

CHAPTER 1

INTRODUCTION

1.1 Introduction to WEB

Web technology refers to the means by which computers communicate with each other using markup languages and multimedia packages. It gives us a way to interact with hosted information, like websites. Web technology involves the use of hypertext markup language (HTML) and cascading style sheets (CSS). In order to make websites look and function a certain way, web developers utilize different languages. The three core languages that make up the World Wide Web are HTML5, CSS, and JavaScript.

In the IT world, the internet is an essential platform, whether it's for developing or for consumer use. When developing a website, typically three main languages come into play. These languages are JavaScript, CSS, and HTML. HTML is the backbone of most webpages. Essentially, it is used to create the structure of how a specific website would look like, from the headings, to the paragraphs, the body, links, and even images. Markup languages are the languages in which the web is written. The most common markup language used is HTML, which uses tags to annotate text so that a computer can then manipulate the text. Most markup languages are human readable, and use annotations that are distinguishable from the annotated text. There are many different kinds of markups and languages, but all are consistent in the way in which they annotate documents.

Hypertext is defined as the arrangement of information inside a database that allows the user to receive information and to navigate from one document to another by clicking on highlighted words or pictures inside the primary document. Hypertext is the base of the World Wide Web, because it enables user to click on other links to get more information. Hypertext is a term used for all links, whether it appears as texts or other graphical part.

HTML is the conventional markup language used to create and edit web pages and web applications. HTML is used for creating the basic structure of a website. HTML consists of different elements preceded by an opening tag, <tag>, and a closing tag, </tag>. The content between the tags, <html> and </html>, is the content of the webpage. The content between the tags, <head> and </head>, is the title of the webpage. This text

Hostel Management System

is displayed between the <title> and </title> tags. The content between the tags, <body> and </body>, is the main content of the webpage. The content can include links , paragraphs, headings, and various other elements.

CSS is a style sheet language standard set by W3C (World Wide Web Consortium) used to create and edit the visual presentation of web pages. CSS allows web developers to isolate a web page's content and visual styles into separate documents and gives better page layout control. An external CSS sheet is generally linked to HTML and XHTML, it also can be linked to XML, SVG, and XUL. HTML and Javascript, with CSS, is a vital part of technology used by the majority of interfaces for websites. This is also used in interfaces for mobile devices making the websites more engaging.

CSS can be incorporated with HTML in 3 different ways; Inline, Internal, and External.

- **Inline styles** add style to a single element on the page by placing 'style' after the element you wish to be styled.

Ex: h2 style = "color: blue"

- **Internal styles** create a style for a single document because the CSS is stored in the head of the HTML document. Internal styles are placed using a <style> tag around all style selectors.

Ex: <style>

body {background-color: white;}

/*This is a comment!

'Body' is the selector,

'background-color' is the declaration*/

h2 {color: blue;}

</style>

- **External style sheets** exist in separate documents from HTML documents, allowing for better organization of style and structure. An external style sheet can be linked to all HTML documents making up a web site, allowing a web developer to style the entire site (all pages) using one document.

JavaScript is a scripting language that is used along with HTML and CSS as the three core components of the World Wide Web. JavaScript has first-class functions and is used

in most websites. JavaScript does not have any I/O which means that it has to be embedded in the host environment. JavaScript is also used in PDF documents, game development, and desktop and mobile applications. JavaScript is most commonly used to make DHTML by adding client-side behavior to HTML pages.

PHP stands for Hypertext Preprocessor (no, the acronym doesn't follow the name). It is an open source, server-side, scripting language used for the development of web applications. By scripting language, we mean a program that is script-based (lines of code) written for the automation of tasks.

1.2 Overview of the project

The system is designed for hostel management which helps them to save the records of the students about their rooms. 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 the allotted and free rooms available. All the hostels at present are managed manually by the hostel office. The registration from verification to the different data processing is done manually. Thus there are a lot of repetitions which can be easily avoided. 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 problem on managing a hostel and avoids the problem which occur when carried out manually.

1.2.1 Problem statement:

To design and develop a system for automating the activities of hostel.

1.2.2 Objectives of the project:

- To automate each and every activity of the manual system which increases its throughput.
- To provide a quick response with very accurate information as and when required.
- To make the present manual system more interactive, speedy and user friendly.
- Efficiency in modification, sorting and retrieval of data.
- Reduces the cost of maintainance.

