ABSTRACT

The problem that often arises is air pollution from smoke and vehicles as well as rubbish that accumulates and is not disposed of properly, causing air quality to decline. The process of burning fuel in vehicle engines produces various dangerous substances, including carbon monoxide (CO), nitrogen oxides (NOx), and volatile organic compounds (VOC). The aim of this final project is to create a tool to detect dangerous gas content, especially gas resulting from pollution caused by motorized vehicles, namely nitrogen oxide (NOx), CO2 gas (Carbon Dioxide), and CO gas (Carbon Monoxide). This system will use ESP32 as a control component that will regulate all connected components. The MQ135 sensor is a sensor used to detect several gases that pollute the air or endanger human health such as ammonia, aromatic compounds, sulfur, benzene vapor, smoke, NH3, NOx, etc., the MQ7 carbon monoxide (CO) gas analog sensor as a sensor which is used to detect the concentration of carbon monoxide gas in the air, the MQ2 gas analog sensor is a sensor used to detect the concentration of LPG gas, smoke, propane, methane, alcohol in the air. Apart from carrying out initial detection of air pollution, the system needs to send notifications to users as a reminder if the surrounding air has been polluted via Telegram. Apart from that, the blynk application is used to monitor in real time the air conditions around the system.

***Keywords**: NodeMCU ESP32, Air Pollution, Telegram, Blynk*