

UNIVERSITI TEKNOLOGI MARA

**RFID BASED ONLINE ATTENDANCE SYSTEM WITH
IoT**

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ABSTRACT

The study starts by looking at the current attendance management systems, pointing out their shortcomings and emphasizing the need for a more advanced and automated method. This research builds a solid system architecture that incorporates RFID tags/cards, readers, and IoT devices to collect attendance data in real-time through a thorough analysis of RFID technology and IoT integration. The creation of hardware and software programs needed for data storage, processing, and gathering also occurs during the implementation phase. The system is intended to provide administrators and participants with user-friendly interfaces that make it simple to view attendance data and generate reports. The thesis assesses the system's performance as well, looking at elements including security, scalability, correctness, and dependability. Simulations and real-world testing show how well the system works in different settings and how widely it may be used. In the conclusion, the RFID-based Online Attendance System with IoT offers improved efficiency, accuracy, and transparency as a workable option to simplify attendance management procedures. The research's conclusions and insights improve administrative procedures and promote a more technologically advanced society by advancing attendance tracking systems.

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CHAPTER 1

INTRODUCTION

1.1 Project Overview

In recent years, the increasing complexity of managing attendance in various settings, such as educational institutions, workplaces, and events, has posed significant challenges. Traditional attendance tracking methods often rely on manual processes, leading to inefficiencies, errors, and a lack of real-time data. This limitation calls for a more advanced and automated system that can streamline attendance management and provide accurate and up-to-date information. The integration of Radio Frequency Identification (RFID) technology with the Internet of Things (IoT) offers a promising solution to address these challenges. By leveraging RFID tags and IoT infrastructure, the RFID attendance system enables seamless identification and tracking of individuals, eliminating the need for manual data entry and enhancing the overall efficiency of attendance management. This study aims to explore the implementation and effectiveness of the RFID attendance system with IoT, considering its potential benefits, impact on data accuracy, and overall user experience. By bridging the gap between traditional attendance tracking methods and emerging technologies, this research seeks to provide valuable insights into the practical application and significance of the RFID attendance system with IoT in various domains, ultimately contributing to improved attendance management practices.

This study aims to develop a robust RFID-based online attendance system with IoT, which has two primary objectives. Firstly, it seeks to leverage IoT capabilities to create an efficient attendance system for staff during meetings by utilizing RFID technology. This system will automatically identify and track staff members, eliminating the need for manual registration and enhancing accuracy and efficiency.

The second objective is to design a centralized monitoring system that enables real-time access to attendance data for administrators, preventing data loss and facilitating timely decision-making. By streamlining attendance management processes, this project contributes to improved governance, optimized resource allocation, and enhanced transparency and accountability. Furthermore, it sets an example for other organizations to adopt advanced attendance management systems, promoting the broader implementation of IoT solutions and