

IUBAT- INTERNATIONAL UNIVERSITY OF BUSSINESS AGRICULTURE AND TECHNOLOGY

Project Report

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HOSTEL MANAGEMENT SYSTEM

ABSTRACT

"HOSTEL MANAGEMENT SYSTEM" is software developed for managing

various activities in the hostel. For the past few years the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software's are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried 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 user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

DEDICATION

This dissertation is dedicated to my family, who passed on a love of reading and respect of education. Without their huge support, it would not have been possible. And also to my lovely friends, your inspiration, encouragement and support in diverse forms would always be remembered and cherished.

ACKNOWLEDGEMENT

The Lord has been faithful in granting the strength, wisdom, knowledge and the courage needed throughout this period of study. I thank the Almighty God and Father above, for life and success of this study.

I wish to show immense appreciation to our supervisor, <u>Mousumi Mimi</u>, who executed his duties of supervising this work in a passionate, and an expeditious manner. My heartfelt gratitude goes to my parents, siblings and loved ones for their support in diverse forms. My sincere appreciation goes to my good friends as well as my course mates.

GOD BLESS YOU ALL.

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CHAPTER ONE

1.1 INTRODUCTION

In our current era of automated systems with it being either software or hardware, it's not advisable to be using manual system. Hostels without a management system are usually done manually. Registration forms verification to other data saving processes are done manually and most at times, they are written on paper. Thus a lot of repetitions can be avoided with an automated system. The drawbacks of existing systems lead to the design of a computerized system that will help reduce a lot of manual inputs. With this system in place, we can improve the efficiency of the system, thus overcome the drawbacks of the existing manual system.

This system is designed in favor of the hostel management which helps them to save the records of the students about their rooms and other things. It helps them from the manual work from which it is very difficult to find the record of the students and the mess bills of the students, and the information of about those ones who had left the hostel years before.

This system gives an idea about how a student and fee details, room allocation, mess expenditure is maintained in a better way. The hostel management system will also contain special features like how many students are in a room, student's id and free rooms or space available. The administration has a unique identity for each member as well as students details.

1.2 PROJECT OVERVIEW

The hostel management system is web based software to provide college students accommodation to the university hostel more efficiently. This project also keeps details of the hostellers and applied students. It is headed by Warden. He will be the administrator. This document is intended to minimize human works and make hostel allocation an easier job for students and hostel authorities by providing online application for hostel, automatically select the students from the waiting list and mess calculation, complaint registration, notice board etc. etc. Students will get approval notification in their mails. Hostellers can view notice board, hostel fee and mess menu by login into the online system.

1.3 PROBLEM STATEMENT

There are a lot of drawbacks in keeping and maintaining a hostel. Especially with a manual system. Since most hostels are being run by only one hostel manager, the number of students in a room are sometimes not known by the officer. He has to go room by room to ensure that a room is occupied or not. Sometimes people may be owing in the hostel and they are saved on papers or huge notebooks, and sometimes receipts. If the books should go missing or stolen, one would never be able to know if a student is owing or not. Room allocation also becomes a problem as the officer might not know which rooms are available or not. And some hostels have a lot of rooms or have mare stores and it would be very tedious to go through all storeys in search of a free room for an applicant. Also the officer might not know the number of students in a room or know if a room is full or not.

1.4 OBJECTIVES

- To make it easier for data collection, storage and referencing reliable.
- To maintain the students as hostellers and waiting list students separately.
- To process allotment list.

1.5 RESEARCH QUSTION

Based on the need for effective and efficient system for hostels and some amount of probing into the matter, the following questions were identified:

- What are the easier forms student collection, storage and referenced by the system?
- How can information of students be collected and stored for future reference?
- How can the system reduce errors as compared to the manual system?

1.6 LIMITATIONS OF STUDY

Time and financial constraints were the major factors that hindered the progress of this research.

The study involved a lot of financial obligations such as the cost of stationary, printing,

photocopying and transportation.

