INDOOR AIR QUALITY MONITORING SYSTEM BASED ON INTERNET OF THINGS (IOT)

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ABSTRACT

Indoor air quality is an important indicator of the quality of air in indoor environments and buildings. The problem in this study is how to monitor and ensure that indoor air quality remains good and safe for health. Poor indoor air quality can have a negative impact on the health of occupants. Therefore, it is important to monitor temperature, CO, and NO2 levels. Extreme temperatures affect comfort and productivity, while CO and NO2 can cause poisoning. Monitoring CO and NO2 levels is very important to maintain healthy and safe air quality. This study designs an air quality monitoring system using NodeMCU ESP8266, DHT22 sensor, and MQ-135 sensor to detect temperature, CO, and NO2. The case study was conducted at the HPC Lab of the Bengkalis State Polytechnic IT Building. This system is equipped with website and Telegram features to convey real-time and informative air quality information. In this study, testing was conducted at the HPC Lab. The test results showed an average temperature of 25.28 ˚C, CO levels of 1.18 ppm, and NO2 levels of 9.64 ppm. With these data, it can be concluded that the air condition in the HPC Lab is still in good condition, indicating that this system is effective in ensuring air quality remains safe and healthy.

Keywords: *Indoor air quality, Internet of things, temperature, CO, NO2, website and telegram.*