

REAL-TIME HOME SECURITY USING RASPBERRY PI

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ABSTRACT

Nowadays, fast and automatic identification of personal identities has become important in the factors that disrupt social dynamics such as increasing theft and extortion. In the identification of personal traits, biometric recognition systems such as facial, fingerprint, vascular recognition systems can be identified. Thanks to these systems, rapid interventions can be made to the suspicious people in the institutions where there are busy crowds such as customs gates, banks, public offices, and security. In this study, using a Raspberry Pi based camera system, a personal security system with the face recognition is designed. The Raspberry Pi is a microprocessor-based minicomputer that can connect a camera, memory card, monitor, keyboard and similar peripherals. Raspberry Pi camera is used to compare the faces taken with OpenCV. The accuracy of the matching faces was determined by using some statistical methods and it was decided whether the person was recognized or not. In this designed system, it is decided whether the person is a safe person by taking the image with the camera when the operation sensor detects the person. If it is not safe, it is designed as a system that allows the host to be alerted by sending SMS and e-mails as real adverbs. This study constitutes an example for home automation in order to make human life easier and safer and to provide home security by observing some works done in-house in daily life with sensors and camera. The experimental studies carried out in this developed system have achieved great success.

KEYWORDS: Real Time Home Security, Raspberry Pi, Open CV, Quality of Life & Home Automation