Design and develop IOT based Automatic cooling system in chicken farms to safeguard and healthy growing of chicks and in time alarming for proper feeding and cleaning the farms

AIM: To develop a IOT based system to design and develop IOT based Automatic cooling system in chicken farms to safeguard and healthy growing of chicks and in time alarming for proper feeding and cleaning the farms.

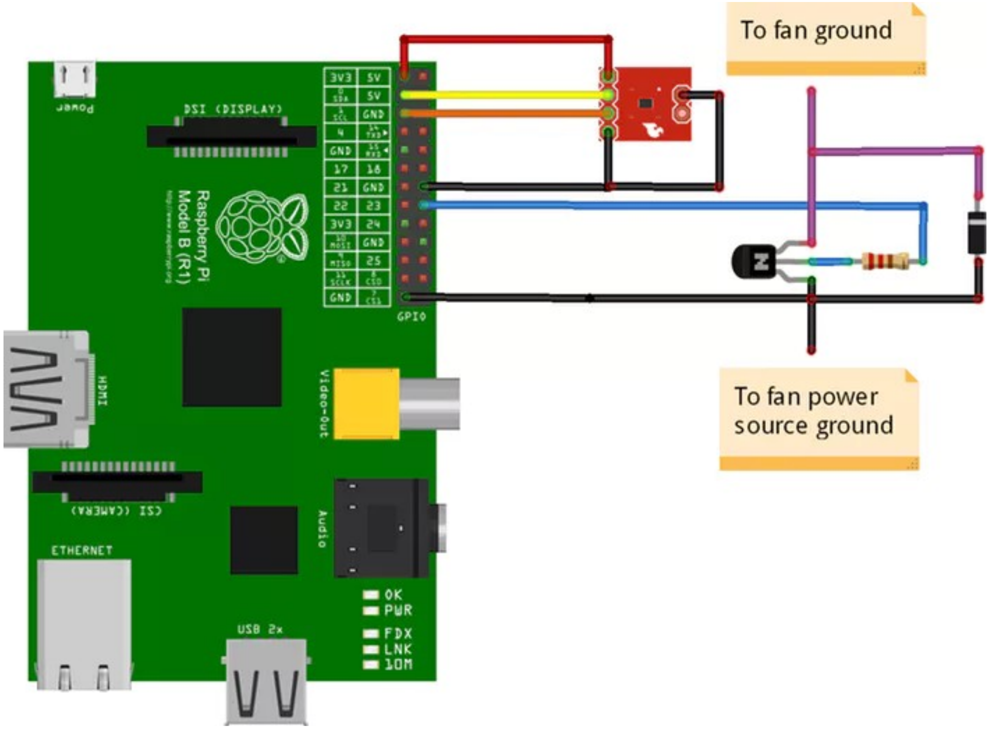
Description:

This project uses a Raspberry Pi 3 to control a 12 volt 600ma dc fan, using a transistor and diode to create an electronic autonomous switch to activate and deactivate the fan. The coding for the Raspberry Pi was written in python 2.7. The controlling factors of this code allow you to set the fan turn on temperature, how long the program will run for, and how many seconds it will wait to pulse the sensor and acquire a new temperature reading.

The Sensor used, was a BMP 180 made by JBtek. This sensor records the temperature, altitude and atmospheric pressure of the area around the sensor. This data will be displayed on the Python main terminal window every 10 seconds, per given code settings, allowing you to track the temperature changes over time.

Requirements: Rasberry pi, Temparature sensor(BMP180), 5V mini fan, Jumper wires.

