



UNIVERSITI TEKNOLOGI MARA

**CONVENIENT FIRE ALARM SYSTEM WITH BLYNK
NOTIFICATION**

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“In the Name of ALLAH, the Most Gracious and the Most Merciful”

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ABSTRACT

Fire alarm systems are essential for alerting people before a fire fully destroys their homes. But today, a lot of manpower and wire are required to build a fire alarm system. Thus, the goal of this project is to develop a wireless fire alarm system that is IoT based and user-friendly. This system communicates with an infrared flame sensor, which continuously scans the surroundings for fire, using an Arduino Uno microcontroller. This project's inputs are a gas sensor and a flame sensor, and its outputs are an LCD and a buzzer. The ESP32 Wi-Fi module serves as a platform to link users and notify them via their devices if there is a fire nearby. In addition, the Internet of Things-enabled smart fire alarm system offers smart home connectivity, which enables customers to monitor and manage the system remotely via mobile applications, offering ease and peace of mind. The project will help the customer by improving home security overall, decreasing false alarms, increasing fire safety, and speeding up reaction times. It will also enable remote monitoring and control. With its intelligent and user-friendly features, the proposed smart fire alarm system delivers a substantial advancement in fire safety technology and provides consumers with a trustworthy and efficient means of protecting their property and lives.

Keywords—, Arduino Uno, IoT, Wi-Fi module, Fire alarm system

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CHAPTER 1

INTRODUCTION

This chapter will give a general overview of the process that led to the conception of this project. This chapter includes the following: background information, goals, problem statement, work scope, project significance or contribution, and summary.

1.1 Introduction

The conventional fire alarm systems that have been in use for many years have unquestionably been crucial to fire safety. However, as technology develops, it becomes increasingly evident that these systems contain flaws and inefficiencies that can be resolved with innovative thinking. The goal of this technological study is to develop and deploy an internet of things-based smart fire alarm system that will address the shortcomings of traditional fire alarm systems and revolutionise fire safety protocols. The safety and welfare of their children are the top priorities for responsible parents. Parents take on a journey of caring and guardianship from the minute a child is born.

Traditional fire alarm systems have mostly used manual smoke detectors and heat sensors to identify the presence of fire. While these systems can be somewhat helpful, they are sometimes prone to false alarms caused by steam, cooking smoke, or other non-emergency situations. This can lead to complacency and slow down reaction times during actual disasters. Moreover, their ability to promptly furnish emergency responders and building occupants with essential information is restricted due to their freestanding nature. With the use of GPS technology, the gadget determines the