

ABSTRACT

One gas produced when carbon compounds burn incompletely is carbon monoxide (CO). It is challenging for humans to detect CO gas, hence determining the air quality is not simple. The goal of this research is to make decisions about the levels of carbon monoxide gas in the Canteen Institute of Technology Telkom Purwokerto. Based on sensor readings, a Simple Additive Weighting (SAW) algorithm will be used to determine the gas levels each day. The system can be utilized in terms of both hardware and software, according to the research design's findings. In this study, an Internet of Things tool comprising three MQ-7 sensors was developed utilizing the NodeMCU ESP8266 component. The NodeMCU ESP8266 will process sensor input and use a WiFi module to connect to the Antares platform so that data from each sensor can be shown. The measuring device's calibration has a reading accuracy of 96.0% for sensor 1, 96.4% for sensor 2, and 97.8% for sensor 3 when compared to the CO meter. Measurements were carried out for five days and all system readings were classified in the uncontaminated category using the SAW method. The system can also send reading results well and send them to the Antares platform with an average delay of 0.13s.

Keywords: *Antares, Sensor, Carbon Monoxide, Simple Additive Weighting*