ABSTRACT

The house is a basic need that serves as a place to live. One of the idela living quarters is clean and free of dust. Dust inside the house can interfere with health such as respiratory disorders and allergies. So it takes a good air circulation system to minimize the dust that is in the house.

To create the ideal residence, in this final project, will be made automation on the air filter (AirPurifier). This system will use the GP2Y1010AUOF dust sensor that serves as detecting dust thickness. To build this system required NodeMCU as microcontroller and wifi module, Rasberry pi 3 type B as local server, and VPS as internet network server. In this final project aims to monitor and control airpurifier by using android application connected to internet network.

In this final project get the test result that in LOS condition, NodeMCU network quality reach 100m. The length of delivery time each distance affects the value of delay and throughput. Testing the whole system obtained reliability of 98.163% and availability 89.27%

Keywords: Dust Sensor, Smart home, Air Purifier, Microcontroller, Smartphone Application