E-ATTENDANCE SYSTEM

FAKRUL RADZI BIN ISHAK
NURFATHUL AQILAH BINTI HIDAYATULLAH

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Approval

“I declare that I have read this thesis and according to my view is sufficient and the quality and scope purpose of setting the Bachelor of IT in E-Commerce.”

Signature: __________________________

Examiner 1: MR TAMRIN AMBOALA

Date: __________________________

Signature: __________________________

Examiner 2: MISS NONA MASNIE

Date: __________________________

Signature: __________________________

Supervisor: MR JONATHAN LIKOH

Date: 19/6/2014
Declaration

“I hereby declare that the work in this thesis is our own except for quotations and summaries which have been duly acknowledge.”

Signature: __________________________

Name: FAKRUL RADZI BIN ISHAK

Matrix No: BI11110044

Date: __________________________

Signature: __________________________

Name: NURFATHUL AQILAH BINTI HIDAYATULLAH

Matrix No: BI11110117

Date: __________________________
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ABSTRACT

E – Attendance is a system that will replace paper based attendance into digital attendance system. This system purposely gives convenience in obtaining the attendance record. This system can help the School Science of Informatics Labuan (SSIL) in reducing the budget rather than producing the attendance form. E-Attendance system has three objectives. The system provides automatic information retriever which no need human input. This system provides subjects details such as venue, time, and classes. This system provides notification for the dean and lecturer if student absence more than three time. E – Attendance is built using PHP, HTML, and Photoshop CS6. The system also has integrated with the database which is MySQL. This system receives positive feedback from the target users which are admin, dean, lecturers, and student after research has been made using the survey form.
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CHAPTER 1

INTRODUCTION

1.1. Introduction

E - Attendance system is a system has been developed by Mohamad Fauzeri Bin Abdullah and Muhammad Mateen Bin Mohd Sabri. They are the previous students of Sekolah Sains Informatik Labuan (SSIL), Universiti Malaysia Sabah, Kampus Antarabangsa Labuan (UMSKAL) that develop this system for their final year project as well as in fulfillment of the requirements for the award of the Bachelor of Information Technology in E-Commerce in year 2012. They were supervised by Miss Dinna Mohd Nizam. The team will upgrade this system for several improvements to make this system more users friendly and restructure back the functionalities of the system.

E - Attendance system is a system that digitalized manual attendance system. Regular attendance needs to be managed manually by paper but by using this system; it helps the lecturer keep in the data into the system. The E - Attendance system then will keep in the attendance data and lecturer can send messages to the students that absent in the time being to know what their reasons are.

The proposed project is to improvising and upgrading the system by input several features that the current system unable to do. The proposed project is to make the system more users friendly where the system can be simplify.

The benefits from this E - Attendance system are online and real time attendance reports and results where it provides proficient and successful tracking and management for the university. Besides that, this website-based system allows
lecturers to collect and organize the user data accurately. The E – Attendance system is a useful set of management functionality that can be accessed from any web browser.

Features that included in the E – Attendance system are Computerized Log In/Log Out System, Electronic Attendance Processing, Attendance Reports, Files Import Features and Web-based Database System.

1.2. Problem Statement

i. The attendance input is semi auto where the system need to key in by the user after barcode scanner read the student ID

The E - attendance system not automatically insert the data in the system. This is because the lecturers need to click the barcode scanner and also need to enter the student ID to insert the data into system.

ii. The system does not provide specific week, time and venue to each subject on student’s, lecturer’s and dean’s page.

The students, lecturers and dean need to remember the schedule of each subject date, time and venue because the system does not provide specific week, time and venue.

iii. The students absent the class more than three times did not notify automatically on the lecturer’s or dean’s page.

E - Attendance system does not provide notifications of the absentees who are absent more than three times in the lecturer’s and dean’s page. Therefore, the lecturers and dean cannot take immediate action towards the absentees such as messages and warning letters.
1.3. **Project Objectives**

i. To improvise the attendance input into automatic where the attendance does not need to key in by the user.

ii. To enhance user friendly system by providing specific week, time and venue to each subject on student’s, lecturer’s and dean’s page.

iii. To upgrade the system by implement automatic notification for the absentees on the lecturer’s or dean’s page after they logged in and view the attendance list for respective subjects.