CHAPTER 2

REQUIREMENT ANALYSIS

2.1 Functional Requirements:

Functional Requirements defines the internal working of the software, i.e., the calculations, technical details, data manipulation and processing and other specific functionality that show how the cases are to be satisfied and how they are supported by non-functional requirements, which impose constraints on the design or the implementation.

The following are the Functional requirements:

Administrator

- The Administrator can allot different students to the different rooms.
- He can vacate the students.
- He can edit the details of the students. He can change their rooms, edit and delete the student records.

Student

- The student can check for the available rooms .
- He can book a room as per his requirements.

2.2 Nonfunctional requirements

Nonfunctional requirements are requirements which specify criteria that can be used to judge the operation of the system, rather than specific behaviors. This should be contrasted with functional requirements that specify specific behavior or functions. Typical nonfunctional requirements are reliability and scalability. Nonfunctional requirements are “constraints”, “quality attributes” and “quality of service requirements”.

- Security
System must be secure from insider or outsider attackers.
- Reliability
System must be reliable.
- Availability
System’s services must be available 24/7.
- Maintainability
Backup of system must be available.

2.3 Software requirement specification:

Software Requirements: The software requirements are as follows: -

Development Platform: WINDOWS 8.

Language : HTML, CSS, JAVASCRIPT, PHP

Tool : Web Browser such as Chrome or Firefox.

Hardware Requirements:

- 128 MB of RAM, 256 MB recommended.
- 110 MB of hard disk space required, 40 MB additional hard disk space required for installation (150 MB total).

CHAPTER 3

ANALYSIS AND DESIGN

3.1 SYSTEM ARCHITECTURE

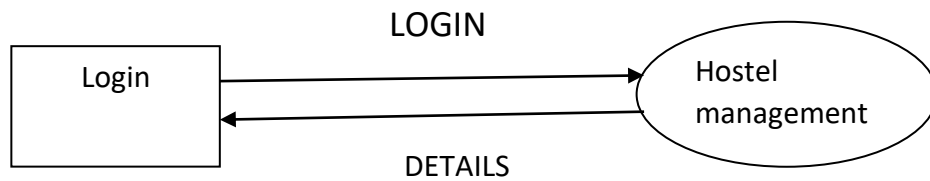


Figure 3.1.1 Dataflow Diagram for Student login

Student fills the registration form that is required for further authentication

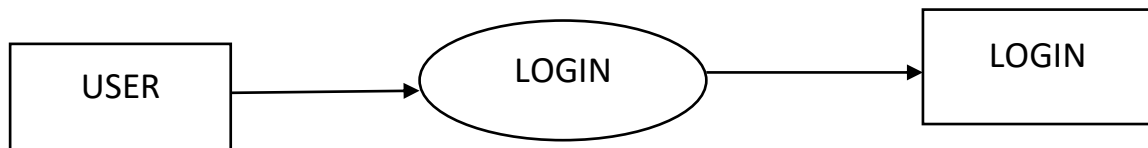


Figure 3.1.2 Dataflow Diagram to verify the user ID and password

On Successfull Registration through Login Credentials ,Student will login to Dashboard

