

## TEAM 08

**TOPIC:** - IOT based LPG Gas maintenance and notification

**AIM:** The aim of an IoT-based LPG gas maintenance and notification project is to develop a system that can remotely monitor and manage the usage of LPG gas cylinders in households and commercial establishments. The system would use sensors and actuators to collect data on gas leakage, and other relevant parameters. This data would then be transmitted to a central server for analysis and notification.

**PROJECT OBJECTIVE:** The objective of an IoT-based LPG gas maintenance and notification project is to use IoT technology to monitor the level of LPG gas in a cylinder and notify the use. This can help to prevent gas leaks and shortages, and ensure that the user always has enough gas on hand.

### **WORKING:**

An IoT-based LPG gas maintenance and notification system utilizes sensors and wireless communication to monitor LPG gas, detect leaks, and send alerts to users in case of any abnormalities. This system aims to enhance safety and prevent potential gas-related accidents.

Hardware Components

The hardware setup typically includes:

1. LPG Gas Sensor: Detects LPG gas concentration levels.
2. Microcontroller: Processes sensor data and controls communication modules.
3. Wireless Communication Module: Transmits sensor data and alerts to a central server or user devices.
4. Power Supply: Provides power to the microcontroller and communication module.

### **Working Principle:**

1. Leak Detection: The microcontroller analyzes the gas level data and triggers an alert if the gas concentration exceeds a predetermined threshold, indicating a potential leak.
2. Data Transmission: The microcontroller transmits the gas level data and alert notifications to a central server or user devices via the wireless communication module.
3. User Notification: The central server or user devices receive the gas level data and alerts, providing real-time information on gas levels and potential leaks.
4. Maintenance Reminders: The system can also provide maintenance reminders based on sensor data, indicating when to perform routine maintenance checks on LPG equipment.

## COMPONENTS :

Name	Quantity	Price
MQ2 sensor	1	300
LCD display	1	300
I2C module	1	200
Buzzer	1	50
LED(Red,Green)	2	100
180-ohm resistor	2	50
Breadboard	1	80
Wind exhaust	1	
Dc servo motor	1	170
IRF540 mosfet	1	35
Jumper wire		

