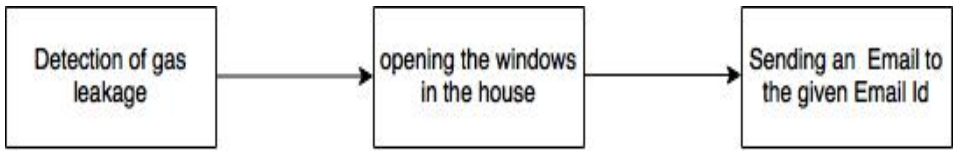
Liquefied Petroleum Gas Detector

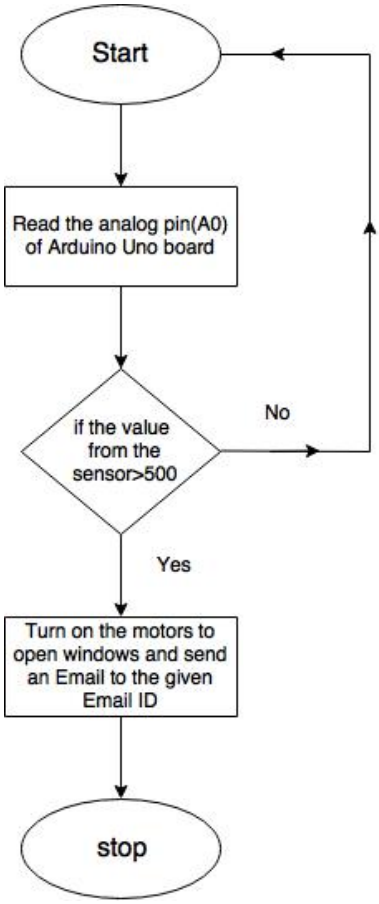
Introduction

Gas leakage is a common problem in households worldwide. It is an imminent danger and can cause severe damage to houses and can ruin lives, as it is not easily detectable. We live in an age where such conundrums should be avoided at all costs. Our aim is to use smart circuits and internet of things to help make households safer and make gas leaks more detectable.

Block Diagram



Flow Chart

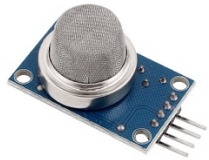


List of Components

1. Arduino Uno Board 1
2. MQ2 Gas Sensor Module 1
3. Connecting Wires
4. DC Motor 1
5. Motor driver module 1
6. Appropriate Resistors

Component Description

1. MQ135 Gas Sensor –
   It is a gas sensing device which detects LPG, i-butane, propane, methane, hydrogen and even smoke. It gives an analog value from 0 to 1023.



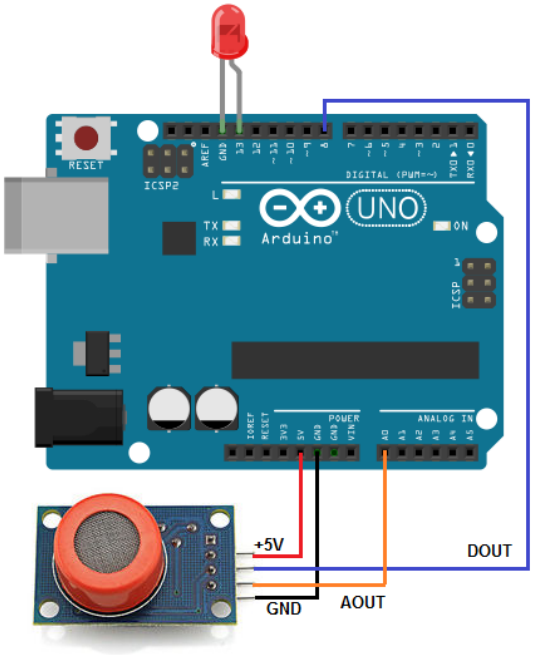
2. Arduino Uno Board –
   The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

3. DC Motor –
   A DC motor (Direct Current motor) is the most common type of motor. DC motors normally have just two leads, one positive and one negative. If you connect these two leads directly to a battery, the motor will rotate. If you switch the leads, the motor will rotate in the opposite direction.

4. Motor driver module

Conclusion

We hope that this device will be implemented in households to safeguard many innocent lives.



Basic circuit to Connect MQ135 gas sensor

REFERENCES

1.“How to Make an Electric Window at Home.” *Youtube*, Easy Experiments, 19 June 2016, www.youtube.com/channel/UC2NiwoOh9-xraPDFu5N_iXA.

2. K, Deeksha, et al. “Interfacing of MQ-135 Gas Sensor with Arduino.” *Microcontrollers Lab*, Bilala, 19 Apr. 2017, microcontrollerslab.com/interfacing-mq-135-gas-sensor-arduino/.

3. Sankar. “E-Mail Arduino Serial Data Using Node-RED.” *ICircuit*, Sankar Chappali, 15 July 2016, icircuit.net/mailing-arduino-serial-data-using-node-red/1017.