Source Code for "Seating Alignment Detection"

Abirami Rathina 2019115006 Monashree K 2019115055

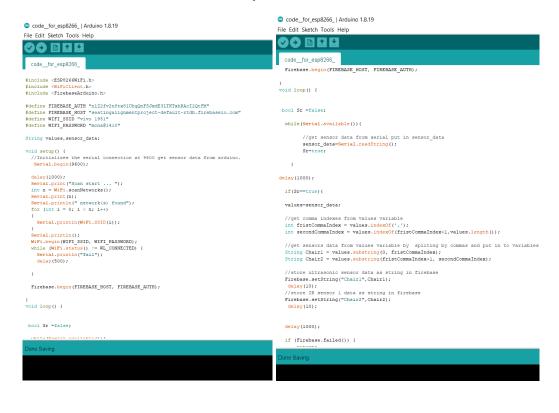
Code for esp8266 WiFi module

```
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <FirebaseArduino.h>
#define FIREBASE AUTH "nlZ2fv2n8tx8lUhqQnFSJmdE3LTKTxhRAcl2QtFM"
#define FIREBASE_HOST "seatingalignmentproject-default-rtdb.firebaseio.com"
#define WIFI SSID "vivo 1951"
#define WIFI PASSWORD "mona@1410"
String values, sensor data;
void setup()
 Serial.begin(9600);
 delay(1000);
 Serial.print("Scan start ... ");
 int n = WiFi.scanNetworks();
 Serial.print(n);
 Serial.println(" network(s) found");
```

```
for (int i = 0; i < n; i++)
 {
  Serial.println(WiFi.SSID(i));
 Serial.println();
 WiFi.begin(WIFI_SSID, WIFI_PASSWORD);
 while (WiFi.status() != WL_CONNECTED)
 {
    Serial.println("fail");
    delay(500);
 }
 Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);
}
void loop()
{
  bool Sr =false;
  while(Serial.available())
  {
    sensor_data=Serial.readString();
    Sr=true;
  }
  delay(1000);
  if(Sr==true)
  {
```

```
values=sensor_data;
     int fristCommaIndex = values.indexOf(',');
     int secondCommaIndex =
values.indexOf(fristCommaIndex+1,values.length());
     String Chair1 = values.substring(0, fristCommaIndex);
     String Chair2 = values.substring(fristCommaIndex+1, secondCommaIndex);
    Firebase.setString("Chair1",Chair1);
    delay(10);
    Firebase.setString("Chair2",Chair2);
    delay(10);
    delay(1000);
    if (Firebase.failed())
    {
        return;
    }
  }
```

Screen Shot of esp8266 WiFi module code



```
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code_for_esp8266_

bool Sr =false;

while(Serial.available()){
    //get sensor data from serial put in sensor_data
    sensor_data=Serial.readString();
    Sretrue;
}

delay(1000);
if(Sr=true){
    values=sensor_data;
    //get comma indexes from values variable
    int fristCommaIndex = values.indexOf(fristCommaIndex+1, values.length());
    int secondCommaIndex = values.uindexOf(fristCommaIndex+1, values.length());

//get sensors data from values variable by splitting by commas and put in to variables
    String Chair1 = values.substring(fristCommaIndex+1, secondCommaIndex);

String Chair1 = values.substring(fristCommaIndex+1, secondCommaIndex);

//store ultrasonic sensor data as string in firebase
Pirchase.setString("Chair1", Chair1);
delay(100);
//store IB sensor I data as string in firebase
Pirchase.setString("Chair2", Chair2);
delay(1000);
if (Firebase.failed()) {
    return;
}
}

Done Sawng.
```

Code for Arduino uno

```
const int trig1=11;
const int echo1=12;
const int trig2=9;
const int echo2=8;
long duration, duration1;
int distance, distance1;
String values;
void setup()
{
  pinMode(trig1, OUTPUT);
  pinMode(echo1, INPUT);
  pinMode(trig2, OUTPUT);
  pinMode(echo2, INPUT);
  Serial.begin(9600);
  delay(2000);
}
void loop()
{
  values= (getStatus1()+','+getStatus2());
  delay(1000);
```

```
Serial.flush();
  delay(1000);
 Serial.println(values);
 delay(2000);
}
String getStatus1()
{
  digitalWrite(trig1, LOW);
  delayMicroseconds(2);
  digitalWrite(trig1, HIGH);
  delayMicroseconds(10);
  digitalWrite(trig1, LOW);
  duration = pulseIn(echo1, HIGH);
  distance = duration * 0.034 / 2;
  if(distance <= 12)
    return "Arranged";
  }
  return "Not Arranged";
}
String getStatus2()
{
  digitalWrite(trig2, LOW);
```

```
delayMicroseconds(2);
digitalWrite(trig2, HIGH);
delayMicroseconds(10);
digitalWrite(trig2, LOW);
duration1 = pulseIn(echo2, HIGH);
distance1 = duration1 * 0.034 / 2;
if(distance1 <= 12)
{
    return "Arranged";
}
return "Not Arranged";
}</pre>
```

Screen Shot of Arduino Uno code

