

**UNIVERSITI TEKNOLOGI MARA**

**RFID BASED ATTENDANCE  
SYSTEM AND DATABASE**

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Thesis submitted in fulfillment  
of the requirements for the degree of  
**Diploma of Electrical Engineering**

**Centre for Electrical Engineering Studies  
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## **ABSTRACT**

RFID is common in the new era of modern world such as RFID that has been used to pay tolls. However, in this case we are trying to focus on Radio Frequency Identification (RFID) based smart attendance system and database. It is a new system to record the students' attendance by using an RFID card that has been inserted. Their data were collected from the student database. This report aims to develop an attendance system using RFID technology with the assistance of microcontroller ESP8266 (Wi-Fi module). In this project, the inputs consist of RFID tags, RFID Reader while the outputs are the screen, buzzer and two colours of LED (Success-Green, Fail-RED) and being recorded in cloud database. The simulation has been done with the help of Autodesk Tinker CAD. Now, with the physical devices in place and everything connected properly, we have been able to replace any missing components with the best possible alternatives to achieve the desired result. I really hope with this project, more or less could help to facilitate the community of an institution.

## **ACKNOWLEDGEMENT**

First and foremost, I want to thank my beloved god, Allah SWT, the Greatest, for giving me chance and determination to finish my Final Year Project. I would like to thank everyone that involve in this project for willing to lend me some help, the supervisor, family, and friends. Thanks for helping in finishing this project from the very beginning since the ice breaking for the idea until the end of the project.

My gratitude and thanks especially go to my supervisor Encik Muhammad Zairil Bin Muhammad Nor for guiding me step by step until the project is finished.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **Background Study**

The RFID attendance system is a cutting-edge approach to precise and effective attendance tracking. It operates by automation the procedure using RFID technology, doing away with human mistake and saving time on management tasks. According to studies, compared to conventional approaches, RFID technologies lessen the errors to under 1%. Not only that, they also improve security by limiting prohibited access and proxy attendance. In order to help organisations upgrade their attendance management procedures, this research purpose is to investigate the advantages and use of RFID attendance systems.

### **Problem Statement**

Currently, most of the education centre still using the traditional way to mark their attendances which is ticking the attendance or signed the attendance sheets. The hardcopy of the sheets however still has the possible to lost due to some error such as misplace or lost. Furthermore, the current attendance system took a longer time which may lead to disturb the students focus if the attendance was taken during the lecture.

### **Objective**

From the problems that has been stated, the objectives of this project are as follows:

- a) Develop attendance system using RFID technology
- b) To minimize the usage of paper
- c) to establish cloud database for student attendance