E-HOSTEL SERVICES SYSTEM

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A THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF IT IN E-COMMERCE
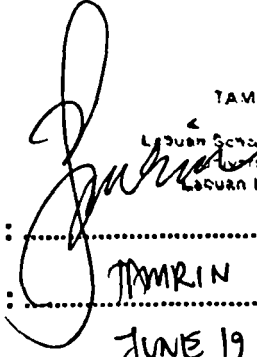
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EXAMINER DECLARATION

"We declared that we have read this thesis and according to our view this thesis is sufficient enough for the quality and scope purpose of getting the Bachelor Degree of Information Technology (HONS) in E-Commerce."

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DECLARATION

We hereby declare the materials and works in this thesis are original except for quotations, excerpts, summaries and references, which have been duly acknowledged.

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ABSTRACT

E-HOSTEL SERVICES SYSTEM

E-Hostel Services System is an online system which designed for all UMSKAL's resident. The purpose to design this system is replacing the current system to become more systematically by using online and database system. The current system is using manual system in UMSKAL's hostel service system. E-Hostel Services System provides four services to UMSKAL's resident, which is check-in and check-out of hostel room, hostel room application, reporting problem of hostel towards Maintenance and Development Department, and hostel room booking. This system can solve the problem of UMSKAL's resident who unable to make report during non-office hour, the paper works system are used by UMSKAL's Hostel Department, Maintenance and Development Department, and Administration Department. Data collection is done using the interview and questionnaire method. The total sample is 106 respondents. Our target users mainly staffs, students and departments which are Hostel Department, Maintenance and Development Department, and Administration Department. The data collected is then analyzed to establish the scope of the project. Unified Modeling Language (UML) Diagram and Data Dictionary are drawn to illustrate the flow of the system. Prototype and final product are built using Adobe Dreamweaver CS6. E-Hostel Services System is designed based on the user friendly objective in order to smoothen the flow of the system.

Keywords: E-Hostel Services System, UMSKAL's resident

ABSTRAK

E-Hostel Services System merupakan sebuah sistem atas talian yang direka untuk warga UMSKAL. Tujuan menggunakan talian dan sistem pangkalan data ini adalah untuk menggantikan sistem manual UMSKAL supaya ia menajadi lebih sistematik dan effisen. E-Hostel Services System ini menyediakan empat perkhidmatan kepada warga UMSKAL, iaitu daftar masuk dan daftar keluar dari bilik asrama, permohonan bilik asrama, melapor masalah asrama kepada Pejabat Pembangunan dan Penyelenggaraan dan tempahan bilik asrama. Selain itu, sistem ini juga boleh menyelesaikan masalah warga UMSKAL yang tidak dapat membuat laporan atau adauan pada waktu bukan pejabat. Pengumpulan data dilakukan dengan menggunakan kaedah temubual dan soal selidik dan 106 responden menyertai dalam kajian ini. Data yang dikumpul kemudiannya dianalisis untuk mewujudkan skop projek. Unified Modeling Language (UML) dan Data Dictionary digunakan untuk menggambarkan aliran sistem. Prototaip dan produk akhir dibina dengan menggunakan Adobe Dreamweaver CS6. E-Hostel Services System direka berdasarkan objektif mesra pengguna dapat melicinkan aliran sistem.

Kata Kunci: E-Hostel Services System, warga UMSKAL

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CHAPTER 1

INTRODUCTION

1.1 Introduction

E-Hostel Services System is an online system. This system is designed for all UMSKAL's resident. The purpose to design this system is to replace the current system which is manual system in UMSKAL. With the system, it can encourage UMSKAL's target users involving in ICT world.

E-Hostel Services System provides four services to UMSKAL's resident. For instance, check-in and check-out of hostel room, hostel room application, reporting problem of hostel towards Maintenance and Development Department, and hostel room (Semi D) booking.

Check-in and check-out of hostel room is a service for UMSKAL's resident self-check in and check-out during the start of semester and end of semester via online system instead for UMSKAL's resident manually check-in or check-out in hostel office. While hostel room application is purposely for students those want to apply certain hostel room. Normally, students are faced the problem to submit the applying letter to lecturer in-charge. Thus, this system might help them to solve this problem. Besides that, reporting problem of hostel towards Maintenance and Development Department service is for UMSKAL's resident makes report of the problem of hostel room towards them by online system instead by phone calling or form filling.

