

**NFC STUDENT ATTENDANCE SYSTEM**

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# NFC STUDENT ATTENDANCE SYSTEM

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This report is submitted in partial fulfilment of the requirements for the  
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## BORANG PENGESAHAN STATUS TESIS\*

JUDUL: NFC STUDENT ATTENDANCE SYSTEM

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SESI PENGAJIAN: 2014/2015

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I hereby declare that this project report entitled  
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is written by me and is my own effort and that no part has been plagiarized  
without citations.

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## DEDICATION

This work is dedicated to my beloved family, who have supported and care of me all the way since the start of my studies.

Finally, the thesis dedicated to all of my lectures, I appreciate the encourage instruct and advice that given by you all to make me become a better student in UTeM.

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## ABSTRACT

As the technology is moving forward, the attendance taken process should be computerized to make the process easy, systematic and fast. However, not many of the school or university in Malaysia are implementing computerized attendance taken process during the lecture section. This may lead to time consuming while taking attendance by using the paper base attendance list and sometimes error will occur during the process.

Therefore, this project is proposed to create an NFC student attendance system to help lecturer taken the student attendance easily. By implementing this system, the lecturer can use the mobile application with the NFC enable device to read the student attendance by swiping the matric card on the device which makes the attendance taken process easy, fast and efficient. Besides, this project will be adding web page to help admin and lecturer to view and modified the information. This system is divided into two platform which is mobile application and web page which will connected to MySQL database.

## ABSTRAK

Teknologi telah bergerak maju ke hadapan, kehadiran diambil proses perlu berkomputer untuk membuat proses mudah, sistematik dan cepat. Walau bagaimanapun, tidak ramai di sekolah atau Universiti di Malaysia akan melaksanakan kehadiran berkomputer yang diambil proses semasa bahagian kuliah. Ini boleh membawa kepada memakan masa semasa mengambil kehadiran dengan menggunakan senarai kehadiran asas kertas dan kadang-kadang kesilapan akan berlaku semasa proses.

Oleh yang demikian, projek ini adalah dicadangkan untuk mewujudkan satu sistem kehadiran pelajar NFC untuk membantu pensyarah mengambil kehadiran pelajar dengan mudah. Dengan melaksanakan sistem ini, pensyarah boleh menggunakan aplikasi mudah alih dengan peranti membolehkan NFC untuk dibaca kehadiran pelajar oleh swiping Kad matrik pada peranti yang membuat kehadiran yang diambil proses mudah, cepat dan cekap. Di samping itu, projek ini akan menambah laman web untuk membantu pentadbiran dan pensyarah untuk melihat dan diubahsuai maklumat tersebut. Sistem ini terbahagi kepada dua platform yang permohonan telefon bimbit dan laman web yang berhubung dengan MySQL database.



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## CHAPTER 1

### INTRODUCTION

#### 1.1 Project Background

Near field communication (NFC) is a set of ideas and technology that enables smartphones and other devices to establish radio communication with each other by touching them together or bringing them into proximity, typically a distance of 10 cm (3.9 in) or less.

NFC is an upgrade of the existing proximity card standard (RFID) that combines the interface of a smartcard and a reader into a single device. It allows users to seamlessly share content between digital devices, pay bills wirelessly or even use their cellphone as an electronic traveling ticket on existing contactless infrastructure already in use for public transportation.

The significant advantage of NFC over Bluetooth is the shorter set-up time. Instead of performing manual configurations to identify Bluetooth devices, the connection between two NFC devices is established at once (under a 1/10 second).

The purpose of my project is to create a NFC students attendance system. The aim of the system is provide user-friendly application for lecturer to record the attendance and avoid error or missing data.

## 1.2 Problem Statements

Attendance is taking by manually which is using paper base name list sign by students. Lecturer use more time to calculate student attendance. With paper base information, error will easy come through by miss calculate or the name list missing will lost all the data. And paper base attendance will use more and more paper to take the student attendance.

**Table 1.1 Summary of Problem Statement**

No.	Code	Problem Statement (PS)
1.	01	Lecturer needed use more time to take student attendance.
2.	02	Error or missing information on paper base attendance list.
3.	03	The wastage of paper base attendance list to taking attendance.

## 1.3 Project Questions

Three Project Questions is constructed to identify the problem statement as discussed in previous section is depicted in Table1.2.

**Table 1.2: Summary of Project Questions**

PS	PQ	Project Questions (PQ)
PS1	PQ1	How to assist lecturer to taking student attendance?
PS2	PQ2	Does current system able to record all the student attendance data?
PS3	PQ3	How the paper base attendance list will cost the wastage on the paper?

PQ1: How to assist lecturer to taking student attendance?

This project question is to identify how the system will help the lecturer to take student attendance.

PQ2: Does current system able to record all the student attendance data?

This project question is to find out that the current paper base attendance list and NFC student attendance system will able to record all the student attendance data or not.

PQ3: How the paper base attendance list will cost the wastage on the paper?

This project question is to compare the wastage on the paper with paper base attendance list and NFC student attendance system.

#### 1.4 Project Objectives

The project objective are summarized in the Table 1.3.

#### 1.3 Summary of Project Objective

PS	PQ	PO	Project Objective(PO)
PS1	PQ1	PO1	To identify the suitable method or technology to improve the current student attendance system.
PS2	PQ2	PO2	To design NFC System to record student attendance.
PS3	PQ3	PO3	To develop a NFC Student Attendance System.

#### 1.5 Project contributions

The contribution of the project are summarized in the Table1.4.

### 1.4 Summary of Project Contributions

PS	PQ	PO	Code	Project Contributions (PC)
PS1	PQ1	PO1	PC1	Proposed a suitable method or technology to improve the current student attendance system.
PS2	PQ2	PO2	PC2	Proposed design for the NFC Student Attendance System which allow all student attendance record store in database.
PS3	PQ2	PO3	PC3	Proposed NFC Student Attendance System which allows lecturer use during the lecture and lab section to taking student attendance.

### 1.6 Project Scope

#### a) NFC technology

This project will use the NFC technology as the main function to take student attendance.

#### b) Android application

Android application will be develop with NFC function that can read the student matric card to record student attendance.

#### c) Web page

Web page is use to help admin add new subject and manage lecturer information. Lecturer also can use the web page to add new student in the subject and view the student attendance status.

#### **d) Environment**

The scope of environment for this project is University Teknikal Malaysia Melaka. This project will focus on student attendance in every subject taken by student and lecturer. Lecturer can use the system to take the attendance during the lab or lecture section. Beside that lecturer also can manage which is add new student into subject and view the student and attendance information.

### **1.7 Project Organization**

This report consists of 7 chapter namely Chapter 1: Introduction, Chapter 2: Literature Review, Chapter 3: Methodology, Chapter 4: Analysis and Design, Chapter 5: Implementation, Chapter 6: Testing and Chapter 7: Project Conclusion.

#### **Chapter 1: Introduction**

This chapter will discuss about introduction, project background, problem statement, project question, project objective, project contribution, project scope and project organization.

#### **Chapter 2: Literature Review**

This chapter will explain related work of this project, such as Near Field Communication (NFC), Bluetooth, Radio Frequency Identification (RFID) and Android Application.

#### **Chapter 3: Methodology**

This chapter will explain method used to build the NFC student attendance system and organise the sequence of the project in phase by phase.

**Chapter 4: Analysis and Design**

This chapter will defines the result of the analysis of the preliminary design and the result of the detailed design. Provide chapter outline diagram of Chapter 5.

**Chapter 5: Implementation**

This chapter will be the implementation phase and the expected output after complete the implementation phase. Provide chapter outline diagram of Chapter 6.

**Chapter 6: Testing**

This chapter will be the testing part for test the system and what testing strategy will be used in the project.

**Chapter 7: Project Conclusion**

This chapter will concludes and discussed the finding, limitations, contribution and the future work of the project.

**1.8 Conclusion**

In this chapter, problem statement, project questions, objective, contribution and scope of the project are clearly identified. The next chapter, Chapter 2 Literature Review will be discuss the related work of the project.