Moreover, combining fieldwork and lectures to produce a comprehensive research report within the time limit was tiresome. Nevertheless, the quality of this study was not compromised.

CHAPTER TWO LITERATURE REVIEW

2.1 INTRODUCTION

In this section we are going to analyses the existing system and provide solutions to errors or build a new system all together.

2.2 EXISTING SYSTEM

The existing system is manual based and need lot of efforts and consume enough time. In the existing system we can apply for the hostels online but the allotment processes are done manually. It may lead to corruptions in the allocation process as well as hostel fee calculation. The existing system does not deal with mess calculation and complaint

registration.

2.2.1 DISADVANTAGES:

- More human power
- More strength and strain of manual labor needed
- Repetition of same procedure.
- Low security.
- Data redundancy.
- Difficulty to handle.
- Difficulty to update data.
- Record keeping is difficult.
- Backup data can be easily generated.

2.3 PROPOSED SYSTEM

This project is aimed at developing a system for keeping records and showing information about or in a hostel. This system will help the hostel officer to be able to manage the affairs of the hostel. This system will provide full information about a student in the hostel. It will show rooms available or not and number of people in a particular room. This will also provide information on students who have paid in full or are still owing. This system will also provide a report on the summary detail regarding fees and bills students are owing. Also included is a user module for employees or the hostel officer. There will also be an administrator module which will accessed by the administrator and has the ability to delete, add and edit employee records.

This system will be developed based on Software Development Life Cycle (SDLC) with PHP and My SQL server. PHP is good for the development and design of web based programs whiles My SQL is good for databases because of its security and its advanced features and properties.

CHAPTER THREE

FEASIBILITY STUDY

3.1 TECHNICAL FGEASIBLITY

The technical feasibility in the proposed system deals with the technology used in the system. It deals with the hardware and software used in the system whether they are of latest technology or not and if it happens that after a system is prepared, a new technology arises and the user wants the system based on that technology. This system use windows platform, apache server, sql for database, php as the language and html or xml as user interface. Thus HOSTEL MANAGEMENT SYSTEM is technically feasible.

3.2 ECONOMIC FEASIBILTY

Economic analysis is the most frequently used method for evaluating the effectiveness of a new system. More commonly known as cost/benefit analysis. Php, html, xml and sql database are easily available on internet.

3.3 OPERATIONAL FEASIBILTY

The project has been developed in such a way that it becomes very easy even for a person with little computer knowledge to operate it. This software is very user friendly and does not require any technical person to operate. Thus the project is even operationally feasible.

3.4 REQUIREMENT ANALYSIS AND SPECIFICATION

Functions and features delivered to the end users. The end users of the proposed system are:

3.4.1 USER MODULE

This helps the administrator and user to login to homepage only if password and username matches.

3.4.2 CHANGE PASSWORD MODULE

Allows the user to change the password.

3.4.3 STUDENT MODULE

This module is used to store student details i.e. information like profile details, contact information, educational details etc. Users can search according different criteria such as name, course, room number etc.

3.4.4 ROOM ALLOTMENT MODULE

This deals with allocation of room to students according to education details, section or course. Rooms will be allocated to students and an ID will be generated for it. It will display details students staying in the room or rooms. When a student leaves the room after the semester, the left date will be also saved.

3.4.5 ROOM FEES MODULE

This displays fee records, student dues status and balance amount status. It is also used to renew students rent every semester.

3.4.6 MESS BILL MODULE

This module keeps track of all transactions related to mess. The mess item expenditure for each student is calculated every month and mess bill for each student is calculated and displayed.

3.4.7 VISITORS MODULE

This allows the visitor details to view the visitors depending on various search criteria.

3.4.8 REPORT GENERATION MODULE

This is provided to view summary detail regarding hostel fees and bills. Students can check

hostel fees and bill details by entering the unique hostel ID.

