UNIVERSITI TEKNOLOGI MARA

ARDUINO BASED ENVIRONMENTAL POLLUTION MONITORING AND ALERT SYSTEM THROUGH IOT IMPLEMENT

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JANUARY 2024

ABSTRACT

Environmental is the sum of all things which are both living and not living that can affect human lives. The non-living or abiotic elements are water, land, sunshine, rocks and air. For the living elements or biotic elements are animals, plants, forests, fisheries, and the birds. Nowadays, the environmental that dramatically affects for human living is the air, temperature and noise. All of this environmental becomes polluted and increases every year. This occurs when humans pursue advancement without considering the environmental consequences. With this Arduino based Environment Pollution and Alert System through IoT implement, people can monitor the air quality, noise pollution and temperature of the surrounding area. This project can prevent people from going to polluted areas because it harms their health. People will healthier as a result, and they will be able to report any polluting areas to the environmental agency, allowing them to take appropriate action. This project also uses the IoT to monitor the environment from there, individuals can monitor it from afar using the Blynk application, which is quite useful for them.

Keywords – pollution, monitoring system, Arduino, IoT, Blynk application

ACKNOWLEDGEMENT

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CHAPTER ONE

INTRODUCTION

1.1   Project Overview

This project is about an environmental monitoring system that can be monitor through IoT. This project also used LED and the buzzer as the alert system. The environmental pollution can give the impact to economic growth and the public health[1], and this project will help to prevent it from become worst. The pollution will cause the problem in the social, physical, and economic spheres. When the air has been polluted, it will make the temperature of the surrounding increase and tend towards the global warming. This is because there are too many Carbon Dioxide (CO2) in the atmosphere.

This project is believed to be a steppingstone for the humans to improve the environment quality. The people health also will be more guaranteed and will reduce the number of people that falling ill every year. This project will make people become more sensitive to the environmental changes and prevent them from going to the polluted area and alert with the temperature changes in that area.

MQ135 sensor is used in this project to detect the harmful gases in the air like Ammonia (NH3), Benzene, alcohol, smoke, Carbon Dioxide (CO2) and others. For DHT11 sensor, is used to monitor the temperature of the surrounding area and the sound sensor also to monitor the noise at the surrounding area. All of these sensor then will be integrating with the Arduino Uno and finally it will become the Environmental Pollution Monitoring System. Then, Arduino as the microcontroller will monitor and record the surrounding area and determine whether it is polluted or not. After that, people can monitor all the reading by using the application on the smartphone.