

ABSTRACT

A good monitoring process and quality of air control can improve the quality of human life . To be able to determine how the state of the air quality is good or not , we need a tool that can detect the state of the air in a room or environment . The parameters used to monitor the air condition, in general, humidity , temperature , and air content (Carbon dioxide , carbon monoxide , hydrogen) . Generally the process is still done manually by using human power to get to the location that you want to analyze . Another problem is that the information given is based on generally static data is not real-time , so that the necessary enhancements that inhibit user mobility .and then the device to analyze the CO condition is only show the value of ppm (part per million) and has not use the standard from Indonesia government.

Based on these needs , in this final project , the author made a mobile monitoring device that can be controlled remotely and controlled by humans . The device consists of several types of sensors , namely DHT - 11 (temperature and humidity) and TGS 2600 (air quality sensor) . The sensor system is controlled using Arduino Uno (microcontroller) , sending data to android device using WiFi communication in raspberry pi , so that the sensor system can be used to acquire data in real -time and can be integrated with android devices .

The results of the design and realization of sensors on a mobile monitoring system are as follows: exponential regression is used, ie $x = - (86.1 \ln y + 7.8244)$ with a formula for modeling the sensor TGS 2600 following the logarithmic graph on the sensor TGS 2600 . The results of the calculation of the value of air quality in ppm, can be realized with the air quality standards set by the government, namely KEP-107/KABAPEDAL/11/1997. Needs of the current total issued by the power supply is equal to 0.6 A, with the need for Arduino and sensors from the power supply is 0.1 A

Keywords : sensors , monitoring , android , microcontroller