UNIVERSITI TEKNOLOGI MARA

**INTELLIGENT DISPOSAL
MONITORING SYSTEM WITH
CHEMICAL DETECTOR**

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ABSTRACT

These days, maintaining a clean environment can be attribute to rubbish management is one of the main problems in most cities especially in the areas of factories and hospitals that dispose of chemicals. This area is very unsanitary and may contain manyviruses. Dustbin is one of the items that might induce contact and therefore be one of the sources of the spread of this infection. Many places have their own dustbin, howeverthese are not sanitized on a regular basis. If one of the virus-infected visitors touches the dustbin, the infection can spread quickly. It can have numerous negative consequences, such as poor odour, and it can also be the root cause of diseasepropagation. To avoid any harmful scenarios and keep the environment clean, this project is developing an Intelligent Disposal Monitoring System with A Chemical Detector. Therefore, a modern dustbin is needed to replace old inconvenience dustbin. This project worked on the IoT based automatic dustbin lid by using Arduino IDE, Proteus and Blynk platform. This project is using Infrared sensor to detect the level of garbage filled in the dustbin. Ultrasonic sensor uses to sense movement to make the lidopen without any contact. Once the garbage filled in the dustbin, LED will display "Thegarbage is full" and LED light up. ESP32 also send notifications to the workers to givealert that the dustbin is full. Others, if someone put rubbish containing chemical. The lid will not open, and buzzer will sound to alert people surrounding. Surely, through this prototype, users may dispose of trash without encountering any viruses that may infect them.

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CHAPTER ONE

INTRODUCTION

1.1   Introduction

Internet of Things is well known as technology in modern society (IoT). The Internet of Things (IoT) is a network that connects between physical devices to the internet. The ability of this technology is converse and exchange data among itself is its distinctive characteristic. This IoT also is activated by devices such as sensors, servo motor and other microcontroller. The Internet of Things (IoT) will be able to seamlessly link many disparate systems while also sending data to millions of people.

The biggest problem with waste management is that public garbage cans overflow long before the next cleaning operation. It then causes various hazards to that region such as foul odour and ugliness. This might be the core cause of many diseases. It will also cause harmful chemical smell pollution as a result of people surround who are not alert to its effects. People nowadays are too lazy to put their rubbish in the garbage bin because amused by the dirty and disgusting garbage lid. They also want to avoid getting any infection. This mindset of these people has potential to make the environment become messy and getting worse.

This purpose of this project is to construct a smart garbage bin using IoT technology. This technology feature is its ability to exchange data among itself. IoT is activated by devices such as sensors, and motors and ESP boards. All of this component helps in opening the lid automatically due to human movement surrounding. Without being able to touch the lid which is very innovative and the IoT also sends notification to the mobile which tells the percentage and whether it is full or not. This smart garbage also detects the trash contains chemicals and alert people by alarm buzzer.