**GAS LEAKAGE DETECTION SYSTEM FOR CORPORATE INDUSTRIES**

**AIM:**

The aim of this project is to develop a system to detect the LPG/CNG gas leakage of the small scale factories, cars, vehicles and auto engine OFF with auto warnings system using GSM.

**PURPOSE:**

The purpose of the project is to monitor parameters. Whenever parameter values exceed threshold limit, intimation is given to the nearby RTA including readings of all its parameters.

**MONITOR SECTION:**

**MICRO CONTROLLER**

**AT89S52**

**POWER SUPPLY**

**LCD DISPLAY**

**(16 X 2 LINES)**

**MAX 232**

**START SWITCH (SLIDE)**

**ENGINE (MOTOR)**

**GAS SENSOR**

**GSM**

**BUZZER**

**TEMPERATURE SENSOR**

**ADC0808**

**Power Supply:**

**STEP DOWN**

**TRANSFORMER**

**BRIDGE**

**RECTIFIER**

**FILTER**

**CIRCUIT**

**REGULATOR SECTION**

**DESCRIPTION:**

Gas sensors are employed in a wide range of applications in the fields of safety, health, instrumentation etc... Common examples are domestic/commercial alarms for explosive or toxic gases, or in automotive application as gas leakage detectors for LPG powered cars and exhausts detectors inside any fuel powered truck/car. Such sensors, nowadays, are found also in applications involving air quality control systems and pollution monitoring.

In this we have sensors to read the parameters. There are some threshold values for each sensor the sensors read the parameters and send the data to the controller. Controller receives the data and checks with the threshold values. If the parameters readings exceed the threshold values then the controller automatically turns OFF the switch and a buzzer warning indication is given, simultaneously the values are displayed in LCD. This project aims to show how a microcontroller can be employed to replace a lot of external components while adding extra functionalities at a cost comparable as a simple integrated comparator. In the prototype that we are going to present, the hardware and microprocessor firmware have been optimized to implement a smart LPG gas alarm (LPG stands for Liquefied Petroleum Gas) for cars running on LPG/CNG so that it can raise alarm before any fatal incident happens.

**HARDWARE COMPONENTS:**

1. Microcontroller (AT89S52)
2. LCD Display (16x2 lines)
3. Max 232
4. Start switch
5. Motor
6. GSM modem
7. Gas sensor
8. Buzzer
9. Power supply

**SOFTWARES USED:**

1. Kiel U vision
2. Express PCB
3. ISP

**ADVANTAGES:**

1. Taking measures to reduce the environment pollution.
2. Large coverage from any distance.

**APPLICATIONS:**

1. It is used in house as LPG leakage detection.
2. Can be used in Industrial areas
3. Transport applications
4. Industrial applications

**RESULT:**

According to this project, we can develop a real time parameter monitoring system for measuring gas & temperature values of vehicle and small scale factories and auto locking is provided in worst case.