AIR QUALITY MONITORING

OBJECTIVE:

To design a Air Quality Monitoring using Tinkercad software and create a platform that display real time air quality data .And design the platform to receive and display air quality data send by the IoT devices.

RECUIREMENTS:

System with Tinkercad software

OPERATION:

- Create own account in Tinkercad Software
- Create a new project
- Select Components such
    I. Potentiometer
    II. Arduino Uno
    III. Gas sensor
    IV. Piezo
    V. LCD display
    VI. Bread board
    VII. Resistors(10k ohm,10k ohm,1k ohm)
- Connect all the components as well as given circuit diagram Fig.1.
- Write a code to given circuit diagram

```
// include the library code:
#include <LiquidCrystal.h>


// initialize the library with the numbers of the interface pins
```

```
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

int pin8 = 8;
int analogPin = A0;
int sensorValue = 0;        // store the value read

void setup() {
  pinMode(analogPin, INPUT);
  pinMode(pin8, OUTPUT);
  // set up the LCD's number of columns and rows:
  lcd.begin(16, 2);
  // Print a message to the LCD.
  lcd.print("What is the air ");
  lcd.print("quality today?");
  Serial.begin(9600);
  lcd.display();
}

void loop() {

  delay(100);
  sensorValue = analogRead(analogPin);     // read the input pin
  Serial.print("Air Quality in PPM = ");
  Serial.println(sensorValue);           // debug value

  lcd.clear();
  lcd.setCursor(0,0);
```

```
lcd.print ("Air Quality: ");
lcd.print (sensorValue);

if (sensorValue<=500)
 {
 Serial.print("Fresh Air ");
 Serial.print ("\r\n");
 lcd.setCursor(0,1);
 lcd.print("Fresh Air");
 }
else if( sensorValue>=500 && sensorValue<=650 )
 {
 Serial.print("Poor Air");
 Serial.print ("\r\n");
 lcd.setCursor(0,1);
 lcd.print("Poor Air");
 }
else if (sensorValue>=650 )
 {
 Serial.print("Very Poor Air");
 Serial.print ("\r\n");
 lcd.setCursor(0,1);
 lcd.print("Very Poor Air");
 }

if (sensorValue >650) {
  // Activate digital output
```

```
    digitalWrite(pin8, HIGH);
  }
  else {
    // Deactivate digital output
    digitalWrite(pin8, LOW);
  }
}
```