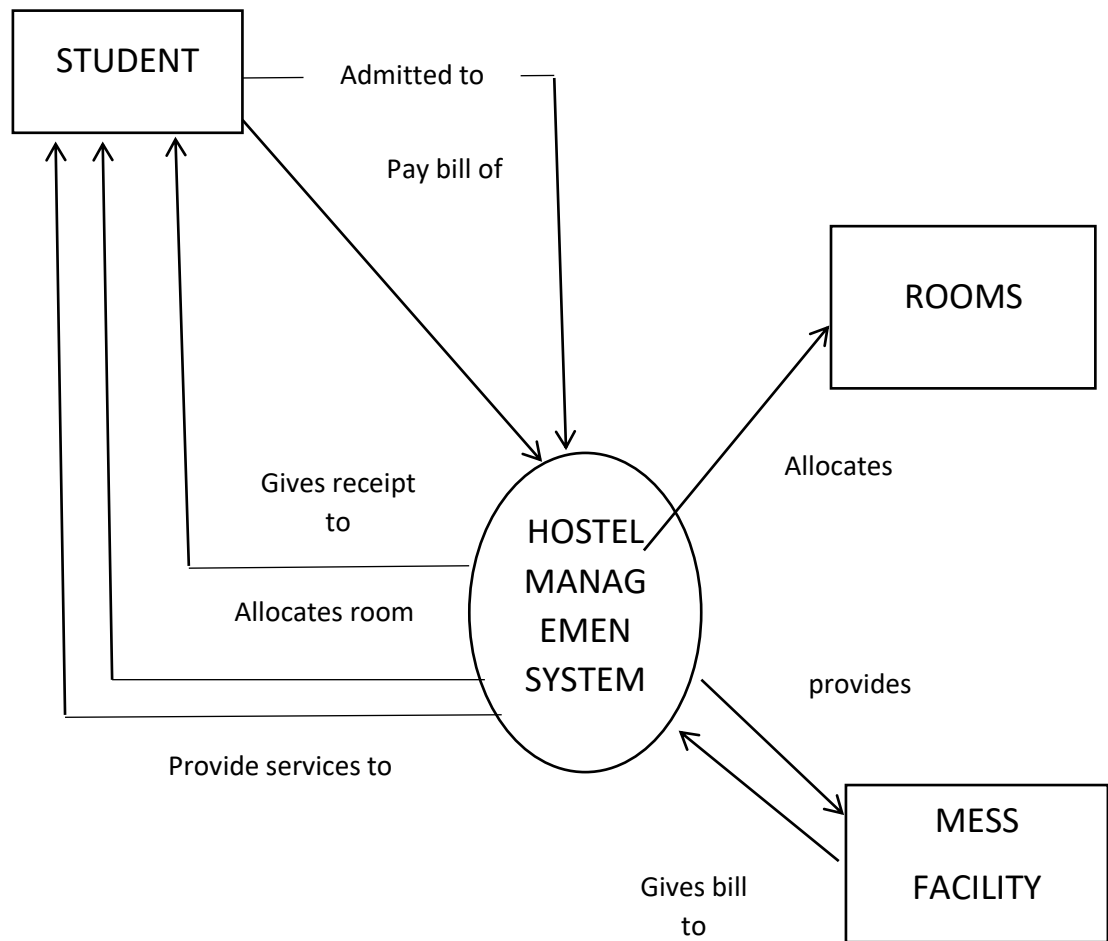


Figure 3.1.3 Dataflow diagram to allot a Room by student

After Student registration, Student will request a room with or without mess facility. Later Admin allocates room, provides Bill to the particular student.

A successful login, shall take the student to the respective profile page, else if the login attempt fails, an error message will be displayed informing the student to enter a valid email-id or password.

Admin can login to his/her account by providing name and password. Only admin can login to his/her account. Once she/he logs in can manage student and room details.

Admin also has the privilege to view the list of students who are been allotted to a room.

CHAPTER 4

IMPLEMENTATION

To implement this project we have used MYSQL, XAMPP and PHP for the backend and HTML, CSS and JS for the frontend (GUI).

4.1. Module Description

To implement this project, SQL is used for backend and HTML, CSS and PHP is used for frontend.

Some of the features of PHP are:

- **Simple:** It is very simple and easy to use, compare to other scripting language it is very simple and easy, this is widely used all over the world.
- **Interpreted:** It is an interpreted language, i.e. there is no need for compilation. It is faster than other scripting language e.g. asp and jsp.
- **Open Source:** Open source means you no need to pay for use php, you can free download and use.
- **Platform Independent:** PHP code will be run on every platform, Linux, Unix, Mac OS X, Windows.
- **Case Sensitive:** PHP is case sensitive scripting language at time of variable declaration. In PHP, all keywords (e.g. if, else, while, echo, etc.), classes, functions, and user-defined functions are NOT case-sensitive.
- **Error Reporting:** PHP have some predefined error reporting constants to generate a warning or error notice.
- **Real-Time Access Monitoring:** PHP provides access logging by creating the summary of recent accesses for the user.
- **Loosely Typed Language:** PHP supports variable usage without declaring its data type. It will be taken at the time of the execution based on the type of data it has on its value.

Hostel Management System

The modules included in this project are:

1. Student Login

INPUT:

Input: Email-id and Password.

OUTPUT:

A successful login, shall take the student to the respective profile page, else if the login attempt fails, an error message will be displayed informing the student to enter a valid email-id or password.

DESCRIPTION:

Front end is designed using HTML, CSS and PHP.

Login page provides one textbox to enter email-id, on entering the student shall click on login button, on clicking login button, it enters to the next page where a student can view the details of rooms.

