

IOT BASED AIR POLLUTION LEVEL MONITORING AND LPG CYLINDER REGULATION AND SECURITY SYSTEM

ABSTRACT:

Air pollution is a growing issue these days. It is necessary to monitor air quality and keep it under control for a better future and healthy living for all. Here we propose an air quality monitoring system that allows us to monitor and check live air quality through IOT. System uses air sensors to sense presence of harmful gases/compounds in the air and constantly transmit this data to microcontroller. Also the sensors interact with microcontroller which processes this data and transmits it over internet. This allows authorities to monitor air pollution in different areas and take action against it Similarly in today's world the LPG cylinder plays a vital role not only for domestic but also use in industries, hospital, automobiles, educational sector (school and colleges using LPG cylinders for laboratory purpose) and public sector. It is panic that these cylinders get empty without any intimation. In these days where the refilling is not an easy task, these cylinders get empty at unexpected situation. Another major problem is the leakage of LPG which may lead to bursts resulting in heavy loss of life and wealth. Hence the project outlays the protection systems from hazards due to LPG leakage and fire, using special components like gas sensor and weight sensor. Each and every individual wants to be secured, Hence the security system has to be managed in the kitchen and the entire place where LPG is used. Unfortunately none of existing security systems have all the attributes i.e. leak detection, weight detection along with protection and alarm. This project is aimed at providing indication of gas content remaining in the LPG cylinder while it is in use so that it is helpful to the user to place the order for the new cylinder at an appropriate time and cylinder refill alert message is sent to the users mobile numbers. The security system incorporated consists of leak detection and fire detection unit along with alarm unit. Further on detecting leak, the signal is transferred to GSM and the Microcontroller sends signal to the solenoid valve to cut off the further gas supply. Simultaneous GSM switches off the A.C mains of the kitchen and sends the alert message to the users mobile numbers and also makes the alert calls to the users mobile numbers until they are attended at regular. In this way "LPG cylinder regulation and security system" provides a complete security for LPG cylinder users. LPG is the abbreviation or short form for liquefied petroleum gas. Like all fuels, fossil it is a non-renewable energy source. It is extracted from crude oil and natural gas. The main composition of LPG is hydrocarbons. The main components of the LPG are propane, butane. As we all know the hazards due to LPG is increasing day by day.

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