- Start simulation
- And Analyse the Air quality by using LCD display

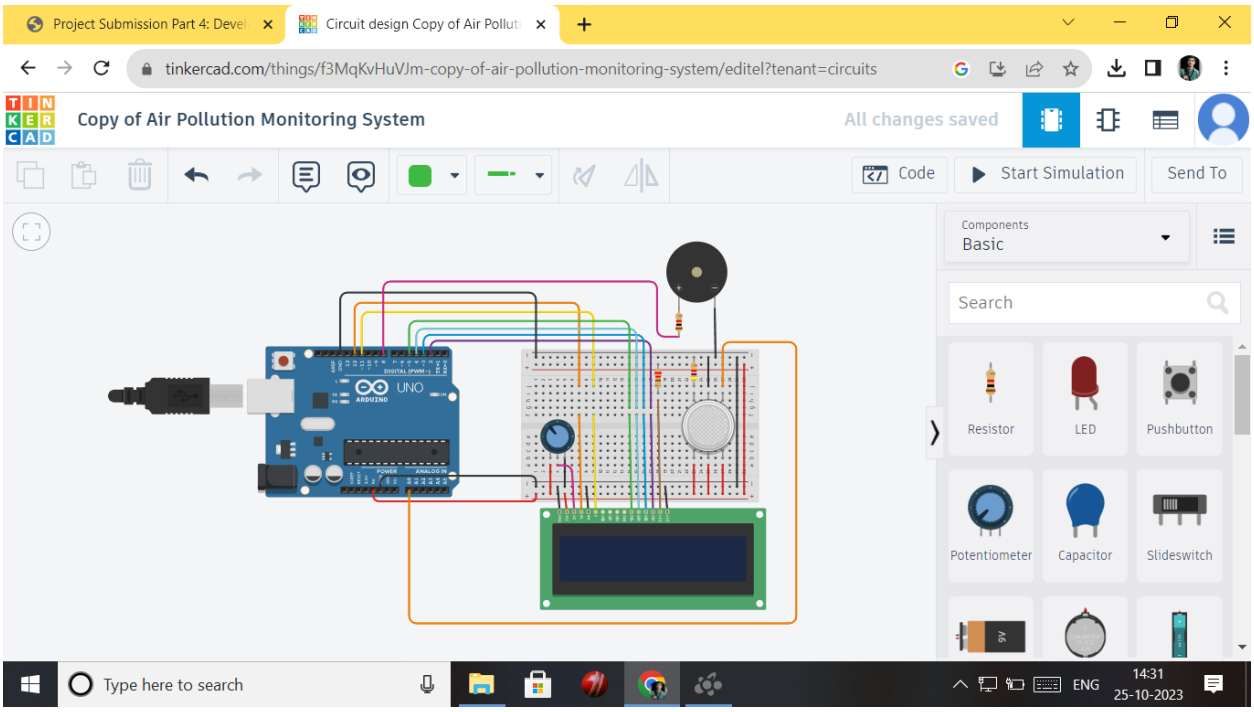

Fig.1.Cicuit diagram

- The above circuit diagram fig.1. illustrate ,Circuit diagram of Air quality monitoring.When air is pure the LCD does not display.

