GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

PROJECT DEVELOPMENT – DELIVERY OF SPRINT 4

Team ID: : PNT2022TMID52298

```
#include <LiquidCrystal.h>

LiquidCrystal lcd(6, 7, 8, 9, 10, 11);
float gasPin = A0;
float gasLevel;int
ledPin = 2;
int buttonPin = 3;int
buzzPin = 4; int
buttonState; int fan
= 5;

void setup(){ pinMode(ledPin,
  OUTPUT);
  pinMode(buttonPin, INPUT);
  pinMode(gasPin,INPUT);
  pinMode(fan,OUTPUT);
  Serial.begin(9600);
  lcd.begin(16, 2);
  lcd.setCursor(0,0);
```

```
  lcd.print(" Welcome");
  lcd.setCursor(0,2);
  lcd.print(" Youtube");

  delay(500);
  lcd.clear();
}

void loop(){
  // Read the value from gas sensor and button
  gasLevel = analogRead(gasPin);
  buttonState = digitalRead(buttonPin);

  // call the function for gas detection and button work
  gasDetected(gasLevel);
  buzzer(gasLevel);
  exhaustFanOn(buttonState);
}

// Gas Leakage Detection & Automatic Alarm and Fan ON
void gasDetected(float gasLevel){
  if(gasLevel >= 300){
   digitalWrite(buzzPin,HIGH);
   digitalWrite(ledPin,HIGH);
   digitalWrite(fan,HIGH);
```

```
  lcd.setCursor(0,0);
  lcd.print("GAS:");
  lcd.print(gasLevel);
  lcd.setCursor(0,2); lcd.print("FAN
  ON"); delay(1000);

  lcd.clear();
 }else{
  digitalWrite(ledPin,LOW);
  digitalWrite(buzzPin,LOW);
  digitalWrite(fan,LOW);
  lcd.setCursor(0,0);
  lcd.print("GAS:");
  lcd.print(gasLevel);
  lcd.setCursor(0,2);
  lcd.print("FAN OFF");
  delay(1000);
  lcd.clear();
 }
}
//BUZZER
void buzzer(float gasLevel){
if(gasLevel>=300)
 {
 for(int i=0; i<=30; i=i+10)
```

```
  {
  tone(4,i);
  delay(400);
  noTone(4);
  delay(400);
  }
  }
}
// Manually Exhaust FAN ON
void exhaustFanOn(int buttonState){
  if(buttonState == HIGH){
  digitalWrite(fan,HIGH);
  lcd.setCursor(0,0); lcd.print("Button
  State:"); lcd.print(buttonState);
  lcd.setCursor(0,2);
    lcd.print("FAN ON");
    delay(10000);
    lcd.clear();
  }
}
```