

# ***DESIGN OF AN ANDROID APP-BASED AIR QUALITY MONITORING SYSTEM WITH MIT APP INVENTOR***

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## ***ABSTRACT***

*One of the most important sources of life for humans is the freely available air around us. Healthy air is crucial for health and comfort during activities. Conversely, polluted air can cause health problems such as respiratory disorders and a reduced quality of life. The World Health Organization (WHO) states that household air pollution causes approximately 3.2 million deaths annually. In 2020, more than 237,000 children under the age of five died due to this pollution. This research aims to design and develop an Android application-based air quality monitoring system using MQ-135 and MQ-2 sensors. These sensors are connected to an ESP32 microcontroller and send data to Firebase in real-time. The received data is displayed in an Android application created using MIT App Inventor in the form of numbers and air quality status. This system is also equipped with a buzzer as a warning when the sensor value exceeds a certain threshold. Test results show that the system successfully uses the internet to display MQ-2 and MQ-135 sensor data in real-time. The Android app has the ability to accurately display air quality conditions and automatically activate a buzzer alert system when sensor values exceed thresholds.*

**Keywords:** *Air Quality, MIT App Inventor, Firebase, Internet of Things*