User-Centric Smart Home Security System with GSM Alerts

Dr. Chandrashekhar Reddy S[1], B Shivani[2], M Akhila[3], CH Anusha[4], M Pranay[5]

[1]Asst. Professor in EEE, Dept. of Electrical & Electronics Engineering,

[2,3,4,5]UG Student, Dept. of Electrical & Electronics Engineering

Christu Jyothi Institute of Technology & Science, Jangaon, Telangana, India

Abstract: *The increased rate of theft necessitates advanced anti-theft mechanisms. Our project aims to develop a comprehensive security system integrating Gas, Flame, Passive infrared (PIR), Infrared (IR) and biometric sensors[1]. The existing systems are limited to their singular focus, such as motion detection or biometric verification alone, which results in incomplete security. This project is designed to overcome those limitations of single-method detection and providing a robust and comprehensive security system. The project aims to detect hazardous gas leaks, sense unusual motion via PIR&IR sensors, detect unauthorized access through biometric verification and detect the presence of flames to mitigate the fire risks [2]. The successful implementation of this project could set a new standard in Security technology, enhancing safety measures and offering an enhanced piece of mind to the users. User-centric smart home security systems with GSM alerts offer a compelling blend of convenience, security, and efficiency for modern homeowners [3]. These systems empower users with remote monitoring capabilities and immediate alerts via SMS or calls, ensuring prompt response to potential security breaches even during internet outages. Integration with other smart devices enhances functionality, allowing for seamless automation and personalized control over home environments [4]*

Keywords: Solenoid Lock, Fingerprint Sensor, Microcontroller, GSM