ABSTRACT

Many burglaries and fire occuring in residential area often caused by human negligence. In an effort to prevent and minimalize the case required a monitoring device inside the house. Smarthome security system is designed using raspberry pi which has several sensors. This system can help humans to control and monitor the situation inside the house using only an android device.

Application on android device have main fuction to perform monitoring through the cam capture feature, then controlling the light, fan, and locking the door. This application can also receive notification from FCM server which integrated with webserver on raspberry pi when the door is opened, detected smoke, or there is a motion detected inside the house.

Based on the test results, application functionality can run well with 100% success rate through blackbox testing. This application can also receive notifications with a delay of 1.2 seconds on 10Mbps network bandwidth(Fiber Optic), and 2.8seconds on 3.37Mbps network bandwidth(4G). Qos test results to webserver response on some feature in this application is in very good category with an average delay of each features less than 150ms, and having a good jitter score that is in the range of 1 to 75 ms. But for the execution time for cam capture feature has a delay to download images with average delay of 16.7 seconds for 30 image files and 14.07 seconds for 10 image files from webserver.

Keywords : *monitoring, android, fire, burglary, smarthome*