3.4.9 SETTINGS MODULE

In this module, only the administrator can access. Administrator has a unique account with

much special access and permissions over normal users. Module allows add, edit, delete and

employee records, building block information, room details, course details etc.

3.5 HARDWARE CONFIGURATION

The section of hardware configuration is an important task related to the software development.

Insufficient random access memory may affect adversely on the speed and efficiency of the

entire system. The process should be powerful to handle the entire operations. The hard disk

should have sufficient capacity to store the file and application.

Processor: Pentium IV and above

Processor speed: 1.4 GHz Onwards

System memory: 128 MB minimum (256 MB recommended)

Cache size: 512 KB

RAM: 512 MB (Minimum)

Network card: Any card can provide a 100mbps speed

Network connection: UTP or Coaxial cable connection

Printer: Inkjet/Laser Color printer provides at least 1000 Dpi

Hard disk: 80 GB

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Monitor: SVGA Color 15"

Mouse: 104 keys US Key Serial, USB or PS/2

3.6 SOFTWARE CONFIGURATION

A major element in building a system is the section of compatible software since the software

in the market is experiencing in geometric progression. Selected software should be acceptable

by the firm and one user as well as it should be feasible for the system. This document gives a

detailed description of the software requirement specification. The study of requirement

specification is focused specially on the functioning of the system. It allow the developer or

analyst to understand the system, function to be carried out the performance level to be obtained

and corresponding interfaces to be established.

Technology Implemented: Apache Server

Language Used: PHP 5.3 or newer versions

Database: My SQL 5.5 or newer

User Interface: HTML, AJAX

Web Browser: Mozilla, Chrome or Internet Explorer 8(or newer)

Software: XAMPP or WAMP Server

Operating System: Windows XP or higher versions.

CHAPTER FOUR SYSTEM DESIGN

4.1 INTRODUCTION

This system design is to be divided into two sections or portion. Administrator section and

student section.

4.2 ADMINISTRATOR

The Administrator can allot different students to the different hostels.

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- He can vacate the students for the hostels.
- He can control the status of the fee payment.
- He can edit the details of the students. He can change their rooms, edit and delete the student records.
- He can edit the news board
- He can check the complaints
- The Hostel Secretary can:
- Make the Mess menu
- Make the mess bill & hostel bill

4.3 DATA FLOW DIAGRAMS



Figure 1.1 DFD for Allotment Process

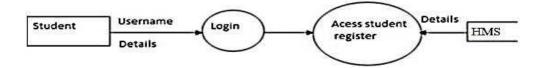


Figure 1.2 DFD for Student module



Figure 1.3 DFD for Student Registration

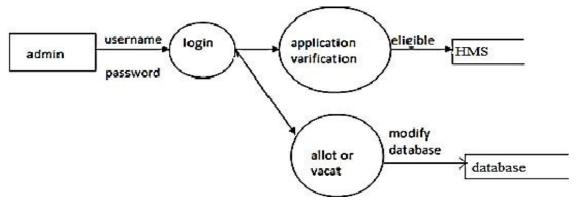


Figure 1.4 DFD for Admin Module

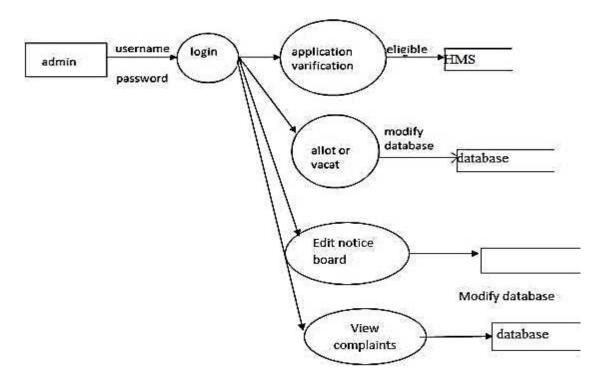


Figure 1.5 DFD for Admin Module



Figure 1.6 DFD for Allotment Process

4.4 HMS SOFTWARE

The hostel management system software comprises of many sections. Each has its own functions which to help to manage things like mess bills, student details, employee details and many others.

