Universiti Teknologi MARA

WIRELESS FIRE DETECTION AND MONITORING SYSTEM

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ABSTRACT

Every year, there are a lot of fire accidents occur throughout the world. Fire accidents can occur either in buildings, forests, industrial area and so on. Due to fire accidents, a lot of people die and injured as well because there are no early warning to warn people inside the building. In recent years, fire monitoring and detection system has become a very big problem because it has caused severe damage and the loss of human lives. However the building fire is known as the biggest threat to building safety. These incidents are more catastrophic when the fire spreads to the surrounding environment that will results in bigger fire which will cause even much more damage and possibly large amount of casualty. In order to prevent this destructive event to occur, early detection of fire is important to save lives and reduce property damage.Early warning and prevention plays an important role when it comes to safety regarding fire accidents, as it will drastically reduce the casualty and possible injuries. Here is the solution towards the problem based on WIFI network to prevent fires from harming people and destroying properties. This project used NodeMCU as the central core attached withMQ2 sensor and DHT22 sensor that act as temperature sensor and smoke sensor. This device will detect high temperature and smoke in the building environment, thus it will provide an early alarm and send notification through WIFI network.

TABLE OF CONTENTS

CONTENT	PAGE

CHAPTER 1

INTRODUCTION

1.1 Overview

Chapter 1 briefly explained about the background study of Wireless Fire Detection System and emphasis on the idea as well. Research boundaries are explained below.

1.2 Background study

According to Vidyashree P in International Journal of Engineering Research & Technology (IJERT) (2018), each year, a few thousand people die because of fire accidents and fire protection is often a preventive action that falls by the wayside because many did not even consider that it could happen to them. In recent years, fire monitoring and detection system has become a very big problem because it has caused severed damaged and the loss of human lives. However the building fire is known as the biggest threat to building safety. These incidents are more catastrophic when the fire spreads to the surrounding environment that will results in bigger fire which will cause even much more damage and possibly large amount of casualty. In order to prevent this destructive event to occur, early detection of fire is important to save lives and reduce property damage. There are many methods to detect fire breaks out such as human observation, satellite systems (SS), infrared radiation (IR), wireless sensor networks (WSNs), colour nixed techniques and so on. (Ullo, S. L., & Sinha, G. R, 2020). Fire warning device invariably promotes economical security with good protection from fireplace hazards by victimisation ring crystal rectifier indicator fireplace alarm and smoke detectors. Typical preparation panels helps to seek out any symptoms of fireplace prevalence.