ABSTRACT

Leonhard Dominikus Adiarsa Fernandez.50421746
Indoor Air Quality Detection System Using NodeMCU ESP 8266, MQ 135 Sensor, and DHT 11 Sensor
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(xii + 41 + appendix)

Technological advancements have had a significant impact on various aspects of human life, including the increasing ease and speed of mobility thanks to motor vehicles. However, air pollution from motor vehicle emissions has negative effects on the environment, including residential environments. This research aims to evaluate indoor air quality in spaces where daily activities take place. The Internet of Things (IoT)-based air quality detection system is designed using the NodeMCU ESP8266 microcontroller as the system's hub, the MQ-135 sensor to detect air quality, and the DHT11 sensor to measure humidity and temperature, with results displayed on an OLED screen and the Blynk dashboard for remote monitoring. The system development follows the Waterfall method, involving stages of requirement analysis, design, implementation, testing, and maintenance. The system is expected to monitor air quality in real-time, enabling users to take necessary preventive actions. The research results show that the system effectively monitors and displays air quality data accurately.
References (2020 - 2024)