ABSTRACT

Everyone wants security and comfort for his home and and his family, because those are the most important things. For that, a system that can maintain the security and comfort is needed to avoid theft, fire, or other things that can be a threat to security and comfort.

A Smart Home system that can become a solution for maintain home safety and comfort were created in this final project. This Smarthome can do house monitor and control remotely by using Arduino Uno microcontroller and NodeMCU that can be accessed through android apps which connected to Raspberry pi webserver. This system can send notification to android apps when something is not right at home. This system also capable of capturing images using camera and send the picture to webserver.

Based on this final project test result, this smarthome security and control system run well. This can be seen from the data transmission test result from monitoring system success to send data with 100% success rate with average delay of 9.6 seconds per sensor data transmission through ESP8266 testing. Also from control system testing, NodeMCU capable to transmit command with average delay of 2.3 seconds for each command.

Keywords: Microcontroller, Sensor, Smarthome, Monitoring, Remote