HOSTEL MANAGEMENT SYSTEM (HMS)

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ABSTRACT

Hostel Management is an application developed to manage the various activities in hostel. The particular project is deal with the problems on managing the a hostel and avoids the problem occurs when carried out manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more friendly and more GUI oriented. The objective of this project is to present a design of Hostel Management System for SMA Pahang. Our research is a comparative study of software design in development HMS for SMA Pahang. The study is focusly on fully utilize the OO Diagram and functional-based diagram. Our focus is comparing the utilization and significant of software design while developing the system using PHP for development of HMS.

ABSTRAK

Pengurusan asrama adalah satu aplikasi yang dibangunkan untuk menguruskan pelbagai aktiviti di asrama. Projek tertentu berurusan dengan masalah menguruskan asrama dan mengelakkan masalah ini berlaku apabila dijalankan secara manual. Pengenalan kelemahan system yang sedia ada membawa kepada mereka bentuk system berkomputer yang akan menjadi serasi dengan system yang sedia ada dengan system yang lebih mesra dan lebih berorientasikan GUI. Objektif projek ini adalah untuk membentangkan reka bentuk Sistem Pengurusan Asrama untuk SMA Pahang. Penyelidikan kami adalah satu kajian perbandingan reka bentuk perisian dalam pembangunan HMS untuk SMA Pahang. Fokus kajian saya adalah menggunakan sepenuhnya Rajah OO dan fungsi-berasaskan rajah.Tumpuan kami membandingkan penggunaan dan reka bentuk perisian yang ketara pada masa yang sama membangunkan system menggunakan PHP untuk pembangunan HMS.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDIXES

CHAPTER 1

INTRODUCTION

This chapter briefly discuss on the overview of this research. It contains five sections. The first section is introduction; follow by the problem statement. Next are the objectives where the project's goal is determined. After that are the scopes of the system and lastly is the thesis organization which briefly describes the structure of this thesis.

1.1 Background

Hostel is a not a less than a home for students when staying away from their home. It has large well ventilated dormitories and single rooms and is situated in the school premises. Providing clean and calm hostel accommodation is one of the key responsible of school management.

To manage the hostel facilities, a lot of data need to be maintained such as number of student hostel can accommodate, hostel rules and regulation, hostel fee, hostel in and out of student, guest and visitor record and so on. So, this need the system which has an ability to capture all kind of data and information and analysis it properly for smooth functioning of the hostel. Hostel warden can easily maintain the data.

Hostel Management in schools often involves administering of all activities of students. All these still remains difficult and require some job for the top management. Hostel Management functions and responsibilities in modern day schools have always been a problem in managing, because of the manual system method of tools they use. Hostel Management System is well designed specially to meet challenges of administrative set up of any school.

HMS can be used to assist in student's allocation, setup hostel information, hostel application, student outing record and visitor management. In short, this system will assist the staff in managing the hostel management at school.

1.2 Problem Statement

After make an observation on the current process of hostel management at school, it found that every single thing is done completely by manual.

Currently, the SMA management at JAIP has decided to make computerized system . It is because there are facing problem such as corrupted of data. The data about information of student hostel are store and keep not very well and systematically. In the current process, the data are stored into the file but not in the database which is lead to data duplication, repetitive data, and isolation of data from one to another. It is also worried of something happen to the file, then all the data will lost.

In the current manual system, it will very difficult to find the hostel record and other information of student manually. Because it has been keep on the paper and it is easy to loss. It also consume time to search the paper of student hostel record one by one.

The manual system requires longer time for allocation the student to respective hostel, dorm, and bed.

Besides that, the manual application will lead toward a hassle data management for faster student allocation as well as managing the data for faster task such as student's activities, student outing record and managing visitors.

1.3 Objectives

The objectives of this project are:-

(i) To develop an integrated system for hostel management system.
(ii) Providing online student application for student to apply the hostel.
(iii) To compare the efficiency of system design for a small IT project.

1.4 Scope

The scopes of the project that have been identified are:

(i) This system is only use by Sekolah Menengah Agama (SMA) Kerajaan Negeri Pahang.

(ii) The user of this system are :

a. **School's Staff / warden**: are responsible to setup the hostel information, manage the student outing and student's visitor
b. **Student**: apply hostel application

(iii) This system use web based application concept. The software to be used in developing this system is Hypertext Preprocessors (PHP) language, Xampp for the database and Adobe Dreamweaver CS3 for the interface design.

(iv) The module of this system are :-

a. **Setup the information of hostel**
   - Add the information of hostel, block, and dorm and capacity of dorm
b. **Hostel allocation**
   - Assign the student room based on their form

c. Hostel Application

- Student can apply the hostel by online and view the status of application. The hostel application of student will be approved by staff officer

d. Student Outing

- Staff will scan the barcode at outing book by using barcode scanner and will be record to the system

e. Student's Visitor

- Warden are responsible to record the detail of student visitor.

