

WIRELESS LAB ATTENDANCE SYSTEM

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WIRELESS LAB ATTENDANCE SYSTEM

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**This report submitted in partial fulfilment of the requirement for the
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DEDICATION

To my dear supervisors

Prof Dr Shahrin b Sahib@Shahibuddin

Mr. Ariff b Idris

To my beloved parents

Mr. Wan Omar b Wan Mohd Maaayuddin

Mrs. Norma bt Ismail

To my siblings

Mr. Wan Syahril Zariff Wan Omar & Mrs. Marina Dahlan

Mr. Wan Nul Syafril Wan Omar

Mr. Mustaffa Kamaruddin & Mrs. Wan Syafrinas Wan Omar

Wan Syahrul Naim Wan Omar

Wan Muhammad Wafi Wan Omar

To my beloved best friend

Muhammad Iffat b Md Zainal

Noor Shakirah bt Ismail

Nurul Diyanah bt Shahidun Jamil

And

Fellow Friends

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The first and most important, I would to thank Allah SWT The Most Gracious and Merciful for giving me the strength to carry out this project.

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Lastly, to all my beloved friends, I would like to express the highest appreciation. My hope I can reward you with better services can cooperate as equal as you help me and thank god for having friends like you.

ABSTRACT

The Wireless Lab Attendance system is a system developed for the purpose to meet the requirements of Projek Sarjana Muda (PSM). This project was developed to facilitate teachers to take attendance of students in the lab and also in improving the quality of their work in managing and maintaining student attendance. Equipment used in developing this system is Netbean IDE 6.8 and Microsoft Access 2007. The entire report of this project consists of seven (7) chapters and each chapter describes each phase of development of this system. Beginning of the chapter is the chapter Introduction, Literature Review and Project Methodology, Analysis, Design, Implementation, Testing and Project Conclusion. It is hoped that this system can be improved with a better future to make it more efficient for use in other organizations.

ABSTRAK

The Wireless Lab Attendance System adalah sebuah sistem yang dibangunkan atas tujuan untuk memenuhi kehendak Projek Sarjana Muda (PSM). Projek ini dibangunkan untuk memudahkan pengajar untuk mengambil kehadiran pelajarinya di dalam lab dan juga dalam usaha memperbaiki mutu kerja mereka dalam menguruskan dan mengatur kehadiran pelajar. Peralatan yang digunakan dalam membangunkan sistem ini adalah Netbean IDE 6.8 dan Microsoft Access 2007. Keseluruhan laporan projek ini mengandungi tujuh (7) bab dan setiap bab menghuraikan setiap fasa pembangunan sistem ini. Permulaan bab ialah bab Pengenalan, Ulasan Kesusasteraan dan Projek Metodologi, Analisis, Reka Bentuk, Perlaksanaan, Pengujian dan Kesimpulan Projek. Diharapkan sistem ini dapat diperbaiki dengan lebih baik lagi pada masa depan untuk menjadikannya lebih efisien untuk digunakan di lain-lain organisasi.

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CHAPTER I

INTRODUCTION

1.1 Project Background

The attendance can give a lot of meaning such as the act of attending, number of persons those are present and the frequency with which a person is present. The punctual and regular attendance in all classes is required and important of all students. Some lecturer and departments are very strict about class and labs attendance; others do not consider it part of the grading system. If the instructor thinks a student has an excessive number of absences, the student's final grade may be lowered. So, the lab attendance system is build depends of the university, which use the manually attendance system that means, the lecture call the student names or use some advanced technology. The aim for the wireless lab attendance system is based around tracking student absences, since there should be fewer of them than presences. On the main admin site, the methods are designed for quick bulk entry of attendance since the student is entering attendance when they come to class.

This project is designed to produce a computerized solution to the manual attendance taking procedures. It is because the manual controlling of the attendance is a time consuming process and mostly not effective. The aim is to develop this system is a Graphical User Interface program, which uses java application to provide a service enabling students to register their lab attendance in lectures, using the wireless in java application client server. The registration of students will be automatic, faster and more security intensive than current methods of registration.

In this project, once the student comes to the lab, the student opens the computer in the lab and enters their metrics card number and server ip address in the wireless lab attendance system. Then, the lecture receives the metrics card number through existing Wireless LAN in the lab. The security in this system are only one student can enter their details requirement in one computer at one time during lab session. So lecturer did not have to afraid about the student that did not come to the class and ask their friend to sign their attendance. Once the lecturer get the attendance, all the information will save to the database that which is install in Microsoft Access that link in this system.

1.2 Problem Statement

There are various problems figured out that contributing to this Wireless lab attendance system enhancement. The problem statements are:

- a) This project is designed to produce a computerized solution to the manual attendance taking procedures. Because manual controlling of the attendance is a time consuming process and mostly not effective.
- b) This system is a comprehensive for student lab attendance management and tracking software solution that lets your teacher marks lab attendance easily and quickly.

1.3 Objective

Regarding to this project, there are several objectives to be accomplished. The objective is:

- a) To establish the connection wireless between lecture computer and student computer for transmitting the data.
- b) To secure the data and pair the connection with unique number. It's for security purpose.
- c) Summarize the data and view the report every day and monthly.

1.4 Scope

Scope will be described as the characteristics of the product, service, or result that the project was undertaken to create. These characteristics will generally have less detail in early phases and more detail in later phases as the product characteristics are progressively elaborated. The project scope for this system:

- a) This project will be developed by using Netbean IDE 6.8. The software it used for design the system graphical user interface during implementation phase.
- b) This system will be developed for lecturer and connection with student via Wireless network client server.
- c) This system is for first version.

1.5 Project Significance

This wireless lab attendance system is developed for computerized solution to the manual attendance taking procedures. It is because manual controlling of the attendance is a time consuming process and mostly not effective. This system has their security for secure the data and pair the connection with unique number.

1.6 Expected Output

- a) The database's system manages to update students' lab attendance and lab attendance history without any lost of data.
- b) The lab attendance system jobs can be done easily without having unexpected errors.
- c) The lab attendance system can identify the student computer and can be pair to lecturer computer.
- d) The staff or lecture got the ability to register, view, monitor, and save the student attendance.

1.7 Conclusion

As conclusion, the Wireless Lab Attendance System include computer student can communicate to system and the system will communicate with the computer student. In the pairing process, the system must identify the computer student as lab attendance. Then, the system can save into database. Therefore, this system can fulfil the features of scheduling system and network communication concept. This chapter reviews on the description of the project and some related background information on the project. Beside that, this chapter observes the problem statement of this project to give a clear near of what is the scope and objectives of the project. This chapter will become the guideline to all the work that is to be carried out in the later stage. After finished this chapter, it will be bring to second chapter that is the literature review and project methodology.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

For this chapter, literature review is a body of text that aims to review the critical points of current knowledge on a project topic. The literature review usually describes and explains to carried out on the system and also the methodology that be used in developing this system. This chapter explain to the project that will be developing to assure the system is far more effective. Besides that, previous research also will be discussed in this section at least two system and methodologies that being used in other research which is related to this system will be explained and compared to highlight the differences.

Methodology is particular procedure or set of procedures to be performed in developing a system. Software engineering methodologies span many disciplines, including project management, analysis, specification, design, and coding, testing and quality assurance. All of the methodologies guiding this field are collations of all of these disciplines. Project requirement in this chapter refer to what are the tools needed by the project for accomplishing the project. In this case, project requirement can be divided in two terms which are software requirements and hardware requirements. The software and hardware requires to conducts this project will be defined in this chapter.

2.2 Literature Review

Literature review is aims to review the critical points of current knowledge on a particular topic. Therefore, the purpose of the literature review is to find, read and analyse the literature or any works or studies related to this system. It is important to well understand about all information to be considered and related before develop this system. For this project, all the information will be collected from the related thesis, journal, book and also website from the internet. This is important to get as much as information before the project can continue to the next part.

2.2.1 Domain

Wireless Lab Attendance System is a system that can provide a service enabling students to register attendance in lectures computer when their present in the class. This project is designed to produce a computerized solution to the manual attendance taking procedures. This system will develop using Netbean IDE 6.8 and Microsoft Access 2003 as a database system. The domain for this system is ICT in Education and Training.

2.2.2 Keyword

2.2.2.1 System

The system is a set of detailed methods, procedures, and routines established or formulated to carry out a specific activity, perform a duty, or solve a problem. The concept of the system can also be stated as a system embodying a set of relationships which is differentiated from the relationship of the set to other elements and from relationships between an element of the set and elements not a part of the relational system.

2.2.2.2 Wireless

The meaning of wireless is describing telecommunications in which electromagnetic waves carry out the signal over part or the entire communication path. A wireless router's antenna technology generally determines its WiFi signal strength and hence its range. Generally speaking, 802.11g wireless routers offer better WiFi range than comparable 802.11b units due to improved antennas. The wireless networking represents the future of computer and Internet connectivity worldwide. Wi-Fi continues to be the pre-eminent technology for building general-purpose wireless networks.

2.2.2.3 Attendance

The attendance review is the act of attending, the persons or number of persons that are present and the frequency with which a person is present.