DESIGN OF IOT-BASED QUALITY MONITORING AND AIR FILTERING EQUIPMENT IN A COMPUTER LAB AT UNIVERSITY OF TECHNOLOGY YOGYAKARTA

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ABSTRACT

The denser the urban area, the greater the pollution produced, the worse the air produced. Therefore, tools are needed to monitor and filter the air. Thus, there is a need for a control system that makes it easier to use an air filter system to detect dust, temperature and humidity in a room. This research will discuss the implementation of the Internet of Things for monitoring air quality in the Yogyakarta Technology University Computer Lab. This design uses an ESP-8266 microcontroller with a GP2Y1010AU0F sensor and a DHT11 sensor. The GP2Y1010AU0F sensor will detect dust in the room and the cooling fan will suck up the dust. Meanwhile, the DHT11 sensor will detect the temperature and humidity in the room. The results were obtained in research with the accuracy of the GP2Y1010AU0F sensor by comparing the incoming and outgoing air. The incoming air includes 3 unsuccessful data (Success 27/30 = 90%) and the outgoing air includes 3 unsuccessful data (Success 27/30 = 90%).

Keywords*: Internet Of Things, ESP-8266, GP2Y1010AU0F, DHT11*