Bangladesh University Of Business & Technology

Project Report
On

Smoke and Gas Leakage Detector & Alarm System

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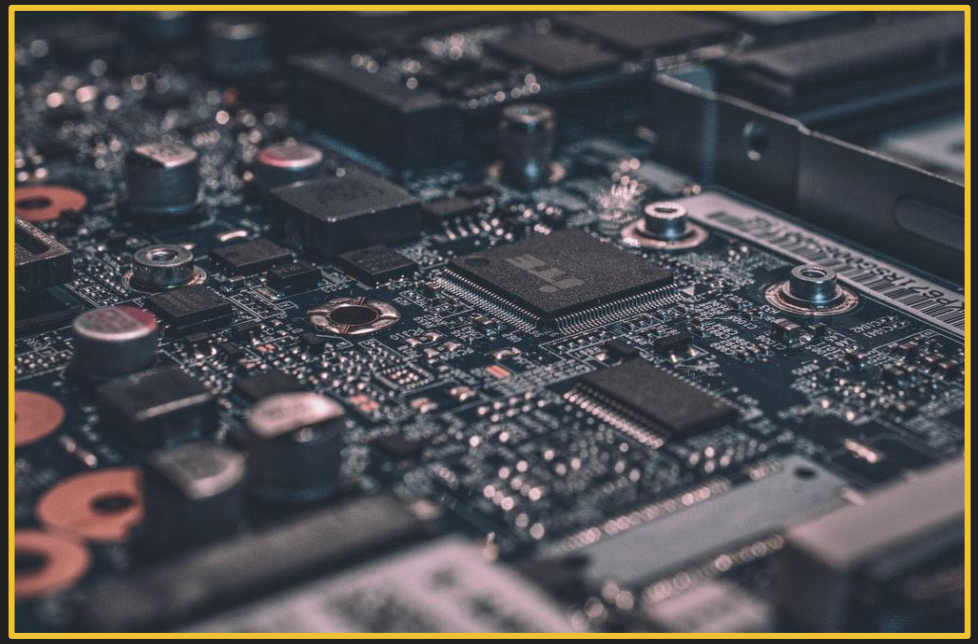
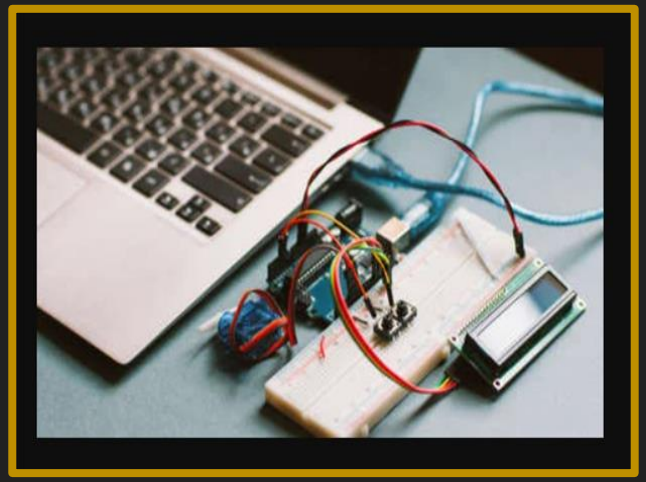
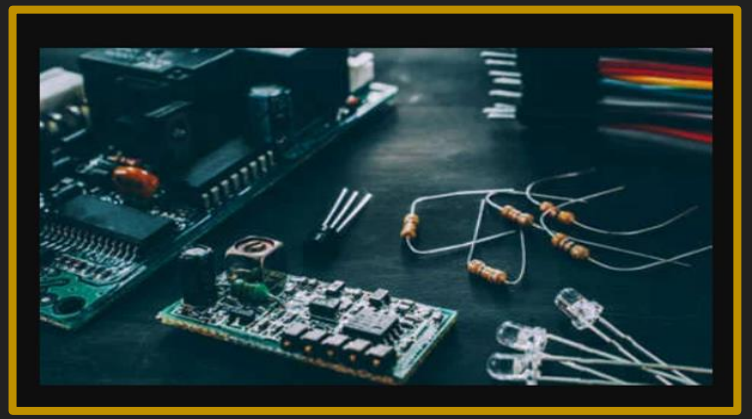


Introduction

In our project, we created a smoke and gas detector using Arduino. The detector detect the smoke and gas and will notify the user through the buzzer and red LED if the smoke density is above the safety limit and leakage gas.

Smoke Detector Circuit which not only sense the smoke in the air but also reads and displays the level of Smoke in the Air.



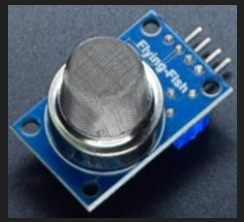


Required Components

1. Solderless Breadboard

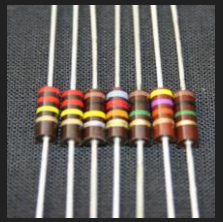
2. Arduino Uno

3. MQ-5 GAS Sensor



4. 16×2 LCD Display

5. Resistor

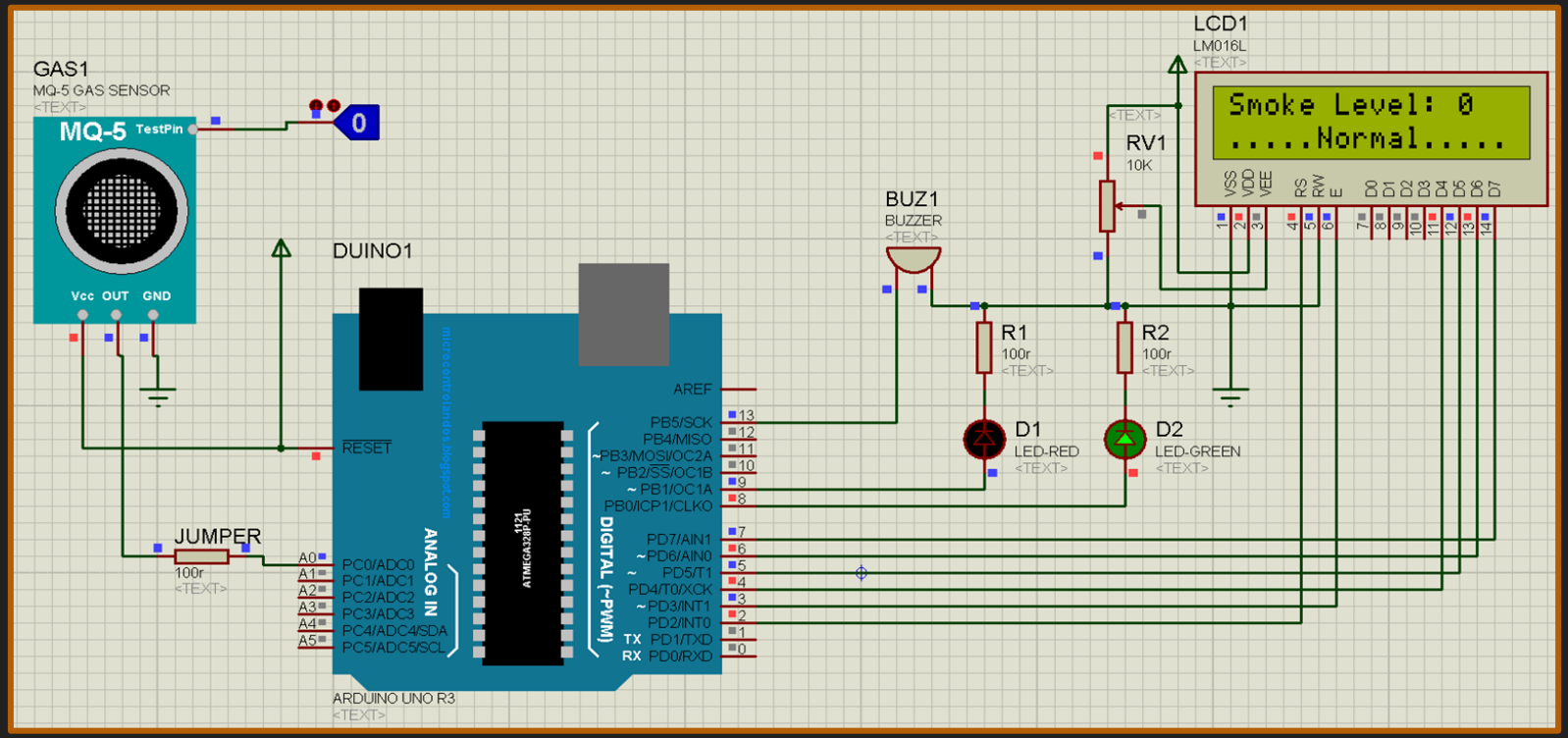


6. LED Green & red

7. Buzzer

8.Male to Male Jumper Wires

Circuit diagram



When we run this circuit and set 0 as input, the green LED will turn on and when we set 1 it will make sound a buzzer and red LED will turn on.

