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HomeSafe: A Programmable Real-Time Surveillance System for Home Application

Safety and security of personal assets has become a critical concerns in today's society. This calls for the development of sophisticated and efficient surveillance systems [1, 2]. With the advent of technology and Internet of Things, faster and low-cost computing hardware with high performance sensors and multi-camera units enables the design and implementation of real time monitoring systems [3, 4, 5]. This study presents the design and implementation of a real time surveillance system built on Raspberry Pi platform incorporating legacy devices. The system employs Passive Infrared Sensor (PIR) sensors interfaced with raspberry pi that detects motion and triggers the capture of images by multiple cameras of any intrusion. The system also generates alerts and sends them to a remote user in case of unauthorized intrusion, providing a comprehensive solution for real-time surveillance. This approach provides a low cost and effective solution for securing homes, public spaces, and critical areas.

Keywords: Surveillance, raspberry pi, motion sensor, motion detection.

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