VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi-590018, Karnataka

A Mini Project Report on

"HOSTEL MANAGEMENT SYSTEM"

Submitted in partial fulfillment of the requirement for the award of degree of
Bachelor of Engineering
In
Computer Science and Engineering
Submitted by

IMPANA A (4NN20CS023)

KUSUM SHARMA (4NN20CS025)

Under the Guidance of

Ms. SHEEBAN E TAMANNA

Assistant Professor

Dept. of CSE

ESTD-2008

Department of Computer Science and Engineering
NIE Institute of Technology
Mysuru -570018

2022-23

Department of Computer Science and Engineering
NIE Institute of Technology, Mysuru

ESTD-2008

CERTIFICATE

This is to certify that the mini project work entitled **"HOSTEL MANAGEMENT SYSTEM"** is carried out by **IMPANA A** bearing **USN:4NN20CS023** and **KUSUM SHARMA** bearing **USN:4NN20CS025** in the partial fulfillment for the Fifth semester of Bachelor of Engineering degree in Computer Science and Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2022-23. The project report has been approved as it satisfies the academic requirements with respect to project work prescribed for the Bachelor of Engineering.

Signature of the guide
Ms. Sheeban E Tamanna
Asst. Professor,
Dept. of CSE
NIEIT, Mysuru

Signature of the HOD
Dr. Usha M.S
Associate Professor & Head
Dept. of CSE
NIEIT, Mysuru

External Viva

Name of the examiners	**Signature with Date**
1……....	1…….
2…….	2…….

ACKNOWLEDGEMENT

We sincerely owe our gratitude to all people who helped and guided us in completing this project work.

We are thankful to Dr. Rohini Nagapadma, Principal, NIEIT, Mysuru, for having supported us in our academic endeavors.

We are thankful to Dr. Usha M S, Associate Professor and Head, Department of Computer Science and Engineering, NIEIT for providing us timely suggestion, encouragement and support to complete this mini-project.

We would like to sincerely thank our project guide, Ms.Sheeban E Tamanna Asst. Professor in Dept. of Computer Science and Engineering for providing relevant information, valuable guidance and encouragement to complete this mini-project.

We would also like to thank all our teaching and non-teaching staff members of the Department. We are grateful to the college for keeping labs open whenever required and providing us Systems and Required software.

We are always thankful to our Parents for their valuable support and guidance in every step. Also thank all our friends for their support and guidance throughout the project.

We express our deepest gratitude and indebted thanks to NIEIT which has provided us an opportunity in fulfilling our most cherished desire of reaching our goal.

Yours Sincerely,

Impana A [4NN20CS023]

Kusum Sharma [4NN20CS025]

ABSTRACT

The project Hostel Management System creates a software that stores and manages all the data needed to describe the personal data of the members and their framework within an organization. It includes definition of various levels of hierarchy in an organization, the price structure pertaining to every element in this hierarchy, the description of every member functioning in the club and the overall sports club database which integrates all the elements mentioned above.

It has a database administration that has access to the entire database, in regards with viewing and update of information. The exclusive right is implemented using authorized access. Also viewing all data and editing of personal data can be done by any admin, this also using authorized access.

TABLE OF CONTENTS

ACKNOWLEDGMENT

ABSTRACT

1. INTRODUCTION **7**

1.1 problem definition 7

1.2 Admin Panel 7

1.3 User Panel 7

2. SYSTEM ENVIRONMENT **8**

2.1 Hardware Configuration 8

2.2 Software Configuration 8

2.3 Software Features 8

2.4 Security 9

2.5 Syntax 10

2.6 MySQL 12

2.7 XAMPP 17

2.8 Normalization 18

3. SYSTEM DESIGN **19**

3.1 Input design 19

3.2 Process design 20

3.3 Use case diagrams 20

3.4 Data flow diagram 22

3.5 E-R diagram and schema diagram 23

3.6 Database design 26

3.7 Stored Procedure 28

3.8 Trigger 29

3.9 Output Design 29

4. SYSTEM ANALYSIS AND IMPLEMENTATION 30

4.1 Existing System 30

4.2 System Testing 31

4.3 Implementation 31

4.4 Security and Maintenance 32

5. SNAPSHOTS 33

6. CONCLUSION 44

7. BIBLIOGRAPHY 45

Chapter 1

INTRODUCTION

1.1 Problem Definition

The number of hostels are increasing for the accommodation of students studying in the institution so 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.

