**MAJOR PROJECT**

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**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.

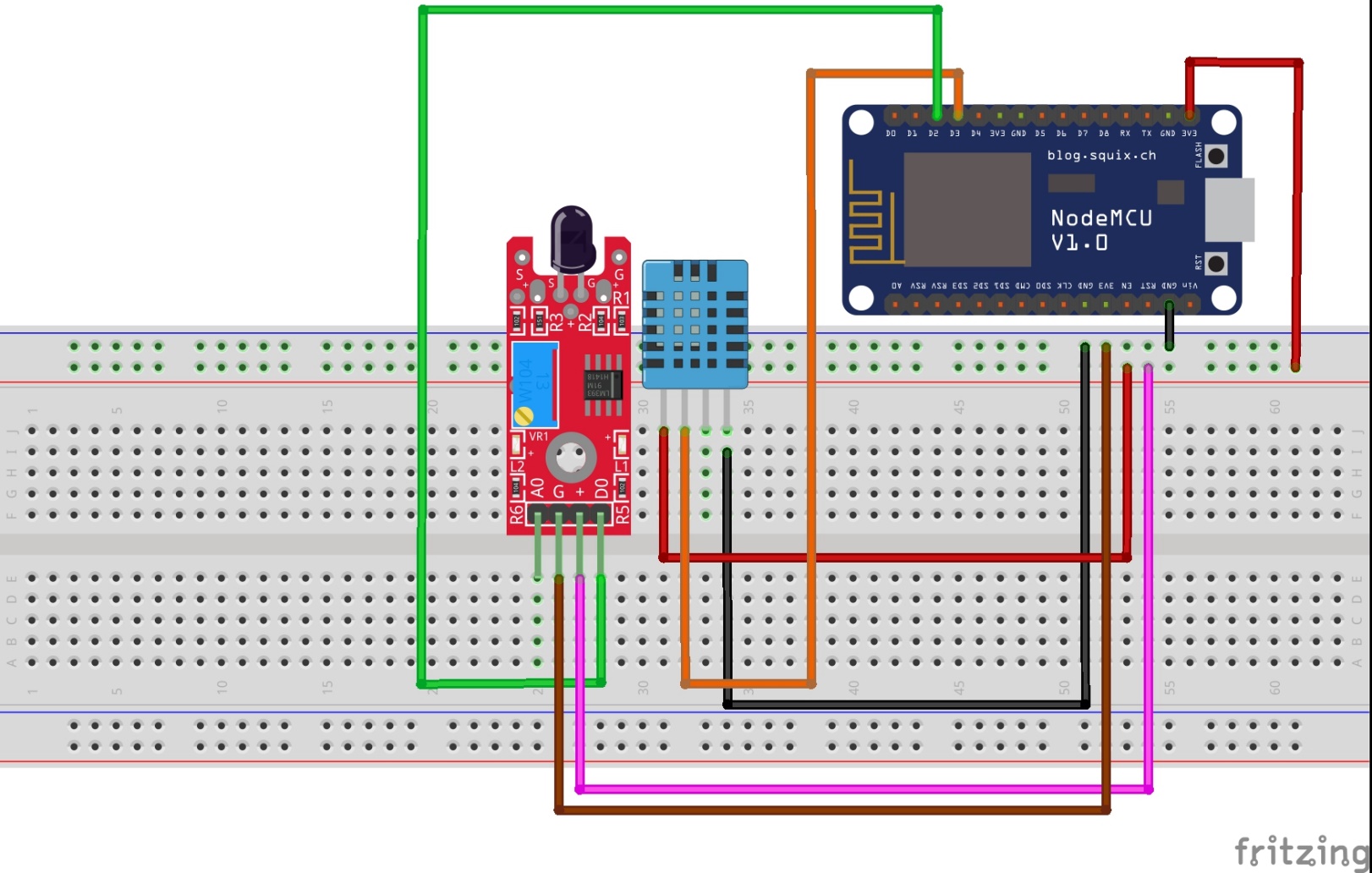
**Components Required:**

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:**

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**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);

