

**UNIVERSITI TEKNOLOGI MARA**

**WIRELESS AIR PURIFICATION  
WITH IOT**

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## **ABSTRACT**

Nowadays, air pollution often occurs because of chemicals in the air that can have a bad effect on human lungs. In addition, there are also substances dispersed in the air which are small molecules that can trigger shortness of breath and asthma. As a result, there are many cases such as fainting and even worse can cost lives because the air quality is so bad. In this modern age, all information can be accessed at the end with IoT. This includes improving ventilation and measuring air quality using IoT. In this scenario, IoT can also be used widely such as to control ventilation to be clean, measure temperature and humidity and check the quality of the air around us. Therefore, with good ventilation and being able to measure air quality, temperature and humidity, all diseases that cause breathing problems can be avoided. This study proposes Smart Air Purifier. The aim of this study is divided into 3 parts. The first part is the hardware development that consists of two sensors which are air quality sensors, temperature, and humidity sensor as input, to measure air quality, temperature and humidity while dc motor, fan, air filter and motor driver as output to filter polluted materials in the air. Then, LCD display to display the output of the sensor reading, and ESP8266 as the main controller. The second part is to display the information of the output and allows users to control fan rotation speed using mobile phone. Here, this system can help to provide cleaner ventilation at the same time can reduce a person from getting sick.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Research Background

This project is to create wireless air purification technology with IoT preventer by using gas sensor and DHT11 sensor to measure air quality, temperature, and humidity. This project is mainly used to clean the surrounding air. Air cleanliness is measured using gas sensors. The Blynk application will show the user the percentage of clean air temperature, temperature and humidity and is used to control the on and off buttons. In addition, the wireless air purification technology is also equipped with a hepa filter to filter the air inhaled by the fan.

### 1.2 Problem Statement

Air pollution is becoming a major worldwide problem with dire consequences for the environment and public health. Air pollution has a wide range of harmful effects, from individual respiratory illnesses to negative effects on children's development and contributions to the larger problem of climate change. To properly address this complex issue, immediate action is required.

The implementation of wireless air purification technology presents a viable approach to reduce indoor air pollution. With the use of this innovative technology, air quality could be improved overall by considerably lowering pollutant levels, such as those of dust, cigarette smoke, and hazardous gases. The ability of wireless air purification technology to integrate with smart technology, in addition to its ability to purify the air, makes it innovative. Through smartphone apps, users can remotely control these devices, providing them with a level of convenience and control over the quality of their indoor air that has never been possible before.

In addition, cutting-edge sensors built into wireless air purification systems can identify and track air pollution levels in real time. With the help of this feature, users can make well-informed decisions to protect their health and wellbeing by having access to insightful information about the quality of the air in their homes. By removing a wide variety of air