Circuit Diagram:



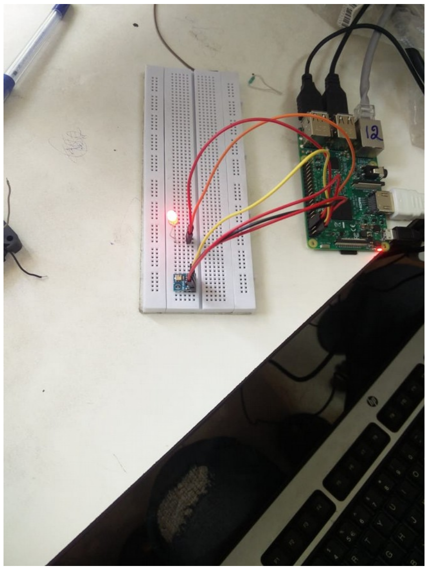
To fan ground

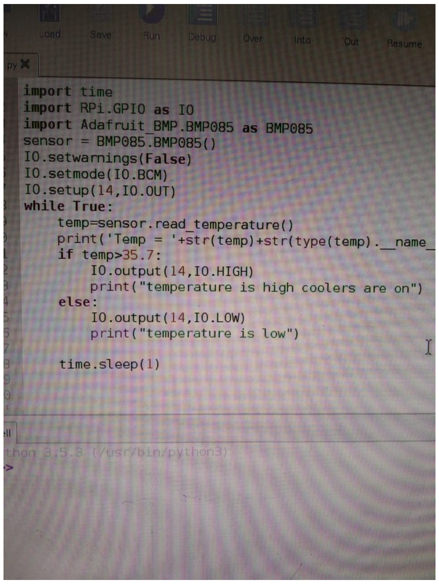
To fan power source ground

In this diagram, the jumper wires are connected as follows, viewing the Raspberry Pi orientated as shown above:

- •The red jumper goes from the 3v3 (3.3 volt power supply) pin of the Raspberry Pi to the VCC pin of the BMP180.
- •The yellow jumper goes from the second pin from the right on the top row of the Raspberry Pi to the SDA pin of the BMP180. The BMP180 uses this wire to communicate with the Raspberry Pi.
- •The blue jumper goes from the third pin from the right on the top row of the Raspberry Pi to the SCL pin of the BMP180.
- •The black jumper goes from any of the ground (GND) pins of the Raspberry Pi to the GND pin on the BMP180.

Output:

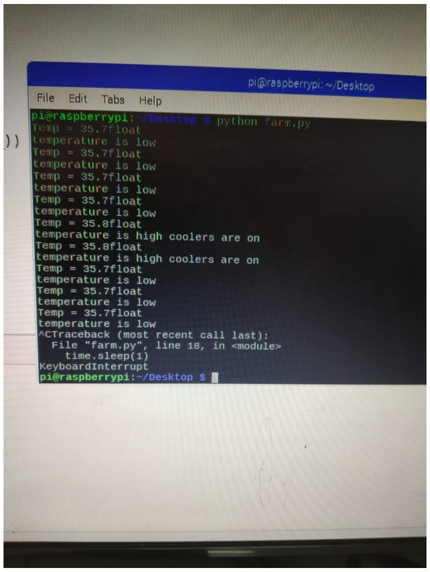




```
import time
import RPi.GPIO as IO
import Adafruit_BMP.BMP085 as BMP085
sensor = BMP085.BMP085()
IO.setwarnings(False)
IO.setmode(IO.BCM)
IO.setup(14,IO.OUT)
while True:
    temp=sensor.read_temperature()
    print('Temp = '+str(temp)+str(type(temp).__name_
    if temp>35.7:
        IO.output(14,IO.HIGH)
        print("temperature is high coolers are on")
    else:
        IO.output(14,IO.LOW)
        print("temperature is low")

    time.sleep(1)
```

```
thon 3.5.3 (/usr/bin/python3)
>
```



```
pi@raspberrypi:~/Desktop $ python farm.py
Temp = 35.7float
temperature is low
Temp = 35.7float
temperature is low
Temp = 35.7float
temperature is low
Temp = 35.7float
temperature is low
Temp = 35.8float
temperature is high coolers are on
Temp = 35.8float
temperature is high coolers are on
Temp = 35.7float
temperature is low
Temp = 35.7float
temperature is low
Temp = 35.7float
temperature is low
^CTraceback (most recent call last):
  File "farm.py", line 18, in <module>
    time.sleep(1)
KeyboardInterrupt
pi@raspberrypi:~/Desktop $
```