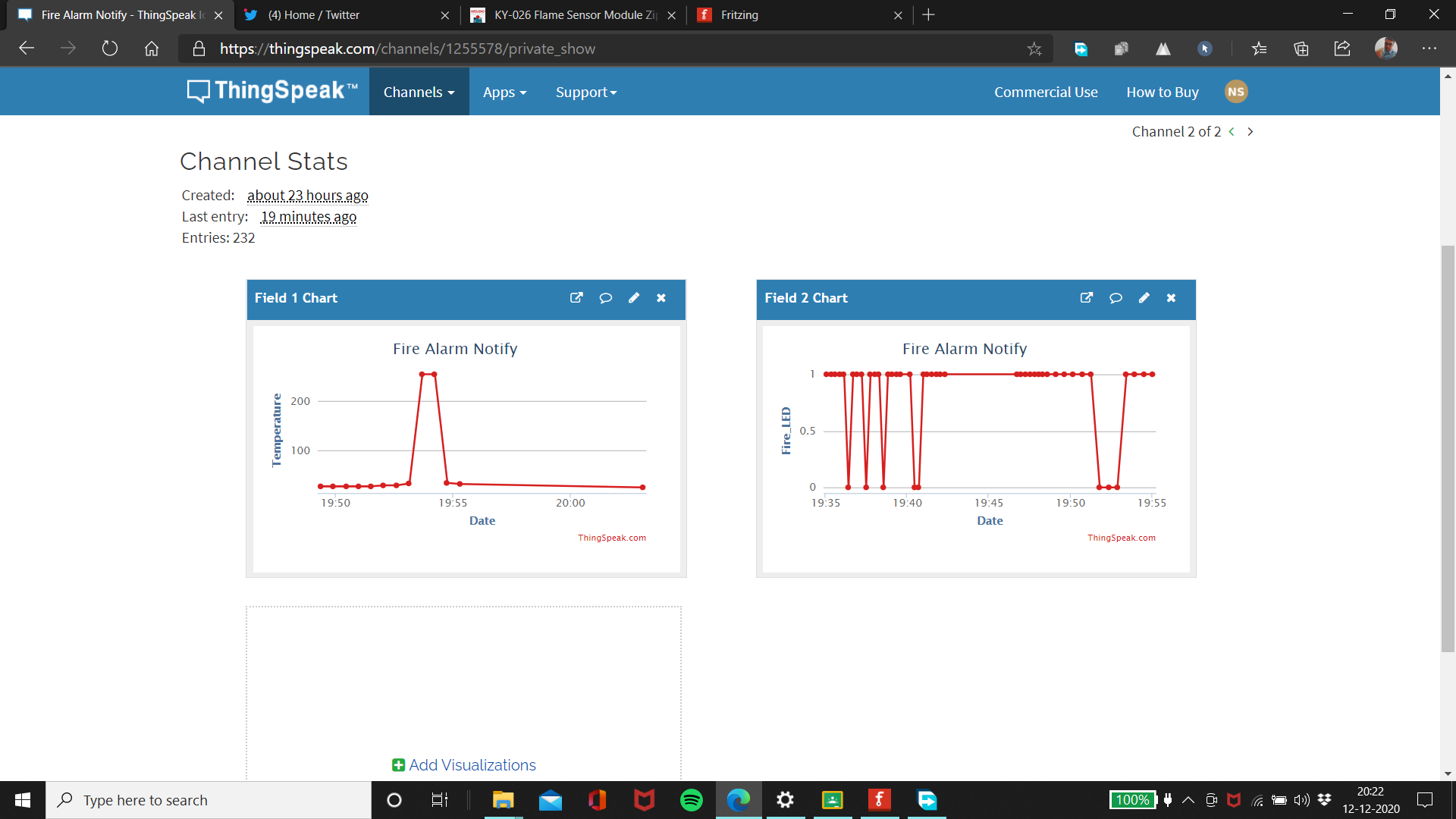
data\_state = true;

