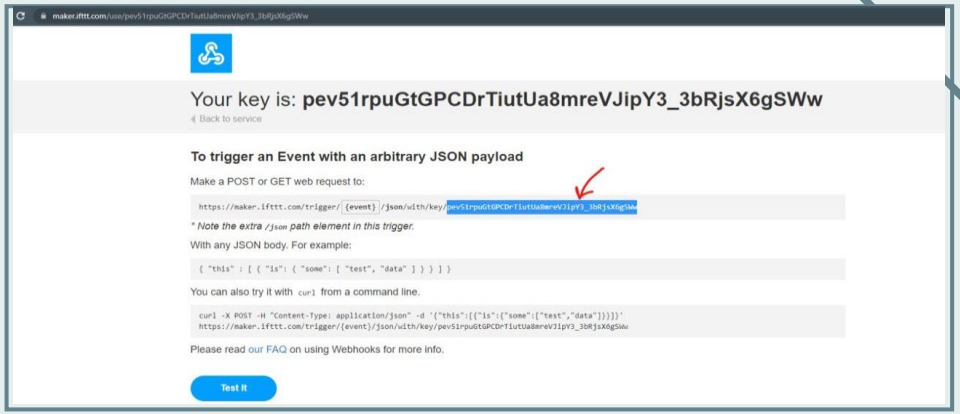
Thingspeak

```
#include <ThingSpeak.h>
int sensor_reading;

//Timer - milliseconds
unsigned long previousMillis = 0;
unsigned long currentMillis;
const unsigned long period = 5000;

//Wifi related variables
String apiKey = "8G0SEM4B1QEBN23X";     //Write API key from thingspeak

unsigned long channelID = 2146698;
```

Code

Code application

Matching the key in the code and IFTTT



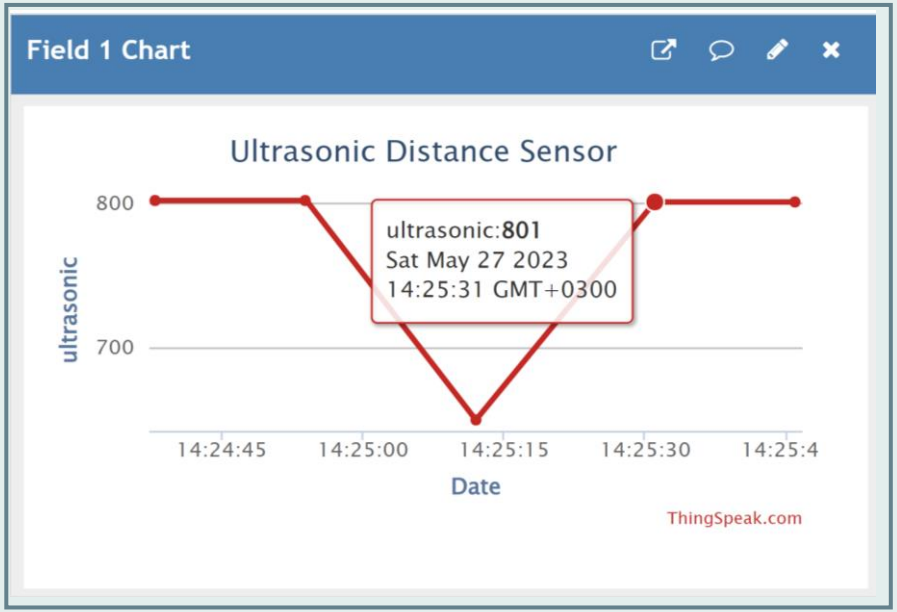
IFTTT

```
void send_email_using_ifttt() {
  const char* host = "maker.ifttt.com";

  if (client.connect(server2, 80)) {

    String url= "/trigger/Alert/json/with/key/pev51rpuGtGPCDrTiutUa8mreVJipY3_3bRjsX6gSWw";


   client.print(String("GET ") + url + " HTTP/1.1\r\n" +
                                "Host: " + host + "\r\n" +
                                       "Connection: close\r\n\r\n");
                                }



  client.stop();
}
```

Code

Connect hardware with software

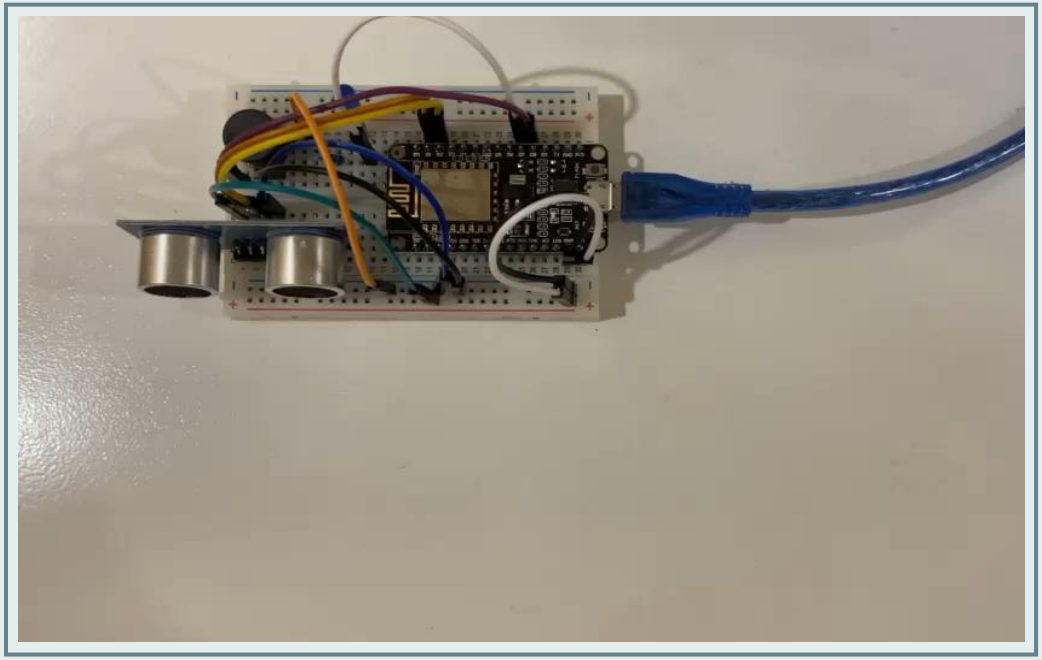
Thingspeak



Connect hardware with software

IFTTT

Demo video



What issues are we dealing with?

- Repeatedly sending emails
- The delay in email delivery
- The slow response of the

We are grateful for your listening