Abstract

Cases against car theft is a serious problem that requires treatment. As well as the consequences caused by the theft as material losses are quite large. Car basically is equipped with various safety systems to prevent theft. However, the use of security systems such as electronic locks and car alarms have not been able to prevent such criminal actions. Based on the facts, made a car with a security system utilizing the Internet of Things technology capable of providing the report the current conditions in the car to its owner. The system is built based single board computer Raspberry Pi using PIR sensors, flow sensors, and ultrasonic sensors. The system can send data to the car owner via email by using the Internet network. The system has been created can detect human presence with PIR sensor to activate an alarm and send picture messages via email. If the thieves managed to get in and turn on the ignition, the system automatically turn off the car engine and then send text messages via email to the user. Car owners can monitor the vehicle by sending an email request to the system to get the current conditions in the form of images in his car with the camera. The quality of images obtained by the system relies heavily on the existing lighting in the area of the car. From the response time measurement results for each function is obtained within the system maximum of 51.74 seconds. If the function of the human detection, flame detection engine, and email request to receive the event simultaneously, the maximum response time of the system obtained at 97.39 seconds. While the results obtained current measurement system uses a maximum current of 0,81A, where the flow is obtained by still smaller than existing systems.

Keywords: email, car security, Raspberry Pi, response time, PIR sensor