1.4. **Project Scope**

The attendance system will be used by students of SSIL in UMSKAL. The system will be upgraded into automatic detection where there are barcode scanners that scan the matric card manually and the data scanned will automatically inserted into database. The previous E - Attendance system using barcode scanner where they need to click on the barcode scanner to get the input of student ID and insert the data scanned manually using insert button. This will slower the operation and also time consuming. When the students, lecturers and dean using the system, they will be able to view the specific date, time and venue of each subject. If there are students who absent the class more than three times, the automatic notifications will notify the lecturers and dean.

1.5. **Target User**

The target user must be considered in every proposed system to ensure that the proposed system will provide more benefit to all parties especially the faculties. For this project, the target user has been identified. It can be categorized into 4 groups. There are:
1.5.1. Admin

The administrator is holding the greatest priority in controlling the whole system. This significance of this system is mainly focusing for the Sekolah Sains Informatik Labuan (SSIL) itself. It also can reduce in term of paper usage and avoid human error. All activities are done by the system and will be monitored by admin. Admin also can control database such as view, insert, add, create and delete the data in the database. The data included such as users with details and subjects with details.

1.5.2. Dean

The dean is the second priority in viewing the system where the dean can monitor all activities done by lecturers and students such as attendance list and the edited attendance done by the lecturer. The dean also can view the absentees in each subject taught by the lecturers. Moreover, the dean can print warning letters to the students who absent the class more than three times.

1.5.3. Lecturers

The lecturers are the third priority users in the system. With this system, lecturers can record the attendance of their students in class easily and view the warning for the absentees that absent more than three times. Moreover, lecturers do not need to calculate each student in order to generate report of the absentees to the dean.

1.5.4. Students

The students are the fourth priority users in the system. The students can view the class schedule for respective subjects. The students also can send
message to the dean and lecturers through the system. This system also helps students in motivating themselves to be more discipline and punctual.

1.6. Project Description

The proposed project is to implement automatic insertion data after the barcode scanner scanned the matric card. This will help the lecturer to improvise the time response in each input. The proposed project is also upgrading the systems by providing the specific date, time and venue for each users. When the students, lecturers and dean using the system, they will be able to view the specific date, time and venue of each enrolment subject. This will helps systems to be more users friendly. The user does not need to remember the details of each subject. If there are students who absent the class more than three times, the automatic notifications will notify the lecturers and dean. This will provide in counting absentees more than three times then the lecturers and dean can take immediate action without need to manually checking the absentees more than three times manually. After that, the lecturers and dean can send message and print warning letters to the absentees through the systems.
1.7. Project Methodology

Methodology is the branch of philosophy that analyses the principles and procedures of the inquiry in particular discipline. The system should be evaluated by the users themselves in order to get the user friendly system. The development in this system consists a lot of phase and every phase has specific criteria. These phases are to ensure that the system can run efficiently. The phases that involve are:

i. Phase 1: Planning

ii. Phase 2: Logical Design

iii. Phase 3: Design and prototype

iv. Phase 4: Implementation

v. Phase 5: Testing

vi. Phase 6: User manual
Figure 1.1: Project Framework
1.7.1.2. Interview

Several students and lecturers of Sekolah Sains Informatik Labuan (SSIL) in Universiti Malaysia Sabah Kampus Antarabangsa Labuan (UMSKAL) had been interviewed. The purpose of this method is to evaluate the system related to the users themselves. Besides that, it is also to fill the requirement of enumerators during the survey session so that it can be apply in the system where the user friendly can be develop in the system.

1.7.1.3. Questionnaire

Questionnaire is defined as a set of printed or written questions with a choice of answers, devised for the purposes of a survey or statistical study. The questionnaires are randomly distributed to 40 respondents from SSIL of UMSKAL. The respondents are 10 lecturers, 10 students of 1st year, 10 students of 2nd year and 10 students of 3rd year. The questionnaires consist of several questions that support the development of the system. The result from questionnaires will help the team to know what the user’s requirements are and meet the user’s expectation.

1.7.2. Phase 2: Logical Design

In this phase the member of the team required to develop Data Flow Diagram (DFD) for each level. Next the team also needs to develop Entity-Relationship Diagram (ERD), both diagram is the illustration of the process of the proposed system.
1.7.3. Phase 3: Design

Designing the template of the system by following the diagram that has been developed in earlier phase so that does not lost track of the system function. This step can illustrate future system that will be built by team.

