DEPARTMENT OF INFORMATION SCIENCE AND TECHNOLOGY

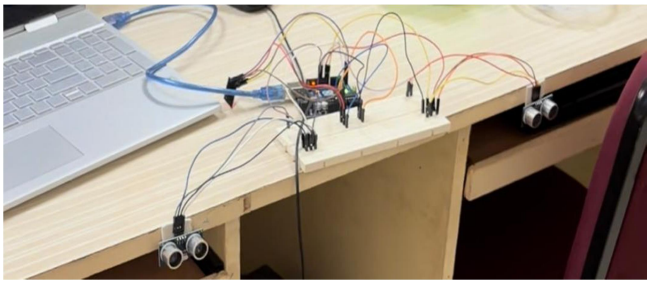
IOT BASED SEATING ALIGNMENT DETECTION

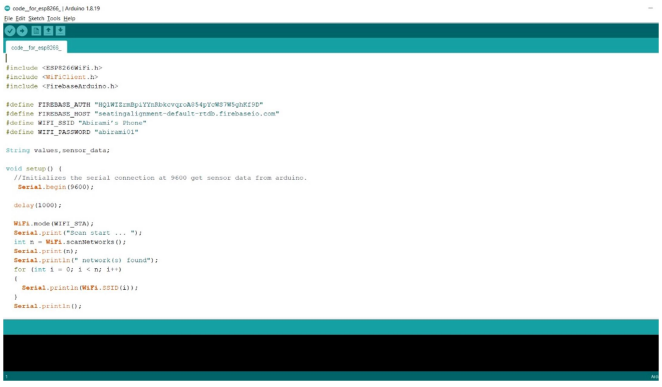
ABSTRACT

Internet of Things (IoT) is a rapidly growing network of a variety of different ‘connected things.' Use of IoT in academics is like a new wave of change that has brought new opportunities and possibilities for the improvement of both teaching learning process and educational institutions’ infrastructure. A sensor is a device that converts one type of energy to another. The system proposed in this paper is an advanced solution for detecting whether the chairs in the lab class were arranged properly or not. The technology behind this is Internet of Things(IoT), which is an advanced and efficient solution for connecting the things to the internet and to connect to the entire world of things in a network. This is possible by ESP8266-01[3] with the Arduino IDE and interfacing with the Ultrasonic sensor. This project is divided into two parts that involve hardware and software. The hardware part involves building the ultrasonic sensor board and software part involves written programs based on C language.

CONCLUSION

Therefore, by using our proposed system we can ensure whether the chairs have been arranged properly in any classroom setup. By making sure that the chairs have been arranged properly we can maintain a neat and organized environment.





```
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <FirebaseArduino.h>

#define FIREBASE_AUTH "HQlWIIzmBpiYYnBbkcvgcoA054pYcMS7W5ghKI9D"
#define FIREBASE_HOST "seatingalignment-default-rtdb.firebaseio.com"
#define WIFI_SSID "Abiram's Phone"
#define WIFI_PASSWORD "abiram101"

String values,sensor_data;

void setup() {
  //Initializes the serial connection at 9600 get sensor data from arduino.
  Serial.begin(9600);

  delay(1000);

  WiFi.mode(WIFI_STA);
  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();
```