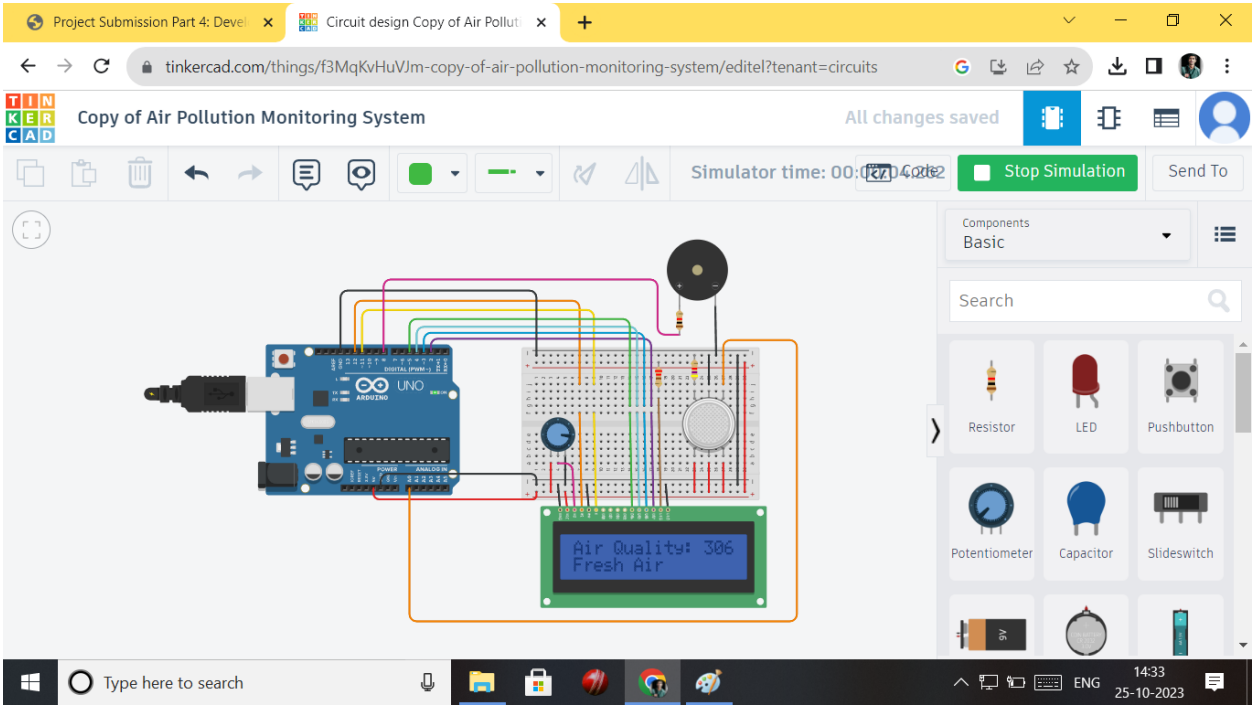

Fig.2.Air was polluted less

The above circuit Fig.2. is illustrate,circuit diagram of air quality monitoring it is display blue colour letters.If it is blue colour letters the air was less amount of polluted.

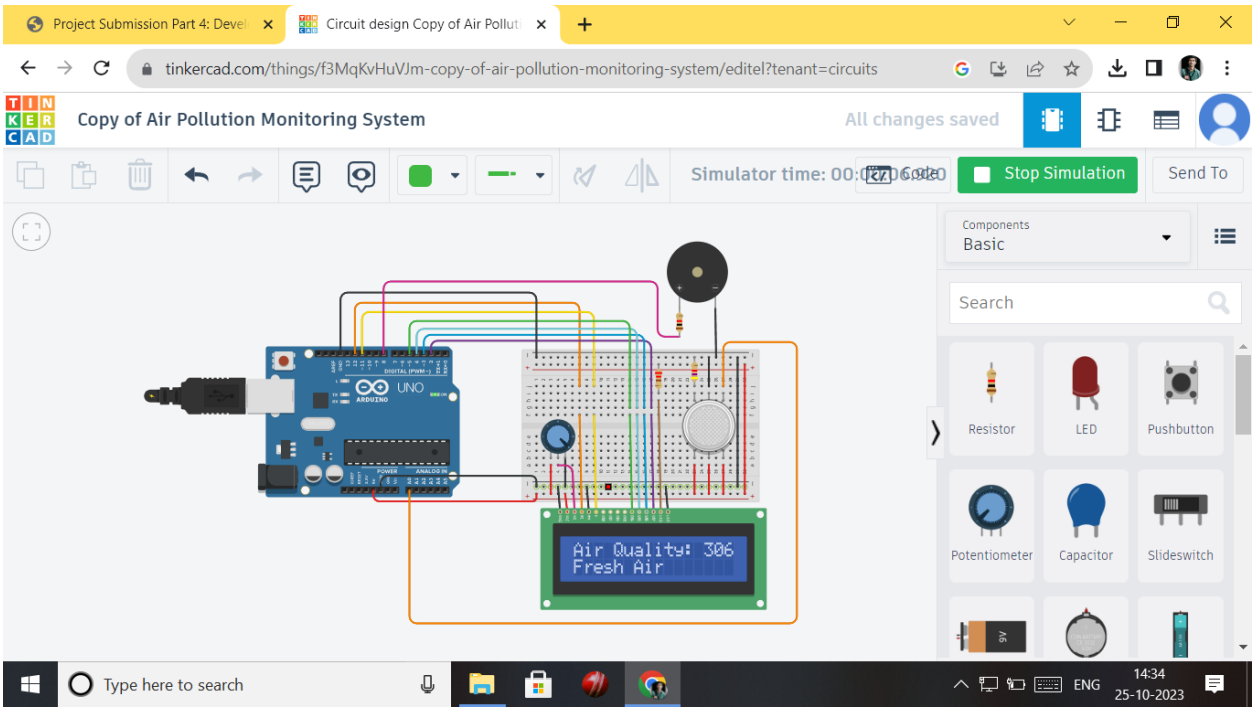

Fig.3.Polluted Air Display

The above circuit diagram Fig.3. is illustrate , The air was more amount of polluted. When then letters are display in white colour the air was polluted more .