

ATTENDANCE SYSTEM (EXAM ME)

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BORANG PENGESAHAN STATUS TESIS*

JUDUL: Attendance System (Exam Me)

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ATTENDANCE SYSTEM (EXAM ME)

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This report is submitted in partial fulfilment of the requirement for the Bachelor of
Computer Science (Software Development)

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2015

DECLARATION

I hereby declare that this project report entitled
ATTENDANCE SYSTEM (EXAM ME)

Is written by myself and that no part has been plagiarized without citations.

STUDENT: _____ Date: _____

(LIM CHI HONG)

SUPERVISOR: _____ Date: _____

(MOHD HARIZ BIN NAIM @ MOHAYAT)

DEDICATION

This work is dedicated to my beloved parents, who have passed on a love of reading and respect for education.

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my special thanks to my supervisor Encik Hariz for his guidance and monitoring throughout the progress of this project. I would like to take this opportunity to express a deep sense of gratitude to all my friends who have giving me support and help throughout this project. Lastly, I would like to say thank you to my parents for their support and encouragement.

ABSTRACT

This project mainly about the development of an android application which is related to attendance system. Today, the growth of technology has lead into the development of many aspect such as mobile applications. Mobile application are widely used by organisation and individual because it makes things easier and convenient. Exam Me is an mobile application which can be used to take the attendance record of the students during exam. Firstly, the information of the students will be stored inside a QR code. Then, the examiner can used Exam Me to scan the QR code and update the attendance records of the students. This application will shorten the time of taking attendance process and save a lot of paper if the attendance records is taking manually by paper recording. The weaknesses of manually taking attendances are time consuming and the data of the attendance records is easy to lose. Therefore, using Exam Me can solve these problems.

ABSTRAK

Projek ini mengenai dengan pembangunan aplikasi android yang berkaitan dengan sistem kehadiran. Perkembangan teknologi pada hari ini telah membawa kepada pembangunan banyak jenis aplikasi mudah alih. Kegunaan aplikasi mudah alih menjadi semakin penting dalam masyarakat. Penggunaan aplikasi mudah alih dapat memudahkan kerja dan menjimatkan masa. Projek ini akan menghasilkan sebuah aplikasi mudah alih yang bernama Exam Me. Exam Me dapat digunakan untuk mengambil rekod kehadiran pelajar semasa peperiksaan. Exam Me akan mengimbas kod QR pelajar dan mengmaskini rekod kehadiran pelajar semasa pengambilan kehadiran pelajar. Exam Me dapat menjimatkan masa dan kertas dalam pengambilan kehadiran pelajar.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In chapter 1, more detail explanation regarding to the QR code Attendance System for Examination (Exam Me) such as problem statement, objective, scope, project significance and expected output. Exam Me is a QR code based system which allows examiner to take and record the attendance of the candidates during exam time. A QR code will be provided to the candidates and they need to bring along the QR code during the exam time. The QR code will contain the basic information of each candidates such as matric card number of the students. During the exam time, the examiner just need a simply scan to record the attendance of the candidates. This may save a lot of paper work and save the time for taking attendances of candidates. Each of the titles will explain details about the project in this chapter. For the introduction, a briefly explanation about the application Exam Me will be provided. In problem

statement, each of the problems in the current exam attendance system will be stated and discussed. An objective will be created to solve the problems occurred in the current exam attendance system in UTeM. The scopes of the project are user, software and hardware. The target users for this application are students and staffs while the software and hardware using in this project is an android-based mobile device with build in camera. For the project significance, there are more significance details about the project will be written under this topic. For the expected output, the final product will be discussed in this topic. Lastly, a conclusion will be written based on this chapter.

1.2 Problem Statements

- a. Current exam attendance system in UTeM consumes a lot of times for taking attendance of the students.

