ABSTRACT

The parking lot of the house is a location prone to vehicle theft, especially when the house is empty or without residents. Therefore, a system is needed that can monitor the parking lot and alert the owner if there is an attempted theft.

In this study, the raspberry Pi 3-based home parking security system with a free email service is Gmail. Using a free email service in the form of Gmail is a development from previous research that still uses SMS gateway and Official Account Line application as its output. This security system is designed to be accessible to more than one user so that home security threat alerts can be known in real time by other members of the house.

From the results of system testing, in morning, afternoon and night conditions the average value of successful movement detection and photo taking is 100%. The maximum distance a PIR sensor can detect movement is 6 meters. The average value of successful camera control for taking photos or videos using bots is 100%. Then, for QoS testing, delay and throughput obtained the average delay value in photo and video capture of 2.09, 2.41 and 2.30 seconds. Throughput testing has a speed of 535.6 KBytes/s each.

Keywords: Home security system, Raspberry Pi, Gmail, Pi camera, PIR sensor