ABSTRACT

Air pollution poses a serious threat to health and the environment, necessitating an air quality monitoring system that is efficient, accessible in real-time, affordable, and easily implementable in various locations to support decision-making. This research develops an Internet of Things (IoT)-based air quality monitoring system using five types of sensors, with data transmitted via LoRa technology to the Antares platform. The data is then integrated into a MySQL database and visualized through a website built with the Laravel framework and hosted online for public access. The implemented system successfully displays accurate, real-time air quality data. Test results show specific values: Temperature at 27.6°C, Humidity at 59%, CO2 at 559.22 ppm, and NH3 at 23.88 ppm, all of which fall within the "Safe" category according to reference standards. Additionally, the system successfully tracked the device's location at Telkom University with the coordinates -6.977643, 107.632101.

Keywords: (Air Quality Monitoring, Internet of Things (IoT), Hosting, Antares, Laravel, phpMyAdmin.)