During the exam time, the examiner will require student to fill up an examination slip which will record the personal details of the student such as name, matrix number, exam hall and etc. This slip will acts as a record to take the attendance of the student. This process will take a lot of times. Sometimes, this process will cause the delay of the starting time of the examination. This may cause some troubles to the students and the examiners too.

- b. Current exam attendance system in UTeM waste a lot of papers.

As mentioned above, current exam system in UTeM used an examination slip to record the attendance of the students. If there is thousands of candidates in an exam, that means thousands of paper will be wasted just for recording the attendance of the students. The more numbers of the candidates, the more papers will be wasted.

1.3 Objective

- a. To create an application that can replace current exam attendance system (paper) in UTeM.

The main purpose of this project is to create an application that can replace the current exam attendance system in UTeM. This is because current exam attendance system in UTeM has a lot of disadvantages such as paper wasting and time consuming.

1.4 Scopes

- a. Users
Students and staffs of UTeM.
- b. Hardware and Software
A mobile device with a built-in camera which can support android OS version 4.0 and above.

1.5 Project Significance

The main advantage of using this system is cost effective. The cost of implementation of this system is lower compared to the existing system. For example, the cost of implement a fingerprint attendance system need few thousands dollar. It is few times more than the implementation fees of this system.

1.6 Expected output

At the end of this project, the project team hope that an exam attendance application can be created. This application can be fully replaced the current exam attendance system in UTeM. With the present of this application, the examiners can record the attendances of the students by a simply scan through the QR code provided for the students. As a result, the recording attendance process can be done more quickly and also can reduce the paper works.

1.7 Conclusion

As a conclusion, the project team hope that the final product of this project which is the Exam Me application can replace the current attendance system in UTeM. As this project is related to the attendance system, the final product can be used in many areas such as attendances system for lecture or attendances system for staff. Therefore, the project team conclude that this project surely will improve the attendance system in UTeM.

CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter, there is an explanation of literature review and project methodology. The main purpose of doing literature review is to study the framework which is related to attendance system. Previous studies will help in defining key terms and identifying the objectives of my research. The main topics in chapter 2 included fact and finding, project methodology, project requirement, project schedule and milestones and a short conclusion of chapter 2. For fact and findings, a study of previous research will be done so that the domain of this project can be defined. Through the study of the existing system, the strength and weakness of the existing system can be determined. This will help in develop of the new system in this project. Project methodology will explain the methodology using in this project. Project methodology can acts as a guideline in this project by providing a set of procedures

which can apply in the development process. Project requirement will determined all the requirements needed in this project such as software, hardware or other requirements. Project schedule and milestones provided an estimated timeline for the development of the project to make sure the project can be done on time. Lastly, a short conclusion of this chapter will be done.

2.2 Fact and Finding

Fact finding is the method used to gather information or knowledge which is related to this project. Information about existing system will be gathered in this topic so that I can have a better understanding about the current system. This will benefit me in developing of a new system because I can know the weaknesses and strengths of current system so that I can make some improvement in my system.

2.2.1 Domain

The domain of this project in mainly focus on the area of attendance system. Attendance system is widely used in company or education institute to record the attendance of the employees and students. Organisation used attendance system to track employees work and they can notice when employees are not working. An attendance system may provide many benefits to an organization. It enables an employer to have a full control of all employees working time. (Othman, Ismail and Raus, 2009:203). It can reduce over-payment because the attendances of the employees are clearly recorded in the system. Education institute used attendance system to record attendance of the student because attendance of the students may include in the evaluation report of the student. Students maybe will be barred from taking final exam because they have a bad attendance record. Therefore, the records of attendance are very important for the students to prove their present in the class.