1.7.3.1. Prototype

In this phase, the team is developing a prototype for the system as following the plan after completing the designing part. Prototype is created by using Adobe Dreamweaver.

1.7.4. Phase 4: Implementation

The implementation of the system is develop in this phase in order the proposed system is becoming reality. In this phase the designing part has been converted to coding term.

1.7.5. Phase 5: Testing

In this phase the team needs to test the proposed system as well as examine the effectiveness of the function of the system following the objectives and goals of the project. This phase is important to check whether there is weaknesses and strength of the system. This phase need to do frequently until the system is completely developed without facing any error.

1.7.6. Phase 6: User manual

User manual will be developing in this phase as a guideline for the user to use the system. This phase will help in developing the system as well as maintain the system.
1.8. Project Timeline

In order to meet the time scope accurately, the usage of Gantt chart is required in managing the time required in each development phases. The following figure shows a Gantt chart for the whole system development phases. The project timeline is attached in appendix.

1.9. Report Structure Outline

In the first chapter in this report is the Introduction that describe about e-attendance, problem statement, aim, objective, target user, project description, project scope, project methodology and project timeline. For chapter 2, research will be conducted to support development of the proposed project where the application review and journal or article review will be included. For chapter 3, the analysis will be conducted for better information in developing system. The data will be analysed and transform into logical design such as Unified Modelling Language (UML), Entity Relationship Diagram (ERD) and Data Dictionary will be developed. For chapter 4, the interface, functionalities and flowchart will be design. Chapter 5 will be the whole part of system is developed. Chapter 6 is testing and evaluation where the system being tested. Lastly, chapter 7 is about conclusion and summary of the project.
CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

In this chapter, the research is about implementation several features that make the E-Attendance system more reliable. This will help and also act as guide in developing the attendance system as well as adding new feature to make the system more efficient. This research purpose is also to help in comparing with other existing system in order to improve the system performances and more to user friendly system.

In this section, it is also consist of several existing application and several journal or article that is related to E - Attendance system that have several features that can be implement in the current E-Attendance system that has been built by the team. Besides that, there are several websites that shows the existing application which is barcode scanner based input. These will be compared with the proposed system in application that also acts as guideline for proposed system. This will helps the understanding in development of the system as well as better function in the proposed system.

2.2. Attendance System

Attendance system is a system that collects the attendance of person either in schools, colleges, and offices. For students in SSIL of UMSKAL, they use the manual attendance where the lecturers need to hands out the attendance list and students need to sign on the paper (Fauzeri, 2012). The manual attendance system has
several weaknesses which are missing attendance list, late submission, inaccurate data, cheating and others (Walsh, 2007). This because basically lecturers have limited time to re-check attendance due to other duties. Moreover, there will be always an inaccuracy problem in the attendance such as the user coming late to the present location.

### 2.3. E – Attendance System

E – Attendance is systems that replace the old method which is signing on attendance sheet. This kind of taking attendance manually could be a waste of time and often cause manual errors. Software was geared towards ensuring an effective and efficient attendance management system using the scanner in monitoring compliance by faculty, staff and students of the University (Matthews, 2013). The information from the Database Handling will be used for the university administration to better manage classroom statistics, warning for unattended student via letter or email and reminder for student (Walsh, 2007). Each student is assigned a unique tag, which he or she is required to swipe over the reader to give his or her attendance (Kar, 2012). In order to have complete functionality, RFID in E-Attendance is needed to integrate with Hardware Database Handling System (Walsh, 2007).

The system can collect and record the name, time of their attendance of both in and out, and ID number (Zubaira, 2011). Attendance taken will be more accurate since the time for the attendance taken will be recorded (Lim, 2009). The system can be connected to the computer through RS232 or Universal Serial Bus (USB) port and store the attendance taken inside database (Mansor, 2009). The cost of implementation of the system is only one time as the RFID chips are light and cheap containing information up to a few binary digits (Kumar, 2012). This project designed


Mohamad Fauzeri Bin Abdullah & Muhammad Mateen Bin Mohd Sabri (2012). E-ATTENDANCE SYSTEM.


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