Booking hostel room (Semi D) service is provided for UMSKAL's resident too. UMSKAL's resident just need have few clicks to book their hostel room for themselves, parents or friends.

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Overall, E-Hostel Services System brings the convenient way for UMSKAL's resident in self-check in and check-out of hostel room, submit the hostel room applying letter, reporting problems of hostel towards Maintenance and Development Department, and booking hostel room (Semi D).

1.2 Problem Statement

The problem statements of E-Hostel Services System are lacking of interactivity, reporting service is not available during non-office hour, UMSKAL's departments are using paper works system, and poor hostel, maintenance and services system.

One of the problem statements is lacking of interactivity and intermediate medium between UMSKAL's Hostel Department, Maintenance and Development Department, Administration Department, and resident. There is no intermediate medium in check-in and check-out hostel room, apply hostel room, and booking hostel room (Semi D). All of these services need to do at the counter of the departments.

Besides that, UMSKAL's resident unable to make report during non-office hour. Reporting service is unavailable during working hours. It makes troublesome for UMSKAL's resident because they need to waste plenty of time in waiting for the related departments to make reporting.

Furthermore, UMSKAL's Hostel Department, Maintenance and Development Department, and Administration Department are using paper works system. Paper works system bring inconvenient for the departments. As a result, manual filing system, for instance, collecting the application form or paper reporting, is difficult to handle.

Last but not least, Hostel, Maintenance and Development Department system are poor. The efficiency of the service system is low. The management staffs of

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departments do not take immediate action when receiving application or reporting form from UMSKAL's resident. Hence, response is delayed.

1.3 Project Objectives

The project goal of E-Hostel Services System is to manage UMSKAL's hostel service system become more systematically by using online and database system to achieve the following objective.

1) To provide a user friendly and interactive medium such as self-check in and check-out, hostel room application and hostel booking system.

2) To provide the UMSKAL's residents convenient in reporting system.

3) To store the information of hostel management in database that is more systematically and effectively.

4) To provide an immediate response of receiving application or reporting form from UMSKAL's resident.

1.4 Project Scope

E-Hostel Services System is designed for resident who stayed in UMSKAL hostel, Hostel Departments (Beta office and Alpha office), Maintenance and Development Department and Administration Department. Explanation of project scope is shows as table below:

Table 1.1 Project scope

Scope	Explanation
1) UMSKAL's resident	Four services are provided to them such as check-in and check-out of hostel room, hostel room application, reporting problem of hostel towards Maintenance and Development

	Department, and hostel room booking.
1) Hostel Departments (Beta office and Alpha office)	Database is provided to them for storing the status of UMSKAL's resident to replace the data that store in form of Microsoft Excel.
1) Maintenance and Development Department	Database is provided to them for storing the data of reporting problem of the hostel instead using Microsoft Excel.
1) Administration Department	Database is provided to them for storing the information of those who booked hostel room in Semi D.

1.5   Target User

E-Hostel Services System is focus on all UMSKAL's resident, such as students and staffs who stayed in UMSKAL hostel, staffs of Hostel Department (Beta office and Alpha office), Maintenance and Development Department, and Administration Department. Activities of target users as the following:

1) **UMSKAL's resident**

   UMSKAL's resident can self-check in and check-out during the start of semester and end of semester. Apply hostel room service is provided to those want to get certain room. Besides that, they can make a report based on problems of hostel that faced. UMSKAL's resident can book Semi D hostel for the purpose when their parents or friends who want to visit them at campus.

2) **Staffs of Hostel Department**

Staffs of Hostel Department can check the status of UMSKAL's resident through the hostel status service. In addition, they also process the letters of hostel applying that submit by UMSKAL's resident.

3) **Staffs of Maintenance and Development Department**

Staffs of Maintenance and Development Department manage all complaints that made by UMSKAL's resident. They can have interaction with UMSKAL's resident through the system too.

4) **Staffs of Administration Department**

Staffs of Administration Department manage the all hostel room booking details. Condition and regulation is provided to UMSKAL's resident also.