With the growth of technology, many advanced attendance system have been developed from manual attendance system. Advanced attendance system can reduce the time taken for recording the attendance of an employee or students. Besides, advanced attendance system also make the process easier and more convenient. A research about attendance monitoring system using biometrics authentication has been conducted by Professor K.J.Satoa in 2013. (Prof. Satoa, 2013:61) Prof. Satao stated that biometrics techniques are widely used in various areas like building security. These techniques included iris recognition, voice identification, fingerprint identification and DNA recognition. The previous approach in which manually taking and maintains attendance records was very inconvenient task. Therefore, automatic attendance system which will automates the whole process for taking attendance and maintain it has been developed. Besides biometrics technique, attendance system can be develop using RFID technology and smart card technology. Both of these technologies are similar because they are using scanner to scan a special tag for recording the attendance of the employees or students.

Overall, the advanced attendance system is developed to make the process of taking attendance to become easier and convenient. It can reduce the paper work and save a lot of time compare to manual taking attendance records.

2.2.2 Existing System

a. Fingerprint attendance system

The attendance records are taken by scanning the fingerprint of the employees or the students. This system can avoid manipulation or cheating in taking attendance records because the fingerprints are unique for each individual. Nobody has the same fingerprint. Therefore, the probability of cheating in fingerprint attendance system is almost equal to zero. (Josphineleela.R and Dr.M.Ramakrishnan, 2012:3). The method using in this system is using a

scanner which can scan the fingerprint of an individual. Then the system will verify the fingerprint of that individual and send the information to the database to record the attendance of the individual. Fingerprint are considered to be the best and fastest method for biometric identification. Besides, the implementation of fingerprint recognition system is cheap and easy.



Figure 2.1: Fingerprint System

b. RFID attendance system

RFID stands for Radio Frequency Identification, it is an automatic identification technology used for accessing or storing data on a RFID Tags without any physical contact. RFID attendance system consist of RFID Tags, RFID Reader, Middleware and a database system. The RFID reader will reads the information which is stored inside the RFID Tags. Then the Middleware will do the authentication process by comparing the data inside the database system. The RFID system is interdependent on its core components to achieve maximum efficiency and optimum performance of the application. Due to its high degree of flexibility, this system can be used in different area. RFID technology can increased the effectiveness and improve the efficiency for process of taking the attendance records. (Sumita Nainan, Romin Parekh, and Tanvi Shah, 2013:516) Although, the cost of implementing of this system is high, but this technology has a high potential in future development.



Figure 2.2: Example of RFID Tags

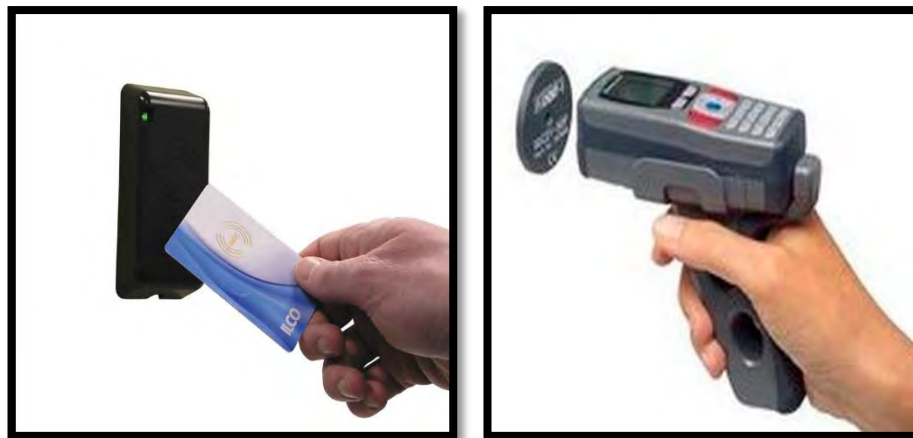


Figure 2.3: RFID Scanner

c. Manual taking attendance system

Manual taking attendance system is a method often used in school for recording the attendance records of the students. Manual attendance system usually will use paper to record the attendance records of the students. Sometimes, the records can be manipulated or cheated. (Morton, 2011) Besides, using paper to record attendance of the students waste a lot of paper resources. The data of the records also easy to lose. The process of taking attendance is very complex and time consuming.