

UNIVERSITI TEKNOLOGI MARA

**EMPLOYEE ATTENDANCE MANAGEMENT SYSTEM
USING RADIO FREQUENCY IDENTIFICATION (RFID) TECHNOLOGY**

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ABSTRACT

This research work presents the development of an Employee Attendance Management System based on Radio Frequency Identification (RFID) technology to eliminate the limitations of traditional attendance and leave management systems. With the implementation of RFID technology, the system facilitates real-time monitoring of attendance, reduces opportunities for human error, and reduces administrative burdens. Through the inclusion of features like automatic attendance recording, leave request management, and report generation, the system ensures operational efficiency and accuracy in meeting user requirements. System implementation problems, especially hardware problems, are discussed, and suggestions for improvement are provided. In general, this project provides a scalable, user-friendly, and effective solution for effective human resource operations and better management of the workforce.

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CHAPTER 1: INTRODUCTION

1.1 Background Study

In today's digital age, technology plays an important role in transforming numerous aspects of business operations, communication, and information management. The extensive use of technology has resulted in various benefits, including increased efficiency, productivity, connection, and access to massive amounts of information at our fingertips. Cloud computing, artificial intelligence (AI), the Internet of Things (IoT), and radio frequency identification (RFID) technologies have transformed how businesses operate, cooperate, and develop.

Automating repetitive tasks, real-time data analysis for informed decision-making, seamless communication across global networks, improved security measures, and the flexibility to adapt and grow operations fast are all advantages of contemporary technology (Gaille, 2020). These technical improvements have enabled organizations to simplify procedures, maximize resource use, and remain competitive in rapidly changing markets.

However, in addition to the advantages, technology presents certain obstacles and disadvantages. Some of the issues that businesses and society confront include worries about data privacy, cybersecurity risks, over-reliance on technology, digital divide inequality, and environmental implications. The high speed of technological innovation raises concerns about ethical implications, job displacement caused by automation, and the necessity for continual learning and upskilling to stay up with technological breakthroughs (Thakur, 2024).

Building on the benefits of current technology, the project's goal is to incorporate RFID technology into an Employee Management System (EMS) for automatic attendance monitoring, increased accuracy, and expedited HR operations. This comprehensive integration includes designing and developing software components that are specific to the organization's needs, seamlessly integrating RFID hardware into existing infrastructure, addressing data security and privacy concerns through robust protocols and encryption methods, providing extensive user training and support, and ensuring regulatory compliance.

The project's scope includes not only technical implementation, but also an assessment of the impact of RFID integration on organizational efficiency, productivity, and user happiness. By