Temperature and humidity monitoring

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Overview:

This project aim is to send the data of DHT22 sensor to Thingspeak to monitor the sensor values, if the temperature levels are high sending a buzz from buzzer and to get the familiarity of thing speak platform to apply for the course project.

Materials:

1.Esp32.

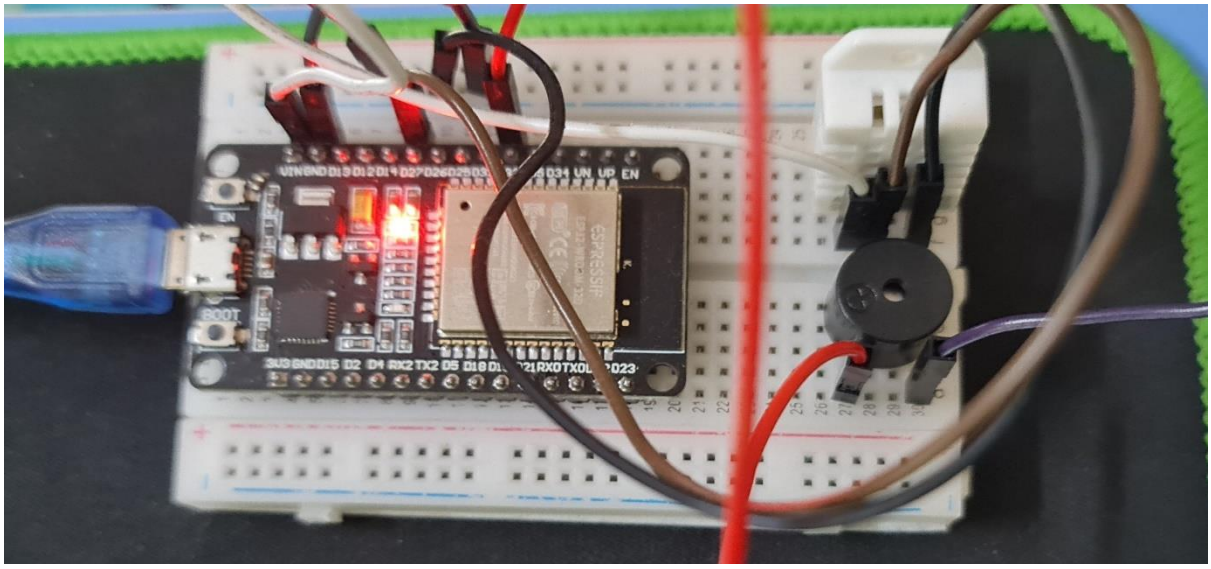
2.Buzzer.

