Lab 2

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objective

creating an end to end system to get data from different type of sensor and send that data to node-red to visualize data and then pass the data to twitter in form of tweets.

Flow

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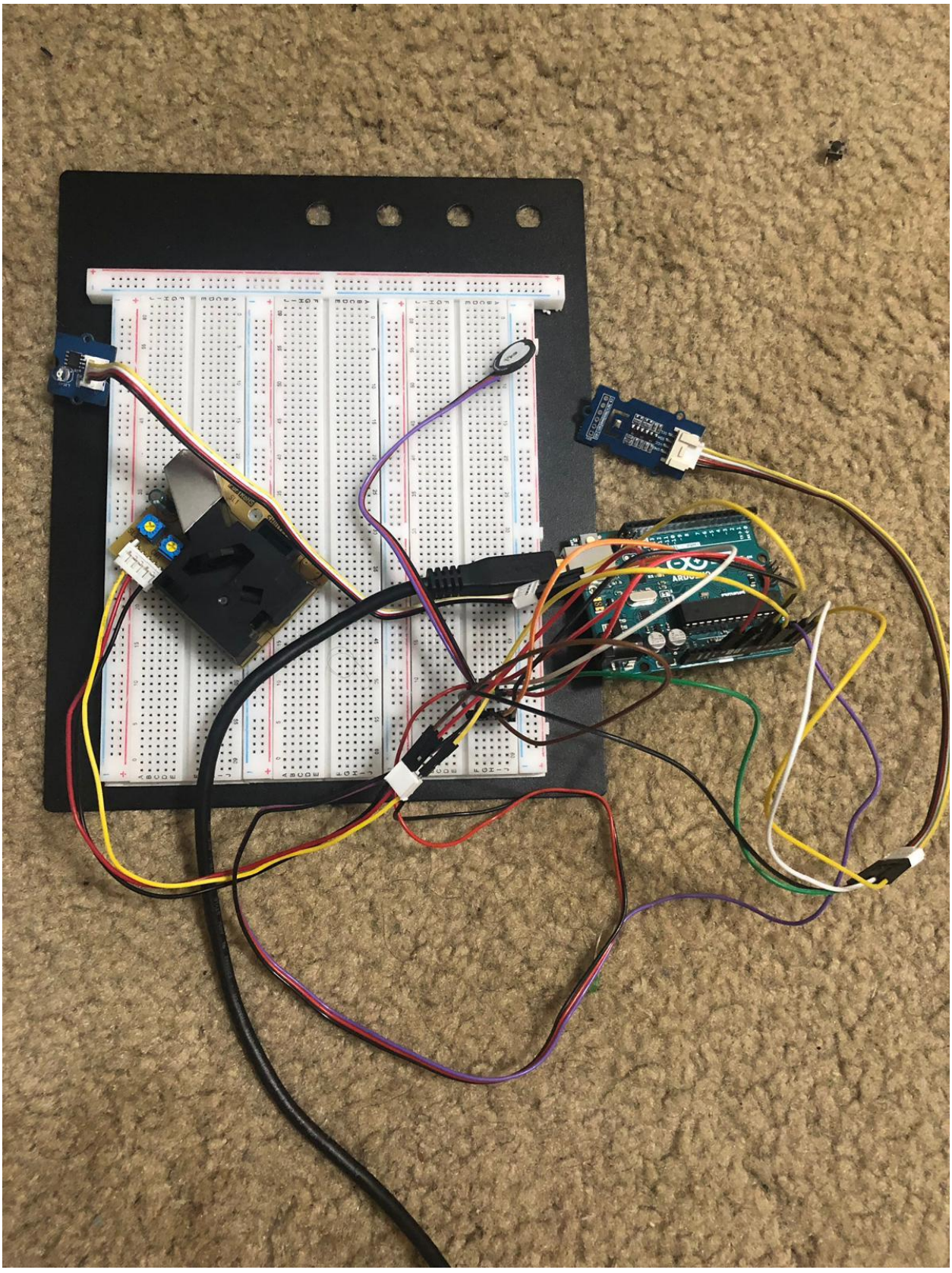
1. Connect different type of sensor(temperature,dust,light and etc) with arduino.
2. Create serial-in node to get data from arduino to node-red.
3. create a function node to parse the serial data coming from arduino and generate charts.
4. create a tweet node in node-red to pass the data to twitter in form of tweet.

