

UNIVERSITI TEKNOLOGI MARA

**ADVANCED KITCHEN AUTOMATION & MONITORING
USING IOT**

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ABSTRACT

Automation system in general has becoming popular around the globe because of its features that makes life easier and minimizes extra work loads. There is a strong need for ongoing development and modernization of these systems given their substantial contribution to provide convenience, safety, and security in the kitchen. In this current digital era, smartphones have become a necessity for every individual and making use of its capabilities to control and monitor a system makes life easier and more manageable. Since a household kitchen holds significant importance in any home environment and ensuring safety is crucial during kitchen related activities. It was shown that a household kitchen is a place of various potential hazards such as gas leaks, fires, unbalanced temperature and humidity in the environment and a lack of security. As a result, thousands of households have become the victim of housefires and robbery because the safety was neglected by the individual. In terms of automation, the kitchen is often times disregarded and this creates an opportunity to further improve its system with the application of technology. This project aims to provide a dedicated system that automates and monitors the kitchen environment using internet of things (IoT) where electronic components are able to communicate, control, share real time data via smartphones and take actions based on their instructions by utilizing sensors and connectivity. Furthermore, this project also aims to design the graphical user interface (GUI) using Blynk console in order to provide smooth interactions with the automated kitchen system. With this, the embedded system will provide aid for the kitchen automation and monitoring as well as reducing the risk of exposing to any harmful hazards.

Keywords—kitchen automation system, safety, hazards, environment, internet of things.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

In this era of technological advancements, the concept of internet of things (IoT) has grown exceedingly well accustomed to our day-to-day lives. IoT was created to ensure that people are able to work more intelligently and also have total control over their daily life. Automation is one of the primary examples that can be combined with IoT because of its ability to communicate with electronic components and ability to operate manually via smartphones or automatically by giving instructions and share real time data that it is able to collect. This brought the idea of home automation and it successfully provides easier control over everyday appliances as well as monitoring the household environment.

In accordance to the advancement of technology, the success of home automation systems has resulted in further improvement towards areas that are outdated such as the household kitchen. The IoT system is able to allow devices that is stored in the kitchen area to be connected and monitored completely using internet. This will create a lot of advantages in terms of safety and monitoring since the IoT based data sharing is able to share and update real time data that is able to be collected in the system.