Universiti Teknologi MARA

Home Security Notification System using Raspberry Pi and Telegram Bot

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STUDENT DECLARATION

I certify that this report and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Home security is a critical issue especially for the general public to protect their property from harm. Currently, the increase in home breaking usually occurs during school holidays and public holiday seasons. The main objective of this project is to develop a home security system using PIR sensor to detect movement of humans with an integrated Raspberry Pi Camera and Raspberry Pi Zero WH to send an alert notification with image, date, location, and time, via the Telegram Bot to the house owner's mobile phone. The home security system was developed utilizing the System Development Life Cycle (SDLC) using the waterfall model as the methodology. Three different tests were conducted to examine the effectiveness of the home security system which including distance between the intruder and the sensor, response time for an alert notification of the PIR sensor, and user acceptance test by given a questionnaire to 30 house owners to get their opinion on the ease of use of the home security system. The results indicated that the home security system was efficient, effective, and easy to use. Therefore, the home security system can help the house owner to take immediate action such as calling the police when the system detects an intruder in the house.

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