

MAJOR PROJECT

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DATE:14.12.2020

Aim:

Design a Fire Alarm Project where they have to use a combination of sensors like, Fire sensor, temperature sensor and gas/smoke sensor and then find a threshold value when you detect a fire and set that value to trigger a tweet when fire is detected.

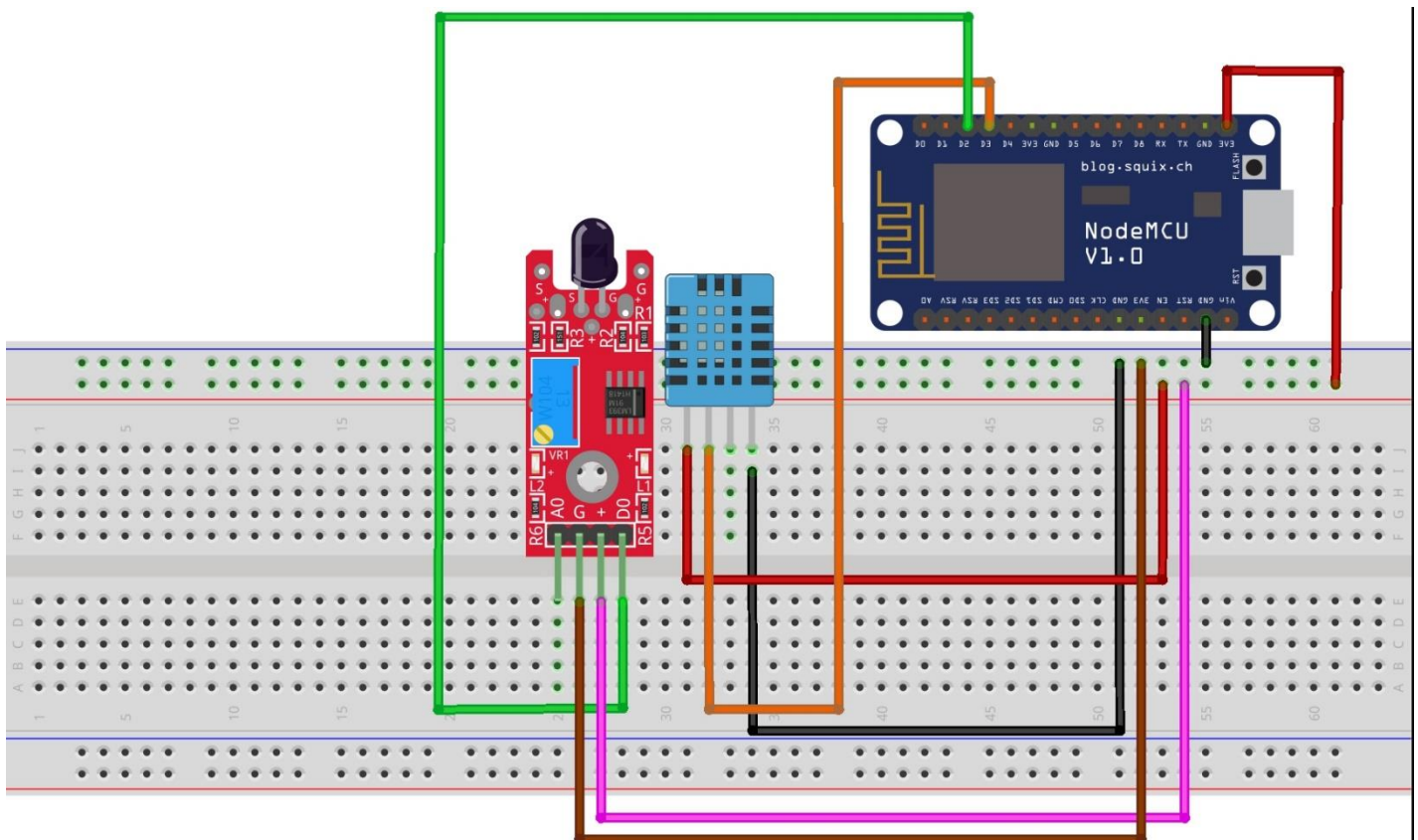
Components Required:

1. Nodemcu(ESP8266)
2. Fire sensor
3. DHT11 Sensor

Software Required:

1. Arduino IDE
2. Thingspeak(For collecting Data)
3. Thingtweet(For Tweeting to Twitter)

Circuit Diagram:



Working:

First of All we are using NodeMcu(ESP8266) as Controller Part and Fire sensor and DHT11 Sensor for sensing the Fire and Temperature .The concept behind this-

Whenever Fire sensor is sensing the fire it shows a value of Zero(0),and when its don't Its throw value of One(1).So I combined it with DHT11 Sensor to sense the Temperature When Its sense the fire,whole data whether fire is detected or not dectected along with Temperature gets uploaded to the Thingspeak Channel,where I can easily monitor whether fire is detected or not.I have created two channels one for temperature and another for Fire Detect Led(it store 0 for detected,and 1 for not detected). Then I have use React for tweeting it to the Twitter.In React,I have assigned that whenever it store 0 in channel 2(Fire Detect LED),then tweet to twitter That FIRE IS DETECTED!!! ALERT.

