AIR QUALITY MANAGEMENT

PROGRAM(python):

#include<ESP32Servo.h>

#define TRIGGERPIN 32

#define ECHOPIN 35

#define RED\_LED 33

#define GREEN\_LED 25

Servo servo\_1;

long duration;

int pos, distance, i=0;

void setup()

{

servo\_1.attach(18);

Serial.begin(115200);

pinMode(TRIGGERPIN, OUTPUT);

pinMode(ECHOPIN, INPUT);

pinMode(RED\_LED, OUTPUT);

pinMode(GREEN\_LED, OUTPUT);

Serial.println(" ");

Serial.println("Sensing the Height");

digitalWrite(RED\_LED, HIGH);

digitalWrite(GREEN\_LED, LOW);

pos = 0;

servo\_1.write(pos);

}

void loop()

{

digitalWrite(TRIGGERPIN, LOW);

delayMicroseconds(3);

digitalWrite(TRIGGERPIN, HIGH);

delayMicroseconds(12); // it may be 10 us

digitalWrite(TRIGGERPIN, LOW);

// Reads the echoPin, returns the sound wave travel time in microseconds

duration = pulseIn(ECHOPIN, HIGH);

// Calculating the distance

distance = (duration/2) / 29.1;

// for Adult

if (distance >= 100 && distance <= 150)

{

i = 1;

if (pos != 180)

{

servo\_1.write(180);

pos = 180;

i = 1;

}

}

// for Child

else if (distance >= 200 && distance <= 250)

{

i = 1;

if (pos != 0)

{

servo\_1.write(0);

pos = 0;

i = 1;

}

}

else if (distance > 300 && i == 1)

{

digitalWrite(RED\_LED, LOW);

digitalWrite(GREEN\_LED, HIGH);

delay(5000);

digitalWrite(RED\_LED, HIGH);

digitalWrite(GREEN\_LED, LOW);

i = 0;

}

delay (500);

Serial.println(" ");

Serial.print("Free Level : ");

Serial.print(distance);

Serial.print(" ");

Serial.print("Position : ");

Serial.print(pos);

delay (500);

}

LIBRARY FILES:

# Wokwi Library List

# See <https://docs.wokwi.com/guides/libraries>

# Automatically added based on includes:

ESP32Servo

OUTPUT:

