

## ABSTRACT

Indonesia is a country that has dynamic weather and tropical climate because it is located near the equator, therefore Indonesia has very hot and rainy weather, some parts of Indonesia have a wet climate, the air is often cloudy, the air temperature is moderate, and rainfall is high throughout the year. Not to mention that in big cities, air pollution is also a growing problem today. The limited sense of smell in humans to detect the presence of pollutant gases that can endanger health. It is important to unite air quality and keep it under control for a better future and healthy living for all.

Here the author creates a weather and pollution reporting system that will provide us with information about temperature, humidity, wind speed, rain intensity, weather conditions, light, air pressure and IoT-based air quality. The system uses sensors to sense changes in temperature and harmful gases in the air and then sends data to a smartphone. If there are some people who do not have a smartphone or internet access then there is LCD and buzzer to indicate very poor air quality.

The result of the design of this system is a device that can assist the community in monitoring weather conditions and air quality in real time through the LCD on the device and through an android-based smartphone. The results of the system performance test show delay 1,14 s, packet loss 0%, and throughput 1107 bps where the three parameters still meet the standards according to ITU-T G.1010.

**Keywords:** IoT, application, air pollution, weather detector, buzzer, sensor.