4.4.1 LOGIN

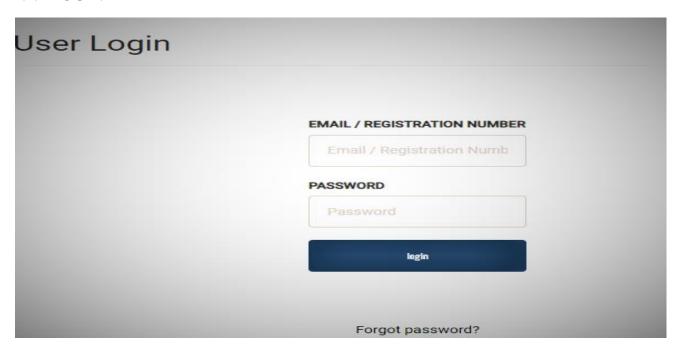


Figure 1.7 Login Panel

This page consists of the administrator and employee login and visitor or student login. One has had a username or password to be able to access the site.

4.4.2 ADMINISTRATOR PANEL (Admin Panel).

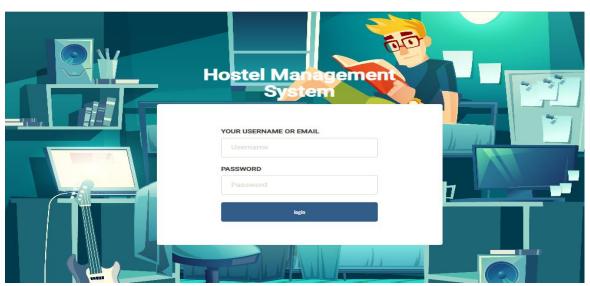


Figure 1.8 Admin Panel

This is page for the administrator. He has the ability to control who and what goes into the system. He can add, remove and update information in this system. In this panel is used to register a student, view fees, view rooms, view mess bills, allot students to blocks and rooms, view courses of students and assign them to special or specific rooms. He can also add new students to the system.

4.4.3 ADD STUDENT REGISTRATION

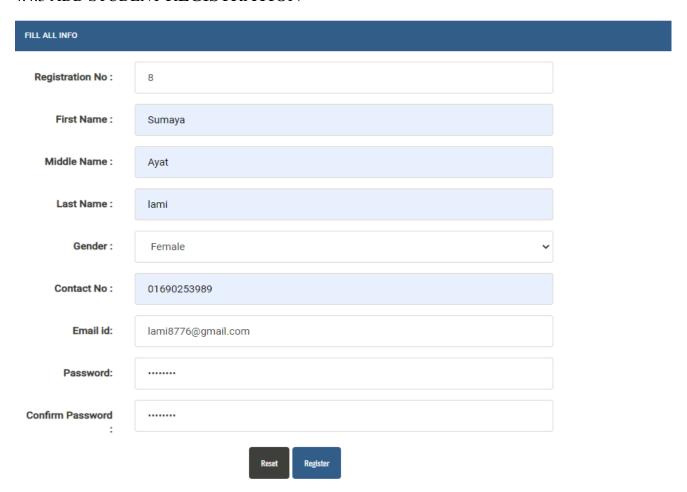
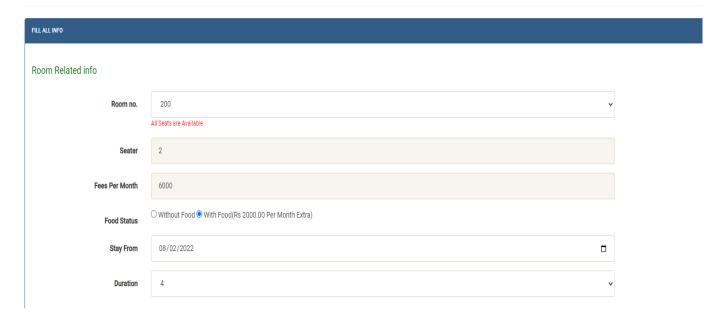