}

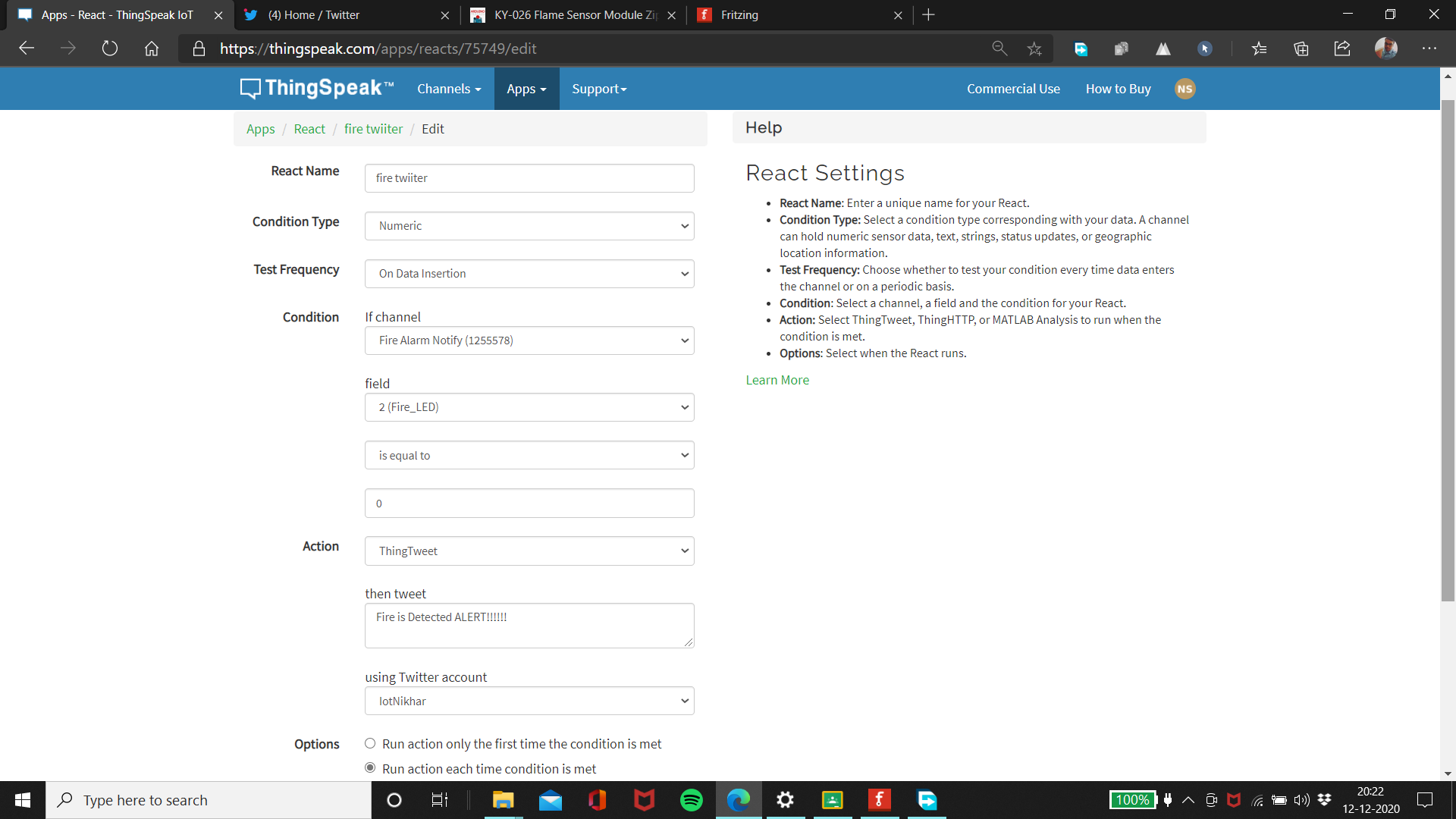
delay(10000); // ThingSpeak will only accept updates every 10 seconds.

