**LITERATURE SURVEY**

**Gas leakage detection and alerting system using Arduino Uno**

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The presence of hazardous LPG gas leakage in a domestic, work place, also, stored gases container gas which exhibits ideal characteristic is use. For that sake, an alarm unit is used to vibrate an alarm which is buzzer. Buzzer gives an audible sign of the presence of LPG volume. The sensors are widely used to detect essence of propane, iso-butane, LPG and even smoke. The sensor has an advantage to combine a sensitivity response time. If the LPG sensor senses gas leak from work place or home, sensor output goes to active low (logic-0) condition. Arduino UNO is used in the project; low signals are overlooked by the Arduino and gas leakage is been noticed by the Arduino. The Arduino UNO turns on the LCD and buzzer. It even turns on the GSM modem after that, it continues to send messages SMS to mobile number specifically mentioned in the program of the source code for alerting danger to the people.

Shahewaz, Syeda Bushra, and Ch Rajendra Prasad. "Gas leakage detection and alerting system using Arduino Uno." *Global Journal of Engineering and Technology Advances* 5.3 (2020): 029-035.

# Sensor-Based Gas Leakage Detector System

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Liquefied Petroleum Gas (LPG) is the main source of fuel, especially in urban areas because it is clean compared to firewood and charcoal. Gas leakage is a major problem in the industrial sector, residential premises, etc. Nowadays, home security has become a major issue because of increasing gas leakage. Gas leakage is a source of great anxiety with ateliers, residential areas and vehicles like Compressed Natural Gas (CNG), buses, cars etc. One of the preventive and useful methods to stop accidents associated with the gas leakage is to install a gas leakage detection kit at vulnerable places which includes an alerting system for the users. Design of a gas leakage detection system, that can automatically detect, alert and control gas leakage. The system is based on a sensor that easily detects a gas leakage.

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**LPG Leakage Detector using Arduino with SMS Alert and Sound Alarm**

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Nowadays, LPG leakages is a mutual hindrance in household and manufacturing. “LPG Leakage Detector using Arduino with SMS Alert and Sound Alarm”, will be a great help in terms of preventing any danger caused by gas leakage. This is used to detect the presence of LPG leakage as a part of a safety system. Apart from sound alarm, an SMS alert system will inform the authorized person about the leakage and the solenoid valve will be triggered to shut down the gas supply to prevent any harmful effects due to the leakage. Usage of gas sensor is to monitor the LPG if the gas leak reaches beyond the normal level and it will trigger the sound alarm. In addition, the authorized person will be informed about the leakage via SMS alert and the gas supply will be automatically shut down. The people can be saved from a potential explosion caused by gas leakage.

Rhonnel, S. Paculanan, and Israel Carino. "LPG Leakage Detector using Arduino with SMS Alert and Sound Alarm." *International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN*: 2278-3075.

**Gas Leakage Detection and Controlling System**

Nowadays Safety plays an important role in home security over the gas leakage. The purpose of this project is to develop a system for the gas detection and controlling. The gas sensor used for development of this system is the combustible gas sensor MQ-2 that is used in order to detect the presence of liquefied petroleum gas (LPG). The sensor detects gas concentrations from 200 to 5000ppm. The output of the sensor is connected to Raspberry PI3 model B+. The system is programmed with python, whereas the system evaluates the sensed data, if the sensed data is more than threshold value an alert will be sent to the user and motor will be activated in order to turn off the gas regulator valve.

Khan, Mohammad Monirujjaman. "Sensor-based gas leakage detector system." *Engineering Proceedings* 2.1 (2020): 28.