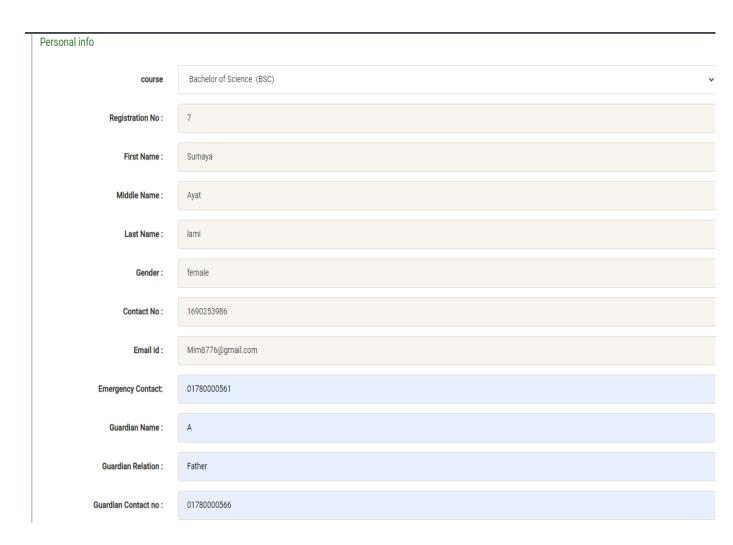
Fig 1.9 Add Student

This panel allows the administrator to add students to the system. He can collect student details in order to assign rooms for the student.

4.4.4 ROOM REGISTRATION

Registration





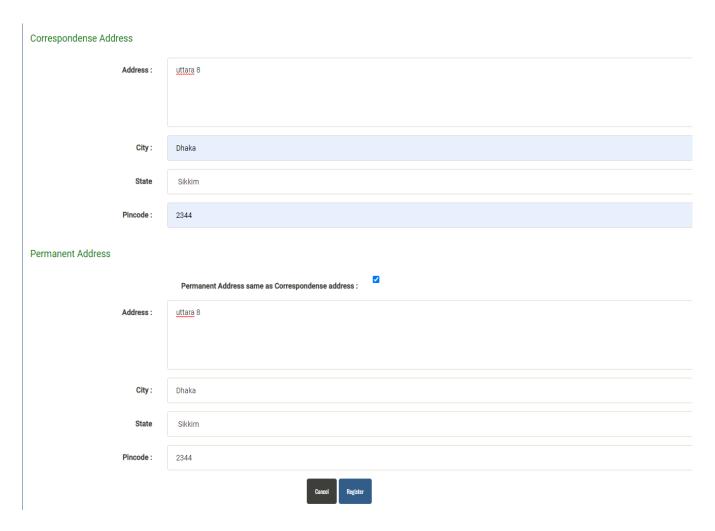


Figure 2.2 Room Registration

This section deals with allot of rooms to a student. A student details would be already on the

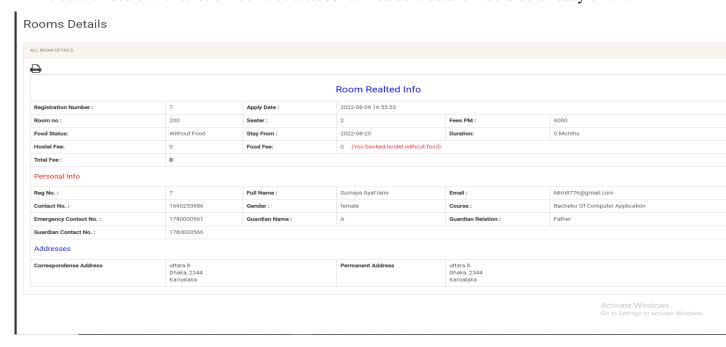


Figure 2.3 Room Details

Manage Rooms ALL ROOM DETAILS Show 10 ventries Sno. 14 Seater 17 Room No. 17 Fees (PM) 17 Posting Date

8000

6000

6000

4000

Fees (PM)

2020-04-12 04:45:43

2020-04-12 07:30:47

2020-04-12 07:30:58

2020-04-12 07:31:07

2020-04-12 07:31:15

Posting Date

100

201

200

112

Room No.

