



AUTOMATIC TEMPERATURE DETECTOR AND DOOR OPENER FOR COVID SAFETY

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Abstract –COVID 19 has made a huge impact on the society, the new restriction has been imposed as in the number of users allowed in a particular room in offices ,shops ,etc. to maintain social distancing ,along with social distancing regular temperature check at entrances of malls ,the office is mandatory. In this project we stimulate a room where such necessary precautions are taken, we make use of a laser diode and receiver to detect the entrance of a person, when the project detect entrance it will check the temperature of the person if the temperature is less than the set temperature the person is allowed entry other wise the entry is denied. only a pre-determined number of people are allowed in the room. The allowed temperature, the number of people allowed in the room as well as the number of people actively present in the room can be set/viewed using a LCD Display.

Key words : covid safety,automatic doors,temperature detector,IOT

1.INTRODUCTION

The main objective of the system (temperature scanning gate) is to monitor the human body temperature when a they passed through the gate. In normal situation the gate is always open. If the gate senses any high temperature (more than 99.0 degree Fahrenheit), the gates automatically rejects the entry by closing the gate. The gate also provides warning beeps while the body temperature of a person is high.

Our world is effected by covid-19. Some health measurements are needed for preventing the covid-19 spreads. One of the early symptoms of covid-19 is high body temperature or fever. Our temperature monitoring gates able to detects high body temperature. This temperature screening gate is useful for bus stops, hospitals, restaurants, airports, grocery stores and shopping malls etc. The implementation cost of this gate is also cheap (compare with heat camera).Thermal cameras are also used to monitor the temperature.

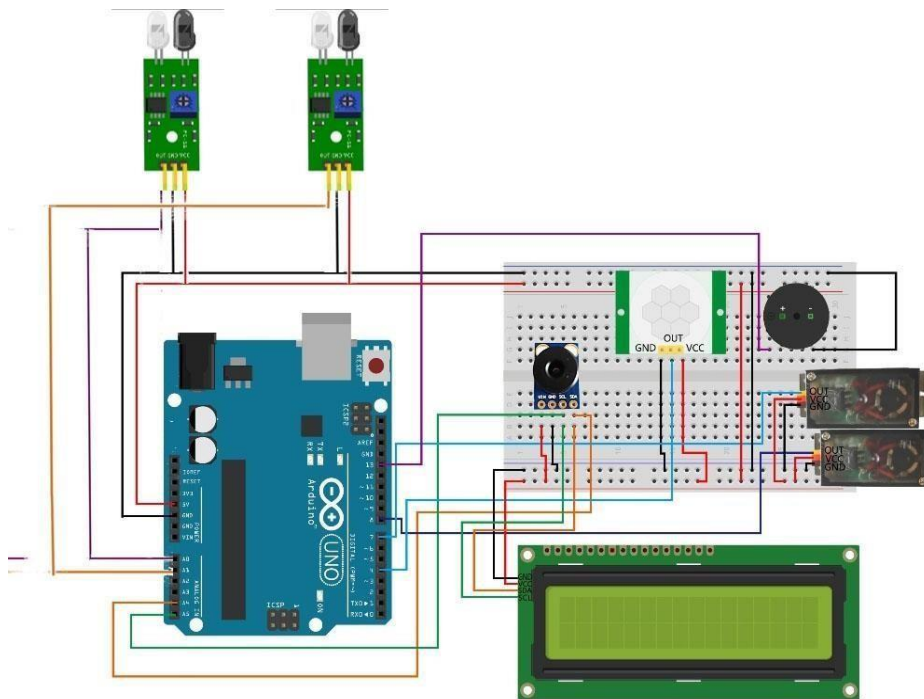
2.COMPONENTS

- Arduino UNO
- Non Contact Temperature Sensor
- Servo Motor
- LCD Display IC
- Vtg Regulator IC
- Cables and Connectors
- PCB andBreadboard
- LED
- Buzzer



- IRsensor
- PIR Motionsensor

3.CIRCUITDIAGRAM:



4.APPENDIX

CODING USED IN

```
#include<LiquidCrystal_I2C.h> #include<Wire.h>
#define in 14 #defineout 15
#define relay2 intcount=0;
LiquidCrystal_I2C lcd(0x27,20,4);
void setup(){ lcd.init(); lcd.backlight();
lcd.print("Covidsafetyroom"); delay(2000);
pinMode(in, INPUT); pinMode(out, INPUT); pinMode(relay, OUTPUT); lcd.clear(); lcd.print("Person In Room:");
lcd.setCursor(0,1); lcd.print(count);
}
void loop(){
int in_value = digitalRead(in);
int out_value = digitalRead(out);
if(in_value == LOW)
{
count++;
lcd.clear();
lcd.print("Person In Room:");
lcd.setCursor(0,1);
lcd.print(count);
delay(1000);
}
}
if(out_value == LOW)
```



```

{
  count--;
  lcd.clear();
  lcd.print("Person In Room:");
  lcd.setCursor(0,1);
  lcd.print(count);
  delay(1000);
}
if(count==0)
{
  lcd.clear();
  digitalWrite(relay, LOW);
  lcd.clear();
  lcd.print("Nobody In Room");
  lcd.setCursor(0,1);
  lcd.print("Light is Off");
  delay(200);
}

else
{
  digitalWrite(relay, HIGH);
}
}

```

6. CONCLUSION

People can pass germs to each other through cross-contamination when they touch door handles, press handicap door buttons, or pull doors open. Within hours a single door knob can help spread germs through public restrooms, factories, commercial buildings, hospitals, and residences. Some of the most common germs that can spread through dirty door handles include:

- E.coli—bacteria that cause food poisoning
- Viruses—such as seasonal flu, influenza and COVID-19
- Streptococci—bacteria that causes strep throat and cellulitis
- Fungi—plant-like organisms that cause rashes
- Protozoa—single-cell organisms that cause diarrhea and nausea

The best way to keep the people in your building safe is to prevent germs from settling on surfaces such as door handles. Identifying germ hotspots and cleaning them thoroughly is a great way to prevent the spreading of germs. However, this takes a lot of time and effort. A great alternative is to replace mechanical door handles with automatic switches. Hands-free technology is becoming more popular and accessible. Bluetooth devices and voice control are available on many products and are now present in everyday life, such as touchless switches for lights and the Google Home. It is not different in commercial buildings where motion sensors and wave sensors will open doors for you and help keep building entrances germ-free.

7. REFERENCES

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