Code:

```
#include <DHT.h>

#include <ESP8266WiFi.h>

#include <WiFiClient.h>

#include <ThingSpeak.h>

#define DHTPIN D3

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

const char* ssid = "MAHENDRA";

const char* password = "9456944904";

WiFiClient client;

unsigned long myChannelNumber = 1255578;

const char * myWriteAPIKey = "MSHDGDAVJKM18ZSZ";

uint8_t Temperature;

int flamePin=D2;
```

```

void setup()
{
  Serial.begin(115200);
  dht.begin();
  delay(10);

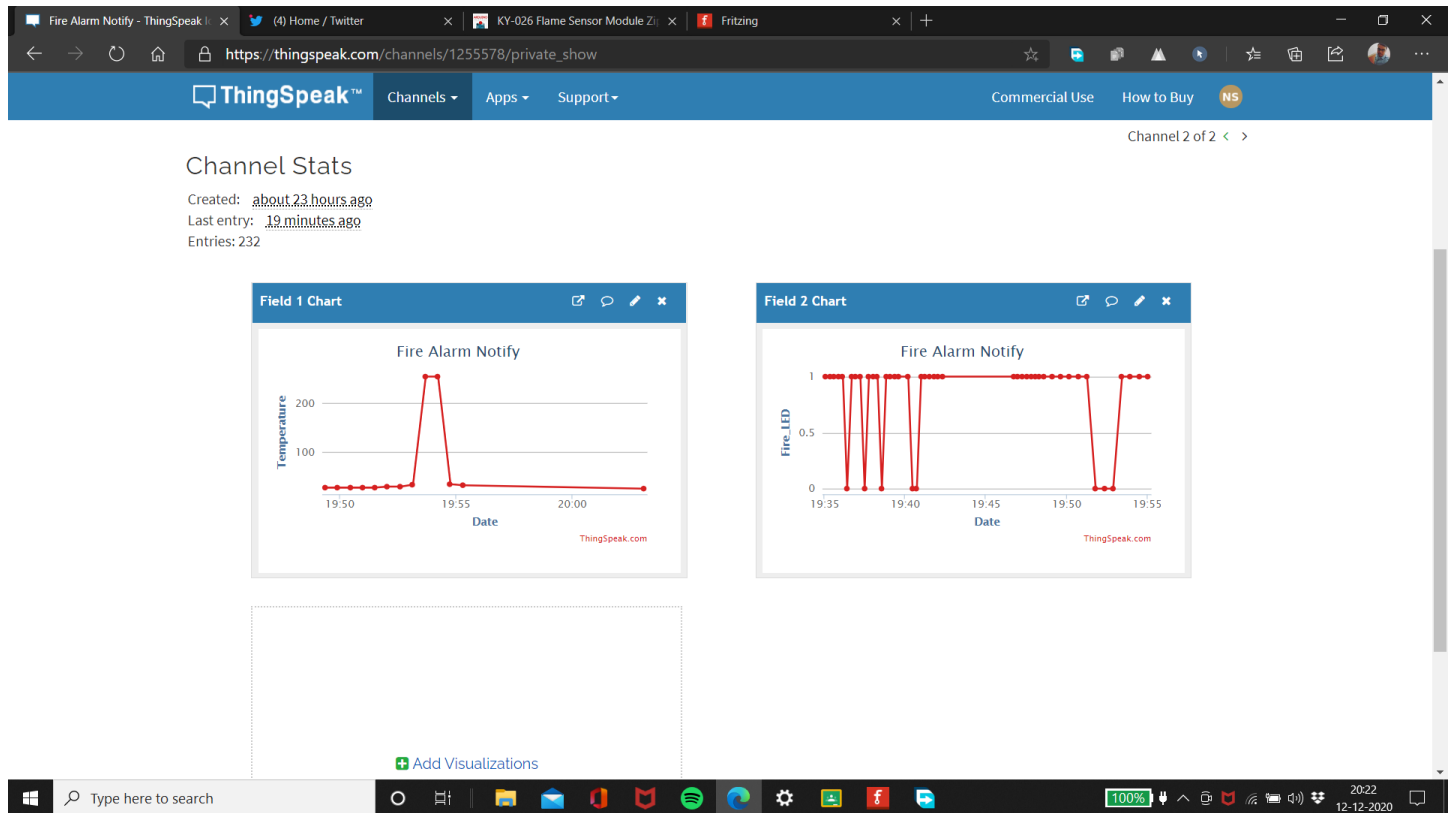
  // Connect to WiFi network
  Serial.println();
  Serial.println();
  Serial.print("Connecting to ");
  Serial.println(ssid);
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED)
  {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
  Serial.println("WiFi connected");
  // Print the IP address
  Serial.println(WiFi.localIP());
  ThingSpeak.begin(client);
  pinMode(flamePin, INPUT);
}

void loop()
{
  static boolean data_state = false;
  Temperature = dht.readTemperature();
  int Flame=digitalRead(flamePin);
  if(Flame==HIGH){

```

```
Serial.print("Temperature Value is :");
Serial.print(Temperature);
Serial.println("C");
Serial.print(Flame);
Serial.println("Fire is Not Dectected");
}
else if(Flame==LOW)
{
Serial.print("Temperature Value is :");
Serial.print(Temperature);
Serial.println("C");
Serial.print(Flame);
Serial.println("Fire is Dectected");
}
// Write to ThingSpeak. There are up to 8 fields in a channel, allowing you to store up to 8 different
// pieces of information in a channel. Here, we write to field 1.
Serial.println("Uploading Values");
if( data_state )
{
ThingSpeak.writeField(myChannelNumber, 1, Temperature, myWriteAPIKey);
data_state = false;
}
else
{
ThingSpeak.writeField(myChannelNumber, 2, Flame, myWriteAPIKey);
data_state = true;
}
delay(10000); // ThingSpeak will only accept updates every 10 seconds.
}
```

THINGSPEAK CHANNEL:



REACT CONFIGURATIONS:

The screenshot shows the React configuration page for 'fire twitter'. The configuration is as follows:

- React Name:** fire twitter
- Condition Type:** Numeric
- Test Frequency:** On Data Insertion
- Condition:** If channel: Fire Alarm Notify (1255578), field: 2 (Fire_LED), is equal to: 0
- Action:** ThingTweet
- then tweet:** Fire is Detected ALERT!!!!!!
- using Twitter account:** lotNikhhar
- Options:** ☒ Run action each time condition is met

The right sidebar contains 'React Settings' with the following instructions:

- React Name:** Enter a unique name for your React.
- Condition Type:** Select a condition type corresponding with your data. A channel can hold numeric sensor data, text, strings, status updates, or geographic location information.
- Test Frequency:** Choose whether to test your condition every time data enters the channel or on a periodic basis.
- Condition:** Select a channel, a field and the condition for your React.
- Action:** Select ThingTweet, ThingHTTP, or MATLAB Analysis to run when the condition is met.
- Options:** Select when the React runs.

A 'Learn More' link is also present.

TWITTER TWEET:

Apps - React - ThingSpeak IoT x Fire Alarm Notify - ThingSpeak IoT x (4) Home / Twitter x +

https://twitter.com/home

Home

What's happening?

Tweet

Nikhar IoT @lotNikhar · 3m
Fire is Detected ALERT!!!!!!

Raspberry Pi bot [Tokyo] @raspberry_tokyo · 1h
The current temperature of pi40 is 51.5° C. #pi40temp

Raspberry Pi bot [Tokyo] @raspberry_tokyo · 1h
The current temperature of pi20 is 51.5° C. #pi20temp

Raspberry Pi bot [Tokyo] @raspberry_tokyo · 17h
Have a Raspberry Pi, computer, or smartphone? Join World Community Grid and contribute your unused computing power to advance scientific research on topics related to health, poverty, and sustainability: join.worldcommunitygrid.org/?recruiterId=1...

Raspberry Pi @Raspbery_Pi · 21h
For #HourOfCode2020, check out our free @scratch coding activities!

Learners aged 7+ can code a squishy stress ball: hourofcode.com/rpstress

Learners aged 11+ can code a tree life simulator: hourofcode.com/rptree

Nikhar IoT @lotNikhar

Search Twitter

What's happening

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#LadakhWarriors
Streaming on discovery+ app
Promoted by discovery+ India

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182K Tweets

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Happy birthday, Superstar Rajinikanth 🎂
Trending with #HappyBirthdayThalaivaa, #HappyBirthdayRajinikanth

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#हाँ हम नक्सली है
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