Search:

↓↑ Action

♂ x

♂ x

♂ x

Z x

Action

Figure 2.4 Manage Room

2

2

3

Seater

2

4

Sno.

Showing 1 to 5 of 5 entries

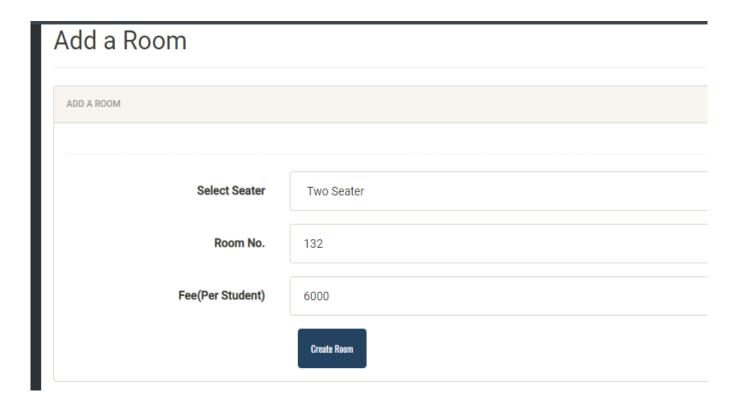


Figure 2.5 Add Rooms

These sections help the administrator to select the block in which the available room is and to add rooms to it. It allows him to create blocks of the actual hostel to save on the database.

This also allows him to view blocks created in the database and know the status of the block if active, available or not.

4.4.6 CHANGE PASSWORD

Change Password

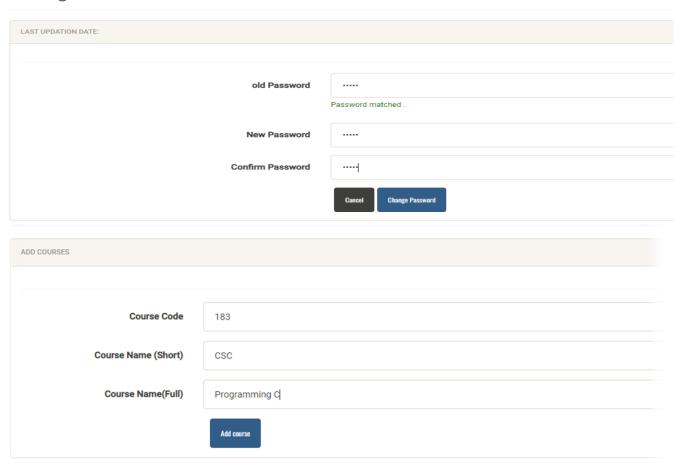


Figure 2.7 Add Course

Manage Course

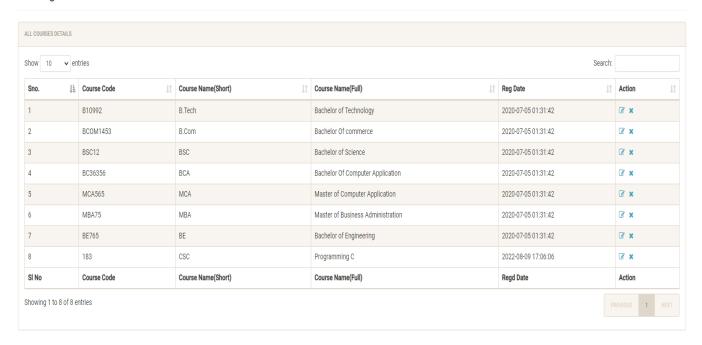


Figure 2.8 Manage Course

Add panel allows the user of the system to add courses to student details and view courses helps one to know the courses of students in the hostel. Also helps to one where to assign rooms to students.