1.2 Admin Panel

1. ADMIN LOGIN - Admin can login through login form.
2. ADMIN PROFILE - Admin can manage his own profile. Admin can also change his password.
3. COURSES - Admin can create add course, edit courses and also delete the course.
4. ROOMS - Admin can create rooms and allots seater to particular rooms and assign the fees.
5. REGISTRATION - Admin can create student profile and allot the rooms
6. MANAGE THE REGISTRATION - Admin can manage the all the student Profile. Take a print out of all profiles and also delete the profile.
7. FORGOT PASSWORD - Admin can also retrieve the password if admin forgot the password.

1.3 User Panel

- User Registration -User can register through user registration form
- User Login - User can login through login form
- Forgot Password - user can retrieve password through forgot password link
- User Dashboard
- User Profile - User can manage own profile
- Book Hostel - User can book hostel
- Room Details - Booked Room Details
- Change Password - User Can change own password
- User access log - User can watch last login details

Chapter 2

SYSTEM ENVIRONMENTS

2.1 HARDWARE CONFIGURATION

- Pentium IV Processor
- 512 MB RAM
- 40GB HDD
- 1024 * 768 Resolution Colour Monitor

2.2 SOFTWARE CONFIGURATION

- OS : Windows XP
- PHP Triad (PHP5.6, MySQL, XAMPP, and PHP My Admin)

2.3 SOFTWARE FEATURES

- **PHP TRIAD** : PHP Triad installs a complete working PHP/MySQL server environment on Windows platforms (9x/ NT). Installs PHP, MySQL, Apache, and PHP My Admin.
- **PHP** : PHP is a scripting language originally designed for producing dynamic web pages. It has evolved to include a command line interface capability and can be used in standalone graphical applications. PHP is free software released under the PHP License, however it is incompatible with the GNU General Public License (GPL), due to restrictions on the usage of the term PHP. It is a widely-used general-purpose scripting language that is especially suited for web development and can be embedded into HTML. It generally runs on a web server, taking PHP code as its input and creating web pages as output. It can be deployed on most web servers and on almost every operating system and platform free of charge. PHP is installed on more than 20 million websites and 1 million web servers.

PHP/FI included a larger implementation for the C programming language and could communicate with databases, enabling the building of simple, dynamic web applications. To escape characters, Magic quotes may be substituted with the addslashes() function, or more appropriately an escape mechanism specific to the database vendor itself like mysql_real_escape_string() for MySQL.

PHP does not have complete native support for Unicode or multibyte strings; Unicode support will be included in PHP 6. Many high profile open source projects ceased to support PHP 4 in new code as of February 5, 2008, due

to the GoPHP5 initiative, provided by a consortium of PHP developers promoting the transition from PHP 4 to PHP 5. It runs in both 32-bit and 64-bit environments, but on Windows the only official distribution is 32-bit, requiring Windows 32-bit compatibility mode to be enabled while using IIS in a 64-bit Windows environment. There is a third-party distribution available for 64-bit Window.

Usage :

PHP is a general-purpose scripting language that is especially suited for web development. PHP generally runs on a web server, taking PHP code as its input and creating web pages as output. It can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on most web servers, many operating systems and platforms, and can be used with many relational database management systems. It is available free of charge, and the PHP Group provides the complete source code for users to build, customize and extend for their own use.

PHP primarily acts as a filter, taking input from a file or stream containing text and/or PHP instructions and outputs another stream of data; most commonly the output will be HTML. It can automatically detect the language of the user. The LAMP architecture has become popular in the web industry as a way of deploying web applications. PHP is commonly used as the P in this bundle alongside Linux, Apache and MySQL, although the P may also refer to Python or Perl. As of April 2007, over 20 million. Internet domains were hosted on servers with PHP installed, and PHP was recorded as the most popular Apache module. