

Smoke Detector

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Abstract:- In this proposed system the idea is to build a system that could raise alarm when it detects smoke in its surrounding. As soon as the smoke detector detects smoke, the low voltage signal activates the relay on the smoke detector causing it to emit a tone that alerts the residents.

Smoke Detectors are particularly concerned with local residents to avoid any accident due to fire, short circuit .Improper precautions during fire or any incident related to smoke may lead to loss of life or serious harm to properties.The proposed system may allow the common people to attach a smoke detecting system at low price . The proposed system will allow people to get alarmed of any smoke detection at there house, offices etc.

The existing smoke detecting system basically uses ionization type of alarm which has some radioactive material between two electrically charged plates which are more costlier than the proposed system.

In the proposed system we have used MQ2 sensors. In MQ2 sensors the greater the gas concentration is the greater the output is.Similarly the lower the gas concentration the lower the output. We have also used the Arduino Leonardo which contains both a physical programmable circuit board (often referred to as a microcontroller) and a piece of software, or IDE (Integrated Development Environment) that runs on your computer.By using this u could write the computer code and upload it into Physical circuit.

I. INTRODUCTION

Main controller is considered as the brain of the system, provides power to the system, monitor’s inputs and controls outputs through various circuits. Performs other functions required by the appropriate code. A smoke detector is a device that senses smoke when activated, typically as an fire indicator. Commercial security devices issue a signal to a fire alarm control panel as part of a fire alarm system, while household smoke detectors, also known as smoke alarms, generally issue a local audible or visual alarm from the detector itself.

II. CIRCUIT OF THE PROPOSED SYSTEM

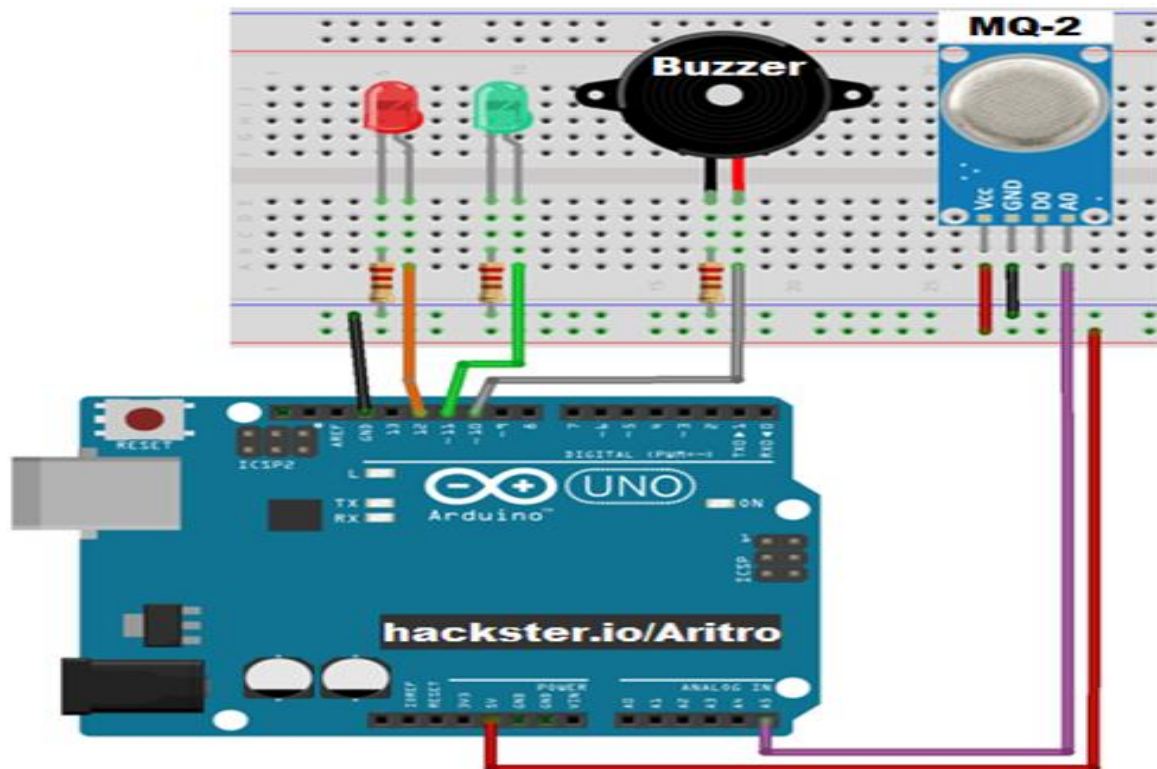


Fig 1:- Circuit of the Proposed System

III. REQUIREMENT ANALYSIS

Software and hardware both are the components which are dependent on one other, it can be said that the software without the support of hardware is of no use and vice versa. For execution of the proposed system following specification of hardware and software is required.

System requirement is as follows:

➤ *Hardware Requirement*

- Arduino Leonardo.
- MQ2 Sensor.
- Buzzer.
- 221 Ohm resistor.
- Jumper Cables.
- LED's.
- Bread Board.
- Android 4.4 and up.

➤ *Software Requirement*

- IDE(integrated development Environment)
- C language
- Android Studio

IV. CONCLUSION

- This project of SMOKE DETECTOR is pocket friendly, practical, better than available detectors in the market.
- Smoke detectors are great precautions to avoid any accident in future.
- According to statistical data we can save 30% of fire accident from increasing at the right time if we get to know about it the right time.

FUTURE SCOPE

- This system can be further upgraded by adding the feature of getting notified on your phone about the smoke detected and type of smoke detected with the real time graph of the density of smoke detected.
- By utilizing the growing technology we could add more sensors in the proposed system to make it more useful for user.
- In future this project could be even created even more cheaper and this would let the common people use it at there homes offices buildings etc.

REFERENCES

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- [2]. www.howstuffworks.com
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