1.5 Thesis Organization

This thesis consists of four (6) chapters. Chapter 1 will discuss on introduction to system/research. The purpose of this chapter is to introduce about the system that will be develop. This chapter contain several part namely introduction, problem statement, objectives, scope, and thesis organization.

Chapter 2 is about literature review. This chapter will explain about the reviews for the chosen project and explain about research that was conducted by other party. This chapter also will explain about the technique / method/ suitable equipment or technology to take away in implementing project.

Chapter 3 is about methodology. This chapter will discuss about approach and framework comprehensively adopt in project development. It used during design and project implementation. This chapter also explains about the justification of method or approach used and hardware and software necessity.

Chapter 4 is about implementation. This chapter will briefly summarize and conclude the proposed project. will discuss about compilation if the processes involves in project. This chapter involves data, the techniques of data and table that is used based on SQL and PHP tools instructions.

Chapter 5 is about result and discussion. This chapter will elaborate about the result from data analysis that have done by project research. The elements that should have in this chapter include result analysis, the problems of build project, and project solved

Chapter 6 is about conclusion. This chapter will briefly summarize and conclude the proposed project.

CHAPTER 2

LITERATURE REVIEW

This chapter briefly the describes the review on existing technique related with “Hostel Management System” that will be developed later. This chapter comprises four sections: The first section describes the comprehensive review on existing related systems. The second section describes the review on software design. The third section is describes the database language. And lastly, section fourth is describe about the software development methodology.

2.1 Existing System Review

This section is to review the current system and existing system that related to hostel management system. There are three (3) existing system that has been explored.

2.1.1 Hostel Management System

The Hostel Management System is a system specialty designed to centrally manage Hostel Association. This system is stand alone system. It is customize and user friendly software for Hostel. All administrative function and application system data has been designed to be keep centrally and unique for entire organization [1].

Base file Hostel creation, Block creation and Room Facility are defined in master file of hostel module and other main process such as room allocation, room change and mess management facilities are available in transaction file of this module [1].