1.6   Project Description

E-Hostel Services System is a system that designed for UMSKAL's resident such as students and staffs who stayed in UMSKAL hostel. The purpose to design this system is to provide easy way for UMSKAL's resident to check the status of hostel room, self-checking in and out of hostel room, hostel room application, reporting problems of hostel, and hostel room reservation via online system instead of manual system.

E-Hostel Services System provides some services such as check-in and check-out of hostel room, hostel room application, complaint, and hostel room booking. Check-in and check-out of hostel room is uses for student self-check in and out during the early of semester and end of semester.

Besides that, room application provides for those students who want to apply certain room such as single room. Students can attach the result slip or document and get to know their room status through this service.

For the complaint service, UMSKAL's resident can report the problems of hostel based on categories such as electrical, mechanical, and building. They can describe their condition or attach pictures during reporting. Other than that, they can also view their latest status after they had made the report.

Furthermore, hostel room booking of Semi-D is provided for UMSKAL's students and staffs. They can reserve the hostel room by choosing the date and payment is needed via this service.

1.7   Project Methodology

Project methodology is defined as combination of logically related practices, methods and processes that determine how best to plan, develop, control and deliver a project throughout every process until completion.(McConnell, 2010)

E-Hostel Service system undergoes 6 stages as following:

1) Planning

2) Analysis

3) Logical Design

4) Prototype

5) Implementation

6) Testing

Each of the stages needs to be followed. The following shows the project methodology for E-Hostel Services System.
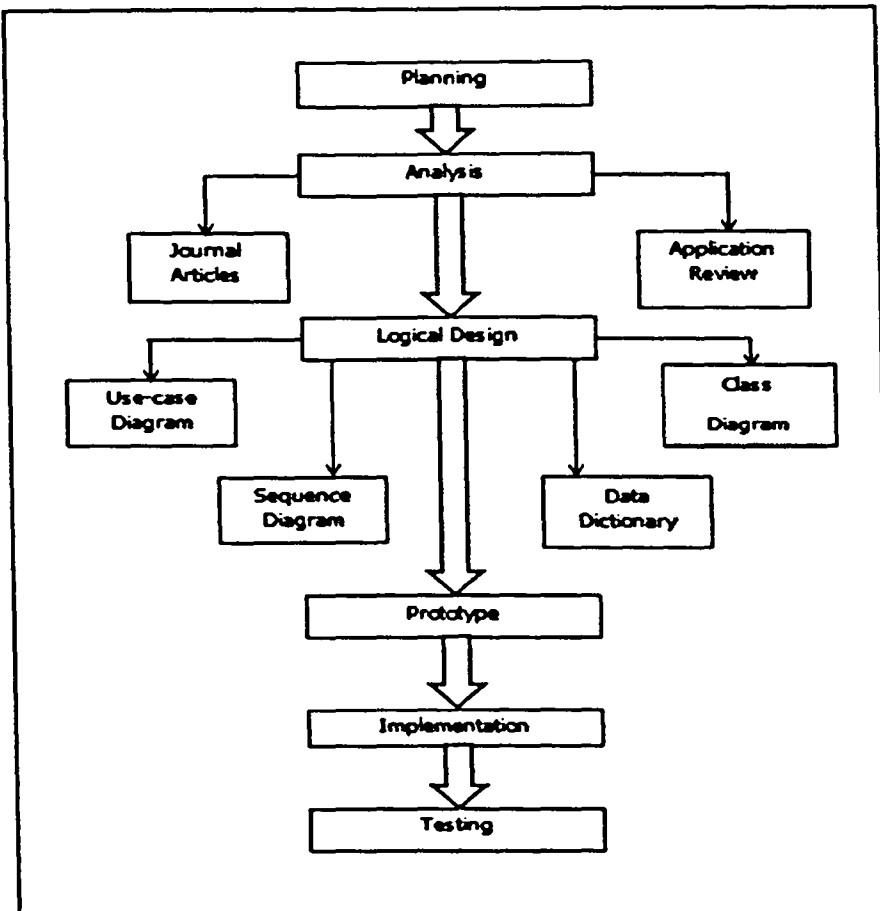
Figure 1.1 Project methodology

1.7.1 Planning

In planning stage, we analyzed the current system and issues that faced by UMSKAL's resident. The idea and project title was brainstorming. After that, proposal was written and gets approval from program coordinator and supervisor. Research was done by collecting information from students and staffs of Hostel Departments (Beta office and Alpha office), Maintenance and Development Department, and Administration Department to identify their requirements towards our E-hostel Services System.