}

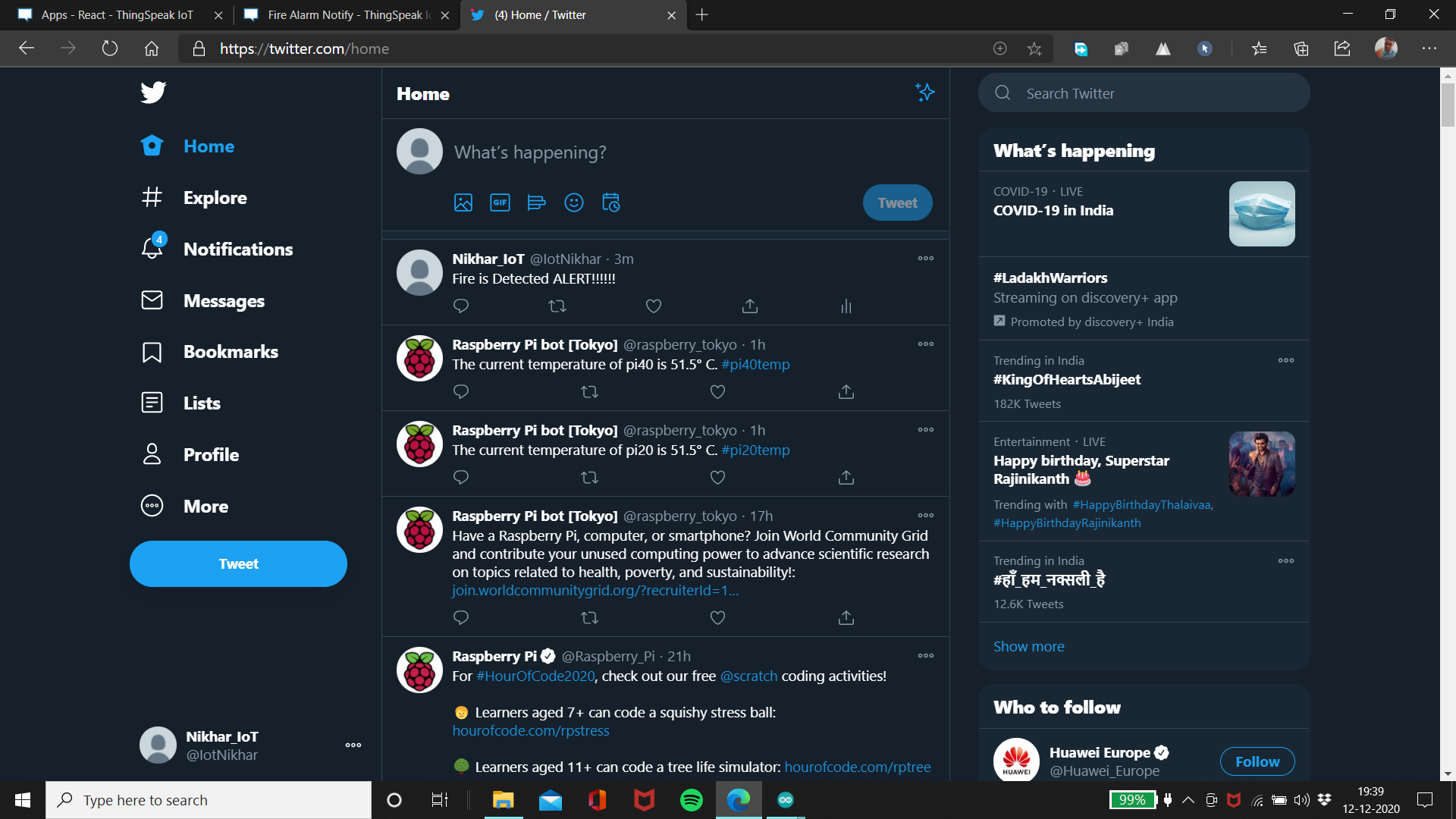
**THINGSPEAK CHANNEL:**

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**REACT CONFIGURATIONS:**

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**TWITTER TWEET:**

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