2.1.1.1 Screen Shot of Hostel Management System

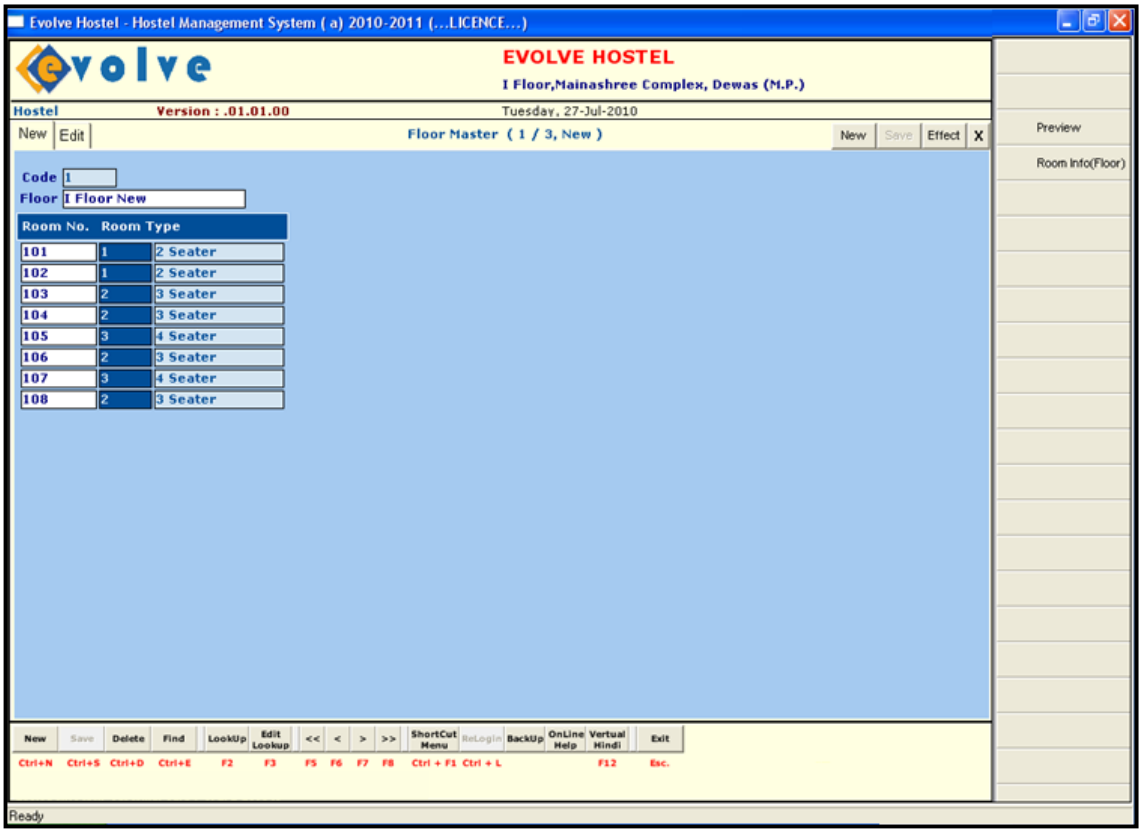

Figure 2.1 View of Room Information Interface

The figure 2.1 shows the room information at the first floor in hostel. Here, it shows all the detail of room information such as room code, room number, and type of room. Here also administrator can add new room information of another floor.

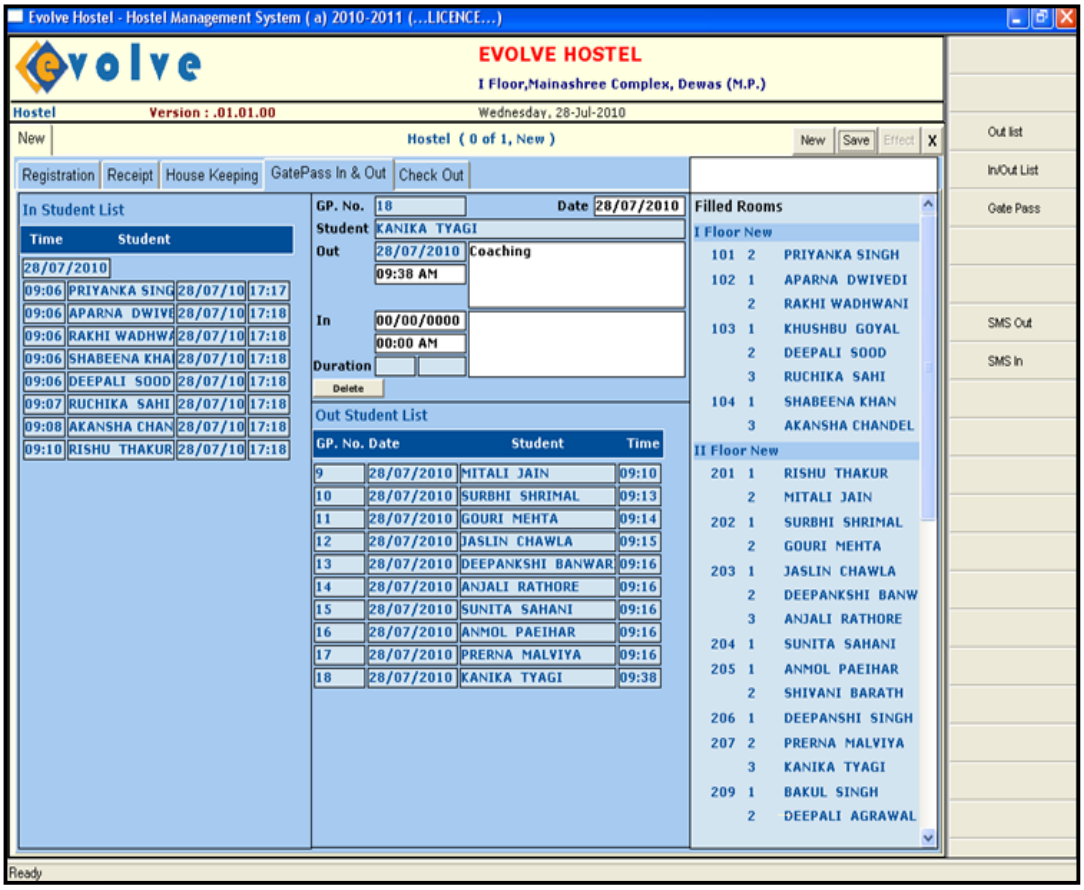

Figure 2.2 : View of Listing Student Gate Pass In and Out at Hostel Interface

The figure above shows the list of student in and out from hostel. Administrator can add new the student check in and check out from hostel.

2.1.2 Hostel Decision Support System

Hostel Decision Support System which is specifically designed for the Welfare Unit of Yaba College of Technology

This system involves identification of inputs, files, processing, output, hardware, costs, accuracy, response times and control. The system has following features such as:-

(i) It provide reliable security measures, which protect the data and the package from accidental of deliberate threats that could cause unauthorized modifications, disclosures of destruction of data and protection of the information system by the use of password.

(ii) It provides an automated registration of bona-side students thus, storing information on the system rather than using bulky files.

(iii) It provides input of data at anytime with the ability to update records in the system.