4.4.8 Manage Registered Students

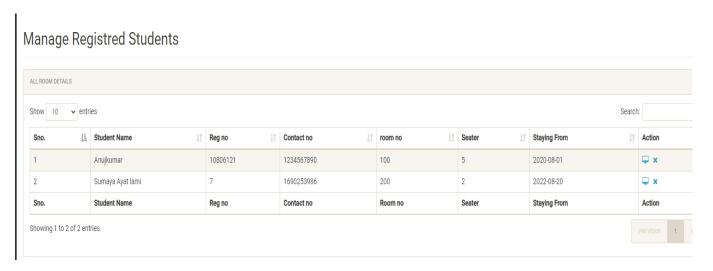


Figure 2.9 Manage Registered Students

Access Log



Figure 3.2 Access Log

4.5 DATABASE DESIGN (TABLE STRUCTURES)

Bill_id	int
Reg_id	int
Bill_type	varchar
Paid_amt	double
Paid_date	date

Table 1.1 Billing

Block_id	int
Block_name	varchar

Gender	varchar
Description	text
Status	varchar

Table 1.2 Blocks

Allotment_id	int
Block_id	int
Course_id	int
Status	varchar

Table 1.3 Block Allotment

Course_id	int
Course_name	varchar
No_of_year	int
Status	varchar

Table 1.4 Course

Emp_id	int
Block_id	int
Login_id	varchar
Password	varchar
Emp_type	varchar

Emp_name	varchar
Gender	varchar
DOB	date
DOJ	date

Table 1.5 Employee

Fee_id	int
Reg_id	int
Fee_str_id	int
Total_fees	double
Status	varchar

Table 1.6 Fees

Fee_str_id	int
Course_id	int
Fee_type	varchar
Cost	float

Table 1.7 Fees Structure

Messcard_id	int
Reg_id	int

Hostel_card_type	varchar
Start date	date
Enddate	date
Status	varchar

Table 1.8 Hostel Card

Hostel _bill_id	int
Reg_id	int
Fee_str_id	int
Date	date
Hostel _bill	double
Status	varchar

Table 1.9 Hostel Bill

Visitor_id	int
Stid	int
Name	varchar
Туре	varchar

Username	varchar
Password	varchar
Contact no	varchar
Comments	text
Status	varchar

Table 2 Visitor

Reg_id	int
Stid	int
Room_id	int
Stud_type	varchar
Start_date	date
End_date	date
Food_type	varchar
Beverage_type	varchar
Status	varchar

Table 2.1 Registration

Stid	int
Courseid	int
Name	varchar
Rollno	varchar

DOB	date
Father_name	varchar
Mother_name	varchar
Gender	varchar
Contact_no	varchar
Parents_no	varchar
Blood_group	varchar
Status	varchar

Table 2.2 Student

CHAPTER FIVE

IMPLEMENTATION AND TESTING

5.1 INTRODUCTION

Implementation is the stage in the project where the theoretical design is turned into a working system and is giving confidence on the new system for the users that it will work efficiently and effectively. It involves careful planning, investigation of the current system and its

constraints on implementation, design of methods to achieve the changeover, an evaluation of change over methods. Apart from planning major task of preparing the implementation are education and training of users. The implementation process begins with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out, discussions made regarding the equipment and resources and the additional equipment has to be acquired to implement the new system.

In network backup system no additional resources are needed. Implementation is the final and the most important phase. The most critical stage in achieving a successful new system is giving the users confidence that the new system will work and be effective. The system can be implemented only after thorough testing is done and if it is found to be working according to the specification. This method also offers the greatest security since the old system can take over if the errors are found or inability to handle certain type of transactions while using the new system

5.2 SYSTEM TESTING

As the part of system testing we execute the program with the intent of finding errors and missing operations and also a complete verification to determine whether the objectives are met and the user requirements are satisfied. The ultimate aim is quality assurance.