2 Admin Login

INPUT:

Input: Admin name and password.

OUTPUT:

A list of privileges given to admin.

DESCRIPTION:

Front end is designed using HTML(PHP).

Admin can login to his/her account by providing name and password. Only admin can login to his/her account. Once she/he logs in can manage student and room details.

Admin also has the privilege to view the list of students who are been allotted to a room.

CHAPTER 5

TESTING

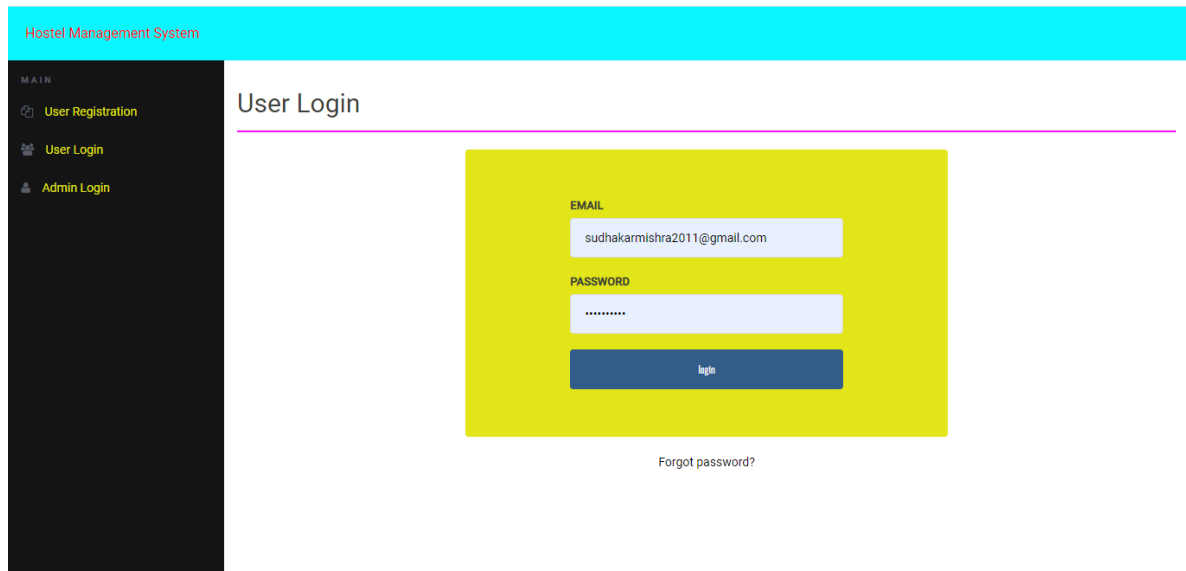
Testing in general means validation and verification. It shows that the system conforms to its specifications and system meets all expectation of the user.

Sl.No	Functions with parameters under test	Expected Result	Actual Result	Remarks
1	When correct credentials are entered by hostelite.	The hostelite must be able to view his information.	The hostelite was able to view his information.	Pass
2	When admin (Warden) logs in.	All the entered data should be displayed and should update the profile if needed.	Entered data are displayed and that could be updated.	Pass
3	When hostelite logs in.	The hostelite must be able to view that he/she has booked for room or not.	The hostelite can view, whether he has booked for room or not.	Pass
4	When admin (Warden) logs in.	The admin must be able to view or update the rooms, manage students, courses and can also be able to check the rooms which are booked along with hostelite information.	The admin is be able to view or update the room who have booked for room.	Pass

CHAPTER 6

RESULTS AND SCREENSHOTS

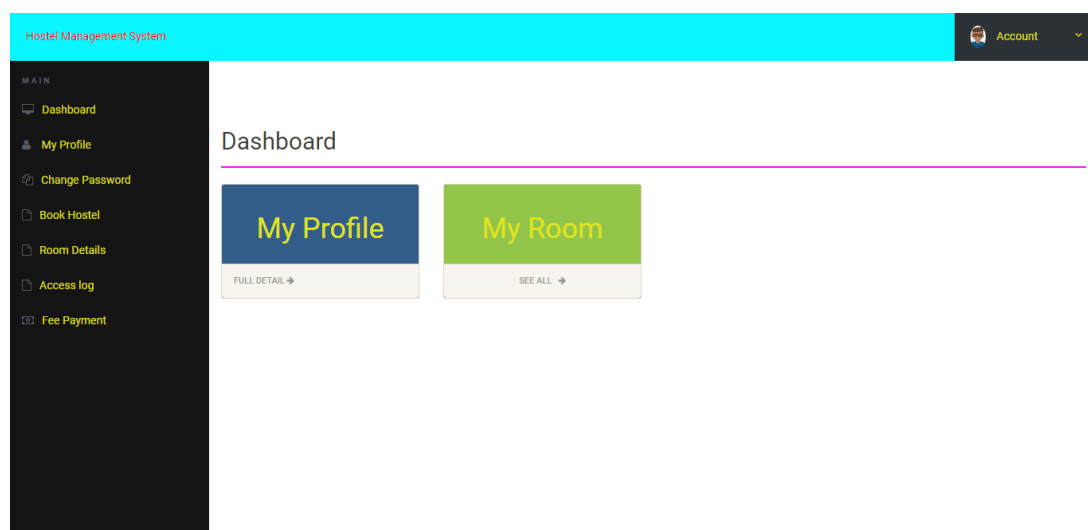
6.1 Main page



Navigates to User Registration, User Login Or Admin Login Page

Figure 6.1 Hostel Management System Main

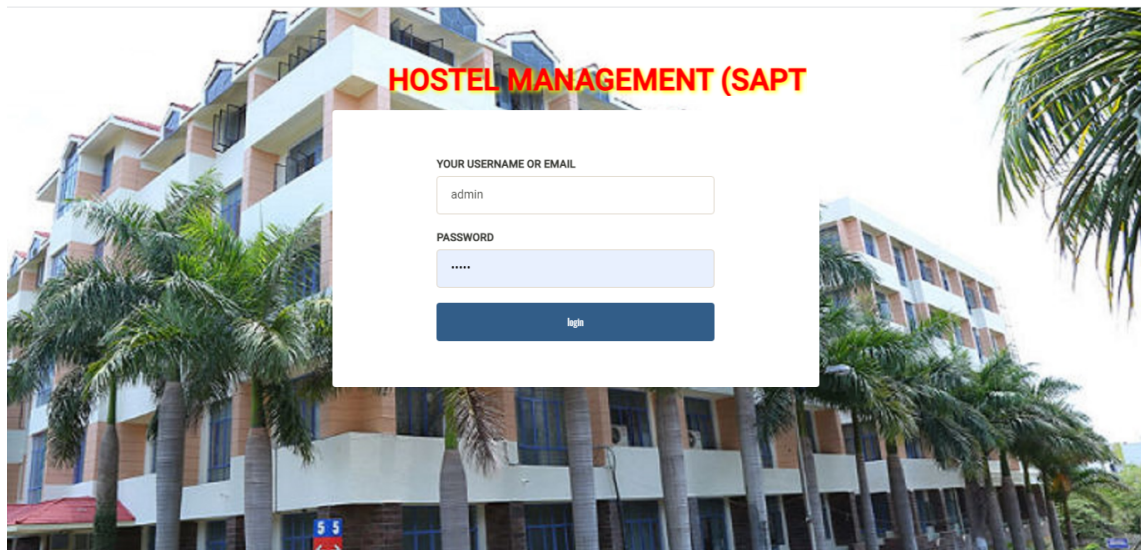
6.2 Student Login



A successful login, shall take the student to the respective profile page

Figure 6.2 Student Login

6.3 Admin Login



On successful login, a list of privileges given to admin.

Figure 6.3 Admin Login

6.4 Room Registration

User has to Register to Book a Room

Figure 6.4 Room Registration

6.5 Manage Courses

Hostel Management System

Account

MAIN

- Dashboard
- Courses
- Rooms
- Student Registration
- Manage Students
- User Access logs

Manage Course

ALL COURSES DETAILS

Show 10 entries

Search:

Sno.	Course Code	Course Name(Short)	Course Name(Full)	Reg Date	Action
1	SCE1092	CSE	Computer Science & Engineering	2016-04-12 01:01:42	
2	SCE1453	ISE	Information Science & Engineering	2016-04-12 01:02:46	
3	SCE1112	ME	Mechanical Engineering	2016-04-12 01:03:23	
4	SCE6356	ECE	Electronics & Communication Engineering	2016-04-12 01:04:18	
5	SCE1565	CV	Civil Engineering	2016-04-12 01:04:40	
6	SCE4175	BT	Bio Technology	2016-04-12 01:04:59	
7	SCE1765	EEE	Electrical & Electronics Engineering	2016-04-12 01:05:19	

Showing 1 to 7 of 7 entries

PREVIOUS 1 NEXT

Admin has the privilege to manage courses

Figure 6.5 Manage Courses

6.6 Manage Students

Hostel Management System

Account

MAIN

- Dashboard
- Courses
- Rooms
- Student Registration
- Manage Students
- User Access logs

Manage Registered Students

ALL ROOM DETAILS

Show 10 entries

Search:

Sno.	Student Name	Reg no	Contact no	room no	Seater	Staying From	Action
1	UJJWALKUMARSINGH	1	8073524686	100	3	2019-11-18	
2	SUDHAKARKUMARMISHRA	1	7090667080	100	3	2019-11-19	
3	HANUMANKUMARSHARMA	1	5693256532	201	3	2019-11-19	
4	SIDDHANTKUMARCHADDA	1	34984343873	201	3	2019-11-20	
5	RAHULKUMARSWAMY	1	5487486432148	112	3	2019-11-19	
6	KARAN SINGH	1	4649	112	3	2019-11-19	
7	akashKUMARSHARMA	1	34984343873	112	3	2019-11-19	
8	vinayk	112	123456	201	3	2019-11-21	
9	rahulkumar	123454	9113270406	100	3	2019-12-25	

Sno. Student Name Reg no Contact no Room no Seater Staying From Action

Student Details will be viewed After Registration

Figure 6.6 Manage Students

6.7 Access Log Details

Hostel Management System

Account

Access Log

ALL COURSES DETAILS

Show 10 entries

Sno.	User Id	User Email	IP	City	Country	Login Time
1	10	test@gmail.com				2016-06-22 11:46:42
2	10	test@gmail.com				2016-06-24 16:50:28
3	10	test@gmail.com	::1			2016-06-24 16:52:47
4	10	test@gmail.com	::1			2019-11-15 21:07:40
5	20	Benjamin@gmail.com	::1			2016-06-26 22:10:57
6	21	kumarujwal959@gmail.com	::1			2019-11-19 01:34:33
7	21	kumarujwal959@gmail.com	::1			2019-11-19 11:11:26
8	21	kumarujwal959@gmail.com	::1			2019-11-19 14:10:30
9	21	kumarujwal959@gmail.com	::1			2019-11-19 14:55:30
10	21	kumarujwal959@gmail.com	::1			2019-11-20 10:23:26

Admin has the access to User details

Figure 6.7 Access Log Details

6.8 Adding Room Page

Hostel Management System

Account

Add a Room

ADD A ROOM

Select Seater: Select Seater

Room No.:

Fee(Per Student):

Create Room

Figure 6.8 Adding Room Page

6.9 Manage Rooms

The screenshot displays the 'Manage Rooms' page of the Hostel Management System. The interface includes a sidebar with navigation links, a header with the system name and user account, and a main content area with a table of room details.

Hostel Management System

Account

MAIN

- Dashboard
- Courses
- Rooms
- Student Registration
- Manage Students
- User Access logs

Manage Rooms

ALL ROOM DETAILS

Show 10 entries Search:

Sno.	Seater	Room No.	Fees (PM)	Posting Date	Action
1	3	100	6000	2016-04-12 04:15:43	Edit Delete
2	3	201	6000	2016-04-12 07:00:47	Edit Delete
3	3	200	6000	2016-04-12 07:00:58	Edit Delete
4	3	112	6000	2016-04-12 07:01:07	Edit Delete
5	3	132	6000	2016-04-12 07:01:15	Edit Delete

Showing 1 to 5 of 5 entries

PREVIOUS 1 NEXT

Figure 6.9 Manage Rooms

CHAPTER 7

CONCLUSION

This work is a humble venture to satisfy all the needs of students registering in hostels. Several user friendly codes have been adopted. This system shall prove to be a powerful package which satisfies all the requirements of students.

Bibliography

- 1.Fundamentals of Web Development, Randy Connolly and Ricardo Hoar, 1th Edition, Pearson Education India
2. www.youtube.com
3. www.scribd.com
4. www.tutorialspoint.com
- 5.PHP and MySQL Web Development, Luke Welling, Luara Thomson, 5th Edition, Wrox India, 2012.