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1.7.2 Analysis

In analysis stage, background research on similar project was done to analyze the design and functionalities of every system. Comparison of our E-Hostel Services System was made.

1.7.3 Design

In logical design stage, the logical design for E-Hostel Services System has been conducted. The design and functionalities were decided. Unified Modeling Language (UML) included use-case diagram, sequence diagram, class diagram, and data dictionary, was created. It will show how the flow of the system on interacting with each other.

1.7.4 Prototype

Interfaces and functionalities of the E-Hostel Services System were designed and converted it into prototypes. The prototype is focused on the web layout and interfaces. Adobe Dreamweaver and Adobe Photoshop were the tools of designing the prototypes. Basic function was conducted in the early stage.

1.7.5 Implementation

At this stage, the design of functionalities was converted into programming code. The improvement of the system in term of interface and coding was enhanced. It consisted of output of each user in the system which is UMSKAL's residents such as students, fellows, lecturers and staffs of Maintenance and Development Department.

1.7.6 Testing

In the final phase, the function of the system was tested to identify its reliability. Besides that, the security of the system will be reviewed. Testing and debugging will be repeated frequently until the system is workable with zero error.

1.8   Project Timeline

Project timeline is a planning activity that ensures the project is running accordingly to the estimated schedule. In this project, we are using Gantt chart to develop our schedule. In the Final Year Project 1, we estimate to finish planning stage, analysis, logical design, and design for the prototype within three months. For the Final Year Project 2, we estimate three months to finish the implementation, testing and evaluation, and user manual stage. Refer to Gantt chart in Appendix A.

1.9   Report Structure Outline

Chapter 1 Introduction

This chapter is the overview of project. The problem statement is discussed followed by project objective, project scope, target user, project description, project methodology, project timeline, and report structure outline.

Chapter 2 Literature Review

This chapter includes the background research and application review about the E-Hostel Services System. Background research is summaries from the journal and articles which relevant to the hostel, services and E-services. Application review is about the review of the existing system that similar with the E-Hostel Services System.

Chapter 3 Analysis

This chapter includes analysis for the development and flow of E-Hostel Services system. Interview and questionnaire are conducted to gather information that need for the system. Moreover, the flow of the system, for instance, use case diagram, class diagram, sequence diagram and data dictionary is done by using Unified Modelling Language (UML). UML provides foundational benefits for someone who already knows how to interpret the notation without being told. It is more understandable to the flow of the system as the notation is simple and defined.

Chapter 4 Design

This chapter includes systems flow chart with details specification on the function, organizational structure and design of the interface, form and report. Interface design focuses on how information is provided and captured from users.

Chapter 5 Implementation

This chapter includes explanation about the coding selected in developed this system and include the program documentation. Print screen have been included in the program document for different group of users.

Chapter 6 Testing and Evaluation

This chapter consists of the testing for the system. In this stage, the system can be tested with its full function ability and accuracy of retrieving the data.

Chapter 7 Conclusion

This chapter covers the finding and discussion about the strengths and limitations about the system. It includes recommendations for future enhancement too.

CHAPTER 2

LITERATURE REVIEW

2.1   Introduction

This chapter includes the background research and application review about the E-Hostel Services System. Background research summaries from the journals and articles which relevant to the hostel, services and E-services. Application review is about the review of the existing system that similar with the E-Hostel Services System.

2.2   Hostel

According to Hostel world's library research, the term 'hostel' comes from the Latin 'hospes' for guests and has been applied to lodging houses of all standards throughout the ages. It became synonymous with cheap, no-frills accommodation after the war when youth hostelling became popular and into the 1960s when students needed affordable rooms (Greeves, 2009).

2.2.1 Hostel Problematic

The problem of sharing hostels where the residents share some space, for instance, the bathroom or the kitchen, will be at risk of in-house conflicts to a much higher extent than in homes that are self-contained or where the residents have agreed to share space and equipment on the basis of friendship or family relations (Busch-Geertsema, 2007).

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