Tests are carried out and the results are compared with the expected document. In the case of erroneous results, debugging is done. Using detailed testing strategies, a test plan is carried out on each module. The various tests performed are unit testing, integration testing and user acceptance testing.

5.2.1 UNIT TESTING

The software units in the system is are modules and routines that are assembled and integrated to perform a specific function. As a part of unit testing we executed the program for individual

modules independently. This enables, to detect errors in coding and logic that are contained within each of the three module. This testing includes entering data that is filling forms and ascertaining if the value matches to the type and entered into the database.

The various controls are tested to ensure that each performs its action as required.

5.2.2 INTEGRATION TESTING

Data can be lost across any interface, one module can have an adverse effect on another, sub functions when combined, may not produce the desired major functions. Integration testing is a systematic testing to discover errors associated within the interface. The objective is to take unit tested modules and build a program structure. All the modules are combined and tested as a whole. Here the admin module, employee module and student module options are integrated and tested.

This testing provides the assurance that the application is well integrated functional unit with smooth transition of data.

5.2.3 USER ACCEPTANCE TESTING

User acceptance of a system is the key factor for the success of any system. The system under consideration is tested for user acceptance by constantly keep the records of applicants and making changes to the details and password whenever required.

5.3 SUMMARY

This project is aimed at developing a system for keeping records and showing information about or in a hostel. This system will help the hostel officer to be able to manage the affairs of the hostel. This system will provide full information about a student in the hostel. It will show rooms available or not and number of people in a particular room. This will also provide information on students who have paid in full or are still owing. This system will also provide

a report on the summary detail regarding fees and bills students are owing. Also included is a user module for employees or the hostel officer.

5.4 CONCLUSION

To conclude the description about the project, the project, developed using PHP with My SQL is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement.

HOSTEL MANAGEMENT SYSTEM is very useful for hostel allotment and mess fee calculation. This hostel management software is designed for people who want to manage various activities in the hostel. For the past few years the numbers of educational institutions are increasing rapidly. Thereby the numbers of hostels are also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software's are not usually used in this context.

This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried 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 user friendly and more GUI oriented.

REFERENCES

J. R. Groff and P. N Weinberg. Complete Reference SQL Second Edition.

K. Ayanlowo, O. Shoewu, S. O. Olatinwo, O. O. Ommitola and D. D. Babalola (2014).

Journal of Science and Engineering Vol 5(1): Development of an Automated Hostel Facility

Management System Retrieved from www.oricpub.com

K.A. Muhammed Shaheer, A. Muhammed Shiras, R. Vinod Raj, G.V Prashobh (2009).

Project Report on Hostel Management System.

R. Radhakrishhan, P.A Rinsha, R Roopersree (2014). Online Hostel Management System:

Mini Project.

S.R Ahmad, A.K Ghalib and S.A. Mahmood (2013). Pakistan Journal of Science (Vol 65 No.

1): GIS Based Hostel Management System for Punjab University. W.

N. H. B. W. JA'AFAR (2012). Hostel Management system.

Html and Php from W3 schools. http//w3school.com

en.wikipedia.org/wiki/PHP www.mysql.com

www.hotscripts.com/category/php/

College Hostel Management Software by Initio (2010).

Loventis Booking System by Loventis Systems (2005).

Indocon Hostel Management Software by Indocon Micro Engineers Limited.

http://www.kassoftindia.com/Product/GeniusAcademic/hostelmgt.htm [accessed September

24, 2012]

http://nptel.iitm.ac.in/courses/Webcoursecontents/IIScBANG/System%20Analysis%20and

%20Design/pdf/Lecture_Notes/LNm5.pdf [accessed June 20, 2012]