

GAS LEAKAGE MONITORING AND ALERTING SYSTEM **FOR INDUSTRIES**

PROJECT DEVELOPMENT – DELIVERY OF SPRINT 1

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```
#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();
  }
}
```