

## ABSTRACT

*Indoor air quality is very influential for human life, because the air quality in a place greatly affects the health of the body of a person who is in it. One of the things that can affect the air quality in a room is the presence of harmful gases in the room, such as cigarette smoke or LPG (Liquified Petroleum Gas) leaks. unknown to the occupants of the room. Both gases are very dangerous gases, the gases contained in cigarette smoke are carbon monoxide, carbon dioxide and hydrogen cyanide, as well as LPG which contains methane, ethane, propane, butane and pentane. and besides that room temperature also affects the quality of the air in the room, because the unstable air temperature in a room will cause inhibition of the reaction of pollutants, this will make air quality worse if the indoor temperature is unstable. Many people do not care about the air quality in the room they occupy, therefore this research has made a tool that can help to maintain air quality in a room.*

*This tool can detect the temperature and gas levels in a room. If a hot room temperature is detected and the presence of harmful gases or fumes, the tool will activate the fan and exhaust to cool and clean the air in the room. In addition, this tool can also be connected to a smartphone, so that indoor air quality can also be monitored using a smartphone.*

*The fan on the appliance will rotate when the detected room temperature is 28.5 °C or more, and will stop spinning when the room temperature is less than 28.5 °C. While the exhaust has a different rotational speed depending on how much gas is detected. Low rotation of the exhaust when the amount of gas is 250-350 Ppm, moderate rotation when the amount of gas is 351-450 Ppm, high rotation when the amount of gas is more than 450 Ppm, and does not rotate when the amount of gas is less than 250 Ppm.*

**Keywords :** *air quality, hazardous gases, temperature, smartphone.*