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**(57) Abstract :**  
 3. Abstract: Gas leakage and gas cylinder explosion is a regular problem in today's world, especially in developing countries. If the gas leakage can't be detected fast and no action is taken, may lead to explosion and cause severe damages to life and environment. The previous leakage detection systems only use alarms for warning. There is nothing about the protection. In this paper, a system is proposed that can detect not only gas leakage, it can detect explosion, and fire as well. And can take some protective steps. It is equipped with gas sensor to detect the leaked gas and flame sensor to detect the explosion and fire. It has exhaust fan system to clear the leaked gas and solenoid valve to inlet the water or carbon dioxide gas (CO2 ) if explosion and fire occurs. The explosion security system response individually when there is only a fire with no relation to gas leakage. If any incident occurs, that information is sent to owner through wireless media, a display shows the alert message and buzzer makes the alarm. It is equipped with Global System for Mobile communications (GSM) modem as wireless media to send information to owner through Short Message Service (SMS). This ensures preventive actions immediately even in the absence of people on-site. A prototype of this system has been developed and tested with Liquefied Petroleum Gas (LPG) and Fire as well. The experimental results show that the system can detect the gas leakage, explosion and fire. It is also able to take protective steps quickly. This life saving system is low-cost and useful. It can protect people from burning alive

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