CKT diagram



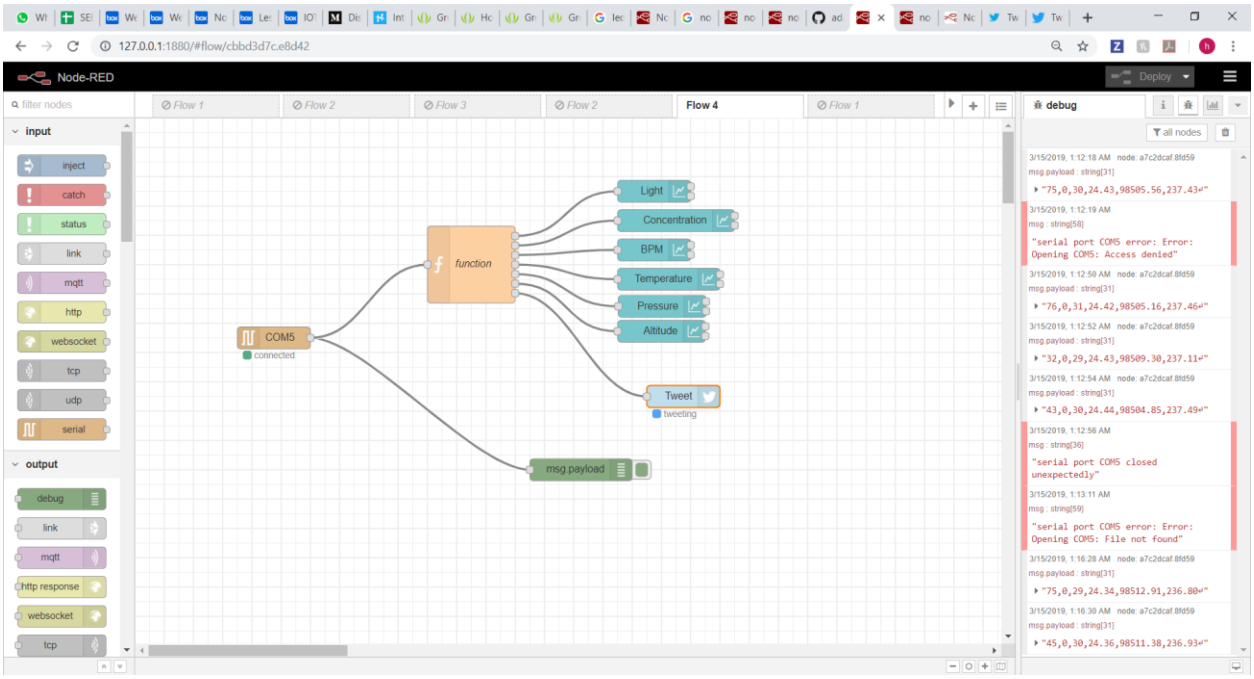
arduino code

sketch_mar14c §

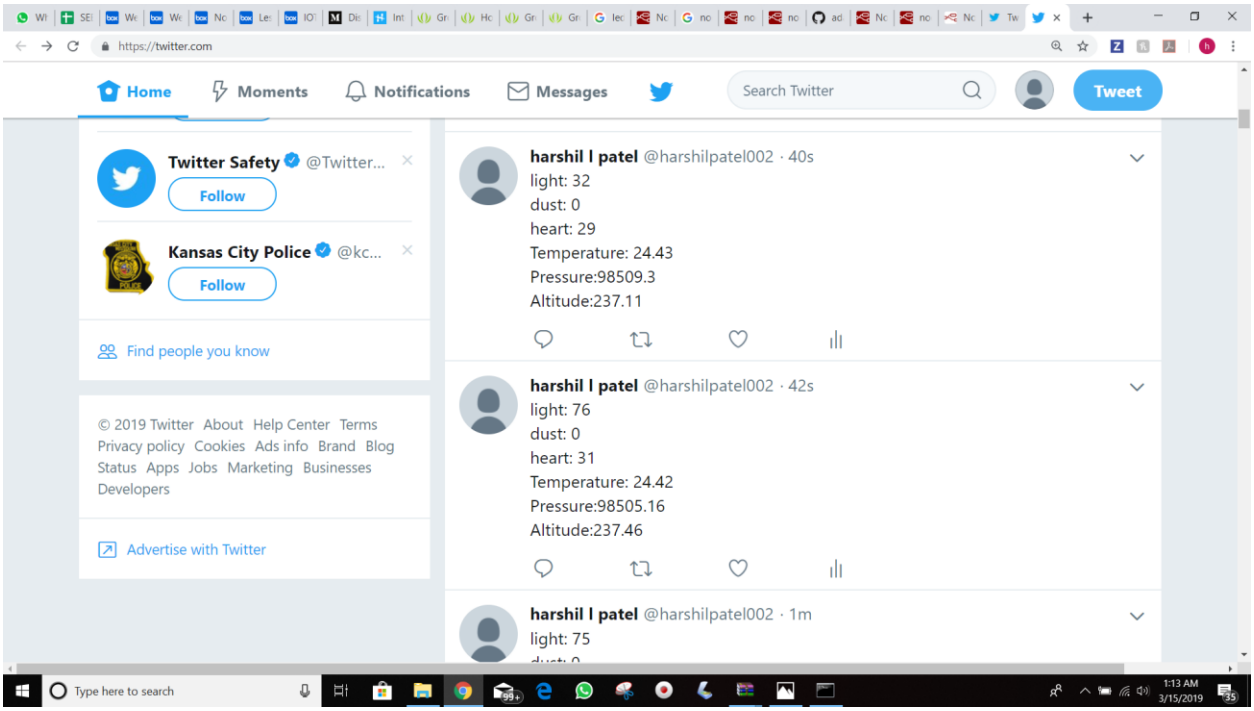
```
#include <Adafruit_Sensor.h>
#include <Adafruit_BMP280.h>
Adafruit_BMP280 bmp; // I2C
const int AOUTpin= 0;
const int AOUTpin1= 1;
const int AOUTpin2= 2;
int value;
int value1;
int value2;
String output;
void setup()
{
Serial.begin(57600);
pinMode(AOUTpin, INPUT);
pinMode(AOUTpin1, INPUT);
  if (!bmp.begin()) {
    Serial.println(F("Could not find a valid BMP280 sensor, check wiring!"));
    while (1);
  }
}
void loop()
{
value= analogRead(AOUTpin);
value1= analogRead(AOUTpin1);
value2= analogRead(AOUTpin2);

    output=String(value)+","+String(value1)+","+String(value2)+","+String(bmp.readTemperature())+",
    "+String(bmp.readPressure())+","+String(bmp.readAltitude(1013.25));
    Serial.println(output);
delay(100000);
}
```

node-red flow



twitter



conclusion

with the help of this assignment we where able to learn...

1. connecting multiple sensor with arduino.
2. link arduino with node-red and collecting serial output of arduino.
3. posting the collected data in form of tweet in twitter.