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(57) Abstract :
The present invention relates to an Advanced LPG Leak Detection and Automated Safety System designed to enhance safety in environments where LPG (Liquefied Petroleum Gas) is utilized. The system comprises multiple sensors calibrated to detect LPG concentrations as low as 0.5% of the lower explosive limit, ensuring early detection of gas leaks. A central processing unit (CPU) analyzes sensor data to determine the presence and concentration of LPG, and if a critical level is detected, the CPU activates an automated valve to immediately shut off the LPG supply, preventing potential fire hazards or explosions. The system includes a wireless communication module that sends real-time notifications to user devices and emergency services, ensuring rapid response and intervention. Additionally, a user interface accessible via mobile applications or web portals allows users to monitor the system in real time, adjust settings, and manually override automatic functions if necessary. This invention provides a comprehensive solution to LPG safety, integrating detection, automated response, and user interaction into a single, efficient system.

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