Gas Leakage Monitoring & Alerting System for Industries

Team ID:PNT2022TMID16099

```
#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("PNT2022TMID33446");
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 >= 200){
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(100);
lcd.clear();}
}
//BUZZER
void buzzer(float gasLevel){
if(gasLevel>=200)
{
for(int i=0; i<=30; i=i+10)
{
tone(4,i);
delay(300);
noTone(4);
delay(4300);
}
}
}
// 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();
}
}
```