Advantages

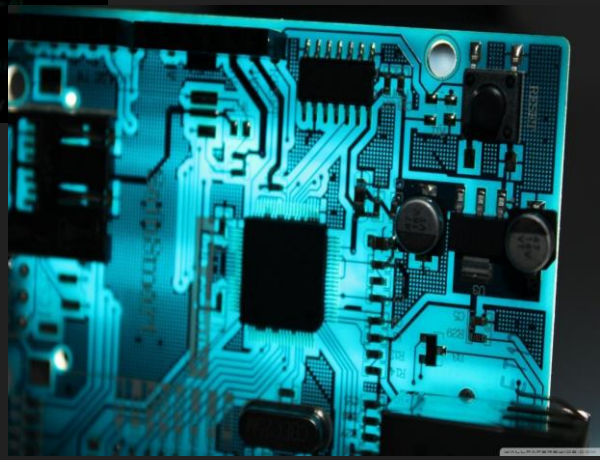
- Help us to detect the presence of LPG leakage.
- Detects product of combustion.
- High sensitive to LPG, natural gas and town gas.
- Sensitive enough to detect level of gases.
- Stable and long life.
- Simple drive circuit.
- Fast response.

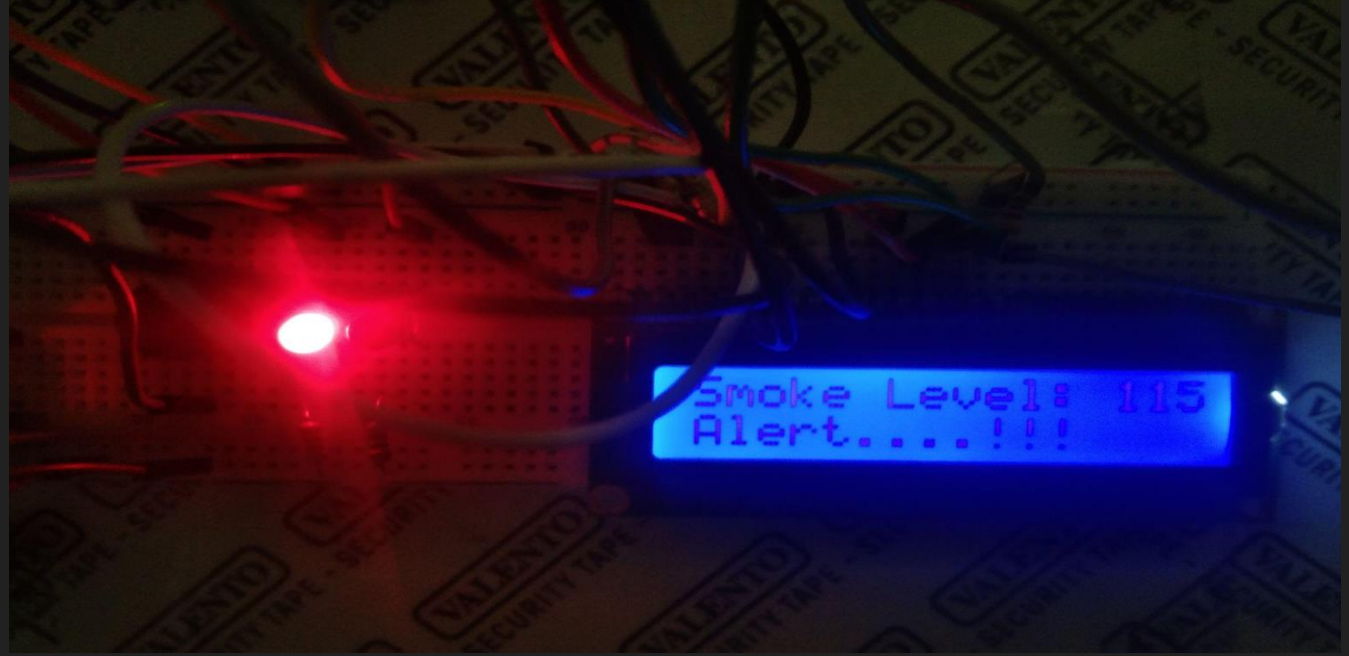
Future Scope

This project gives us an opportunity to do a big project in future. This technology could be further modified and more upgraded as per individual need and interest. The applications stated above are some demo applications that are absolutely possible with its future development.

- Plan to use GSM communication in the system

- Will be more efficient by using 16×2 LCD display.





Conclusion

In contrast to widespread smoke-based fire alarm systems, a fire alarm that relies on gas emission detection can provide faster response. We designed and implemented a system that holds an array of unspecific gas sensors, specifically selected for fire and gas detection.