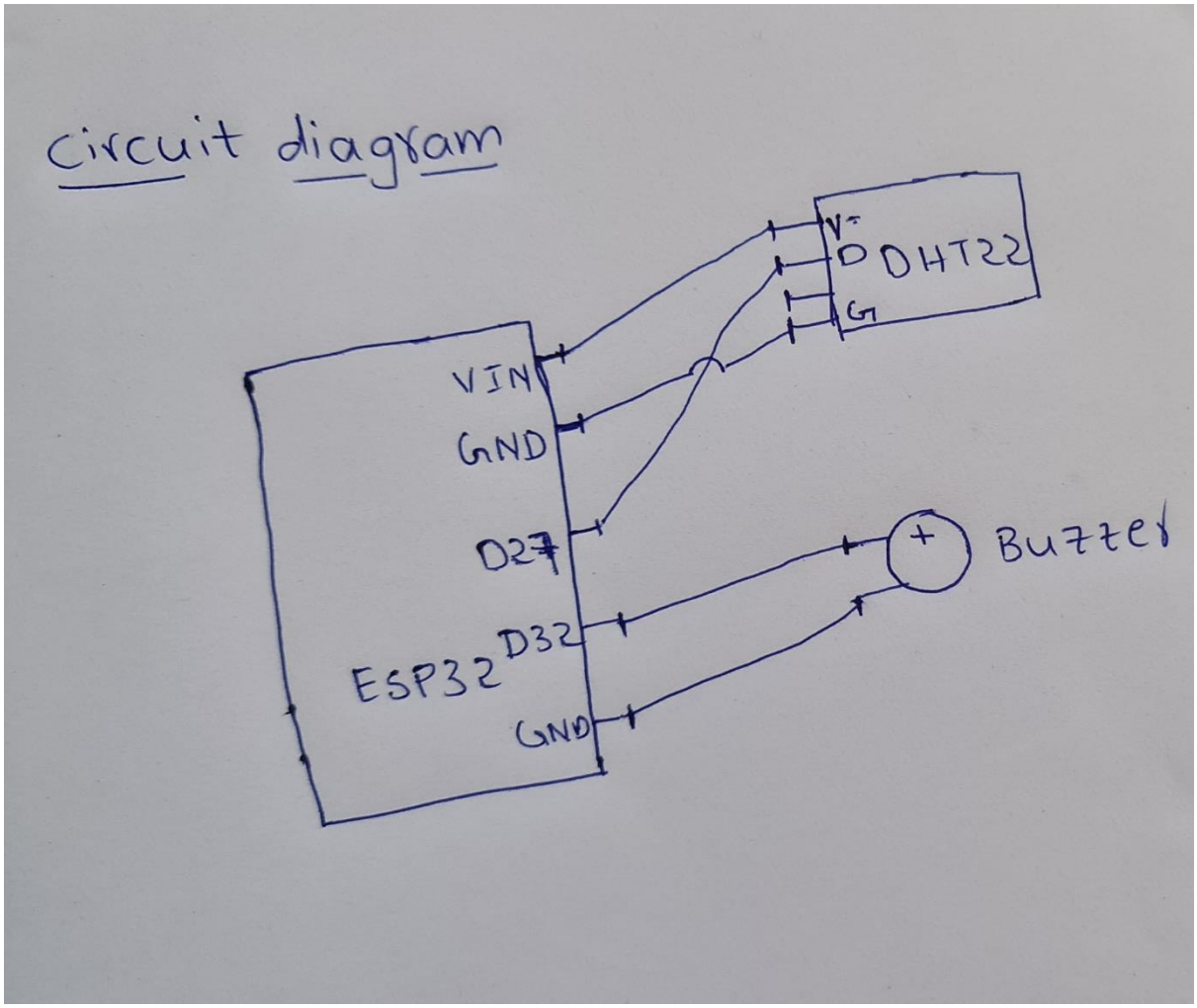
3.DHT22.

4.jumper wires.

Circuit and code flow explanation:

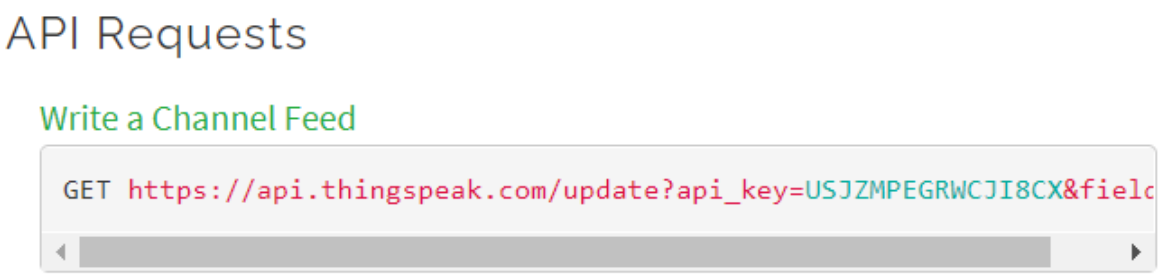
The image of the circuit is as follows





The above images are for the circuit and the code and remaining things are in the video and images folder (To the video the link is in the video.txt file) and there are some screen shots in the same folder for the Thingspeak and code snippets for the testing of the device.

Here we are using DHT22 sensor which will give the readings for the temperature and humidity values we can obtain the values using DHT library. And connecting the ESP32 to Wi-Fi using Wifi.h library after successful connection to the Wi-Fi network we will move to the final step of sending the data to Thingspeak(The link for the Thingspeak channel is in the video.txt file), We will concatenate the field1(temp), field2(humidity). And use the main API write request to send the concatenated sting and including it in the URL to send the final API call which will send the data to Thingspeak. See the image in the Next page for refrerence.



And using the buzzer if the temperature is above 42 C, the buzzer will buzz, In the video temp is chooses as 34C as upper limit to demonstrate the working for code.

Conclusion:

As completion of the project, I got a better understanding of esp32, How to connect it to Wi-Fi and send API requests to Thingspeak, analyzing the data in the Thingspeak.