

ABSTRACT

At present the development of technology, especially in the field of transportation, is greatly increased. Every community almost has its own means of transportation to support all daily activities. This certainly has strengths and weaknesses, and one of the shortcomings is that air pollution caused by transportation can remove the ozone that is in the air layer and can disrupt the human respiratory system. Therefore, it is necessary to detect air pollution levels that function as monitoring of air pollution levels. This study uses the prototype method. Air quality detection uses MQ-7 gas sensors that are sensitive to carbon monoxide gas, DHT11 sensors that function as air temperature detections, and LCD will display the value of data processed by microcontroller NodeMCU. Monitoring tools will also send data to Android users via smartphones in order to monitor from afar. This monitoring tool design system is expected to provide solutions to the problem of air pollution because it is practical, as well as the cost of making it affordable compared to the detection of air pollution levels from the Environment Agency. From the designed tools and applications that have been designed, the MQ-7 sensor used to measure carbon monoxide (CO) levels has a success rate of 98.28 %, and DHT11 as a temperature detection sensor has a success value of 98.52 %, then the data which can be obtained by both sensors will be processed by NodeMCU as a microcontroller and will be displayed by the LCD, the data obtained will also be sent to the database every five seconds, and the Android application will display the state of monitoring the state of temperature and carbon monoxide contained in the database has been sent by a monitoring device.

Keywords: *Android, Pollution Level, Microcontroller, NodeMCU, IoT.*