(iv) It allows automatic and manual allocation of room to bona-fide students while allowing the user to use his/her digression.

(v) It provides efficient and effective means of producing hard copies of information by generating reports on hostels, departmental allocation, special room's allocation etc.

(vi) It obtains greater speed and accuracy in handling data and generating reports.

(vii) It gives room for addition of new residential if new residential hall(s) so as to make the system effective due to the ever-increasing population of students in the institution.

(viii) It provides a databank, which serves as a store of all records at the end of each academic session by simply clicking on RESET button.

The system has four (4) input forms which include registration form, create new hostel entry, add room entry/add hostel room and hostel management form.[2]

2.1.3 College Management [3]

The college is very fortunate in the quantity and the range of the accommodation it has available to offer its graduate students. All graduate housing is of a very high standard and most has been either built or refurbished in recent years. Priority is given to the first year graduate students and merit from the college activity that students involve.

According to Lau Chi Pang, Wong Wan Man (1998), the Birth of Student Hostel: Whole Person Education at the Formative Stage, Lingnan College is the first tertiary institution in Hong Kong to provide opportunities for all students to live and work together in an academy community and to realize more fully the ethos of the college as reflected in its motto "Education for Service", Lingnan College is currently offered 1,500 hostel places to their student which is about 75% of the total student population.

According to Downing College, Graduate students in college accommodation live either in college or in graduate hostels which are close by as their studies usually require them to remain in Cambridge for virtually the whole year. Graduate are able to participate as fully in college life as all other members. Cooking is not allowed in the room including storing, preparing, cooking or consume food to prevent smell and pest nuisance. Any damage to hostel property must be reported immediately to the hostel management. Residents will have to pay for all damages except those caused by normal wear and tear.

There are more than ten colleges at UiTM to allocate their student but it still will not enough to allocate their entire student. Therefore, Student Affairs Office must select the students based on the criteria that Student Affairs Office decide to

choose students that are qualified to stay at college along their study at UiTM. According to Mark Drunmiond, a service requirement for graduation that program is effective because it integrates the service component into the curriculum, which can be quite costly.

The hostel management reserves the right to match those twin sharing residents without a room-mate with same gender. Any damages to room facilities will be shared equally with the roommate. The hostel management reserves the rights to enter, inspect or spot checks the rooms in the interest of proper conduct of the residents, or the orderly and efficient administration and proper use of the rooms, or to maintain or repair the premises but only in the presence of the residents. Unless time permits, a written notification shall be given in advance of the management's intended entry. According to Austin, (1984), several researchers have explored the relationship between residence hall living and satisfaction with the college experience. Researcher has demonstrated that physical environment and social factors can have a substantial impact on student's satisfaction with their residence hall experiences. Residence hall experiences, in turn, have shown to have positive impact on student perceptions of their undergraduate experiences, mend ships and faculty student relations

2.1.4 Comparison of three (3) existing system

Table 2.1 : Comparison of existing system

Parameter	**Hostel Management System**	**Hostel Decision Support System**	**College Management**
Type of System	Stand alone	Stand alone	Web based
Application Use	Use VB language	Use VB language	Use WampServer
Objective of system	The Hostel Management System is a system specialty designed to centrally manage Hostel Association.	Designed for the Welfare Unit of Yaba College of Technology.	To identify all the requirement specification of College Student Allocation System
Advantages	All administrative function and application system data has been designed to be keep centrally and unique for entire organization	It provides efficient and effective means of producing hard copies of information by generating reports on hostels, departmental allocation, special room's allocation	improvement of the college student allocation system to make it more effective in college management.

2.2 Software Design Review

This section will review and comparing the technique of software design that will be use in developing HMS. Our objective project is comparative study of software design in developing HMS for SUK Pahang. The study is focusing on fully utilization the UML diagram and OMT diagram. Our focus is comparing the comparing the utilization and significant of software design while developing the system using PHP for development of HMS.

2.2.1 Object Modeling Technique (OMT)

2.2.1.1 Introduction to OMT

Object Modeling Technique (OMT) Methodology is one of the very popular methodologies for analysis and design of application for database systems, executive/enterprise information systems, collaborative computing systems, medical information systems, and hypermedia system [4].

OMT is an object modeling language for software modeling and designing. It was developed around 1991 by Rumbaugh, Blaha, Premerlani, Eddy, and Lorensen as a method to develop object oriented system and to support object oriented programming (Wikipedia) [5].The OMT software engineering methodology deals with object oriented development in analysis and design phases.[6]

OMT was developed as an approach to software development. The purposes of modeling according to Rumbaugh are to testing physical entities before building them (simulation), communication with customer, visualization and reduction of complexity.

OMT is a predecessor of the Unified Modeling Language (UML). Many OMT modeling elements are common to UML.