Project Title: Smoke detector System Using Gas Sensor

Course Code: BSD 3205

Unit: Embedded Systems

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## In this project, we will learn how to create a smoke detector using Arduino. This will help us detect the intensity of gases.

Use Cases

[environmental sensing](https://projecthub.arduino.cc/srajandikshit147/smoke-detector-using-gas-sensor-ecdee6)

[home automation](https://projecthub.arduino.cc/srajandikshit147/smoke-detector-using-gas-sensor-ecdee6)

[smart appliances](https://projecthub.arduino.cc/srajandikshit147/smoke-detector-using-gas-sensor-ecdee6)

Components and supplies

4

Resistor 220 ohm

1

Arduino UNO

1

5 mm LED: Green

1

Buzzer, Piezo

1

Jumper wires (generic)

1

Gas Sensor

1

Breadboard (generic)

1

5 mm LED: Red

Apps and platforms

1

Arduino IDE

1

Tinkercad

Project description

// Pin definitions

const int smokeSensorPin = 7; // Digital pin for the MQ2 sensor

const int buzzerPin = 8; // Digital pin for the buzzer

const int ledPin = 13; // Digital pin for the LED

void setup() {

// Initialize the digital pins

pinMode(smokeSensorPin, INPUT);

pinMode(buzzerPin, OUTPUT);

pinMode(ledPin, OUTPUT);

}

void loop() {

// Read the digital value from the MQ2 sensor

int smokeDetected = digitalRead(smokeSensorPin);

// Check if smoke is detected

if (smokeDetected == LOW) {

// If smoke is detected, sound the buzzer and turn on the LED

digitalWrite(buzzerPin, LOW);

digitalWrite(ledPin, LOW);

delay(1000); // Sound and LED on for 1 second

digitalWrite(buzzerPin, HIGH);

digitalWrite(ledPin, HIGH);

delay(1000); // Pause for 1 second

}

}

Code

Code for smoke Detector

arduino

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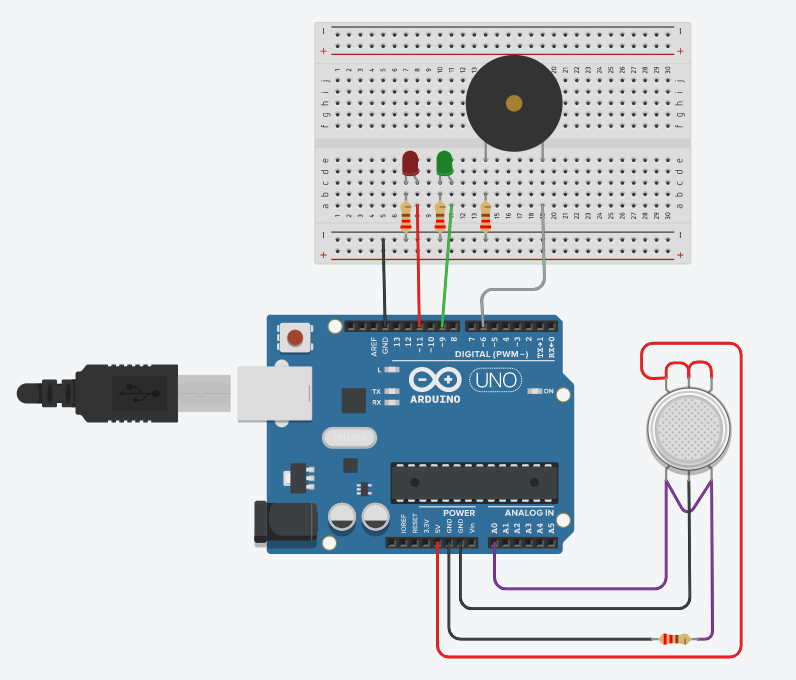
}

}

Downloadable files

Schematic of Smoke Detector

Schematic of Smoke Detector



Schematic of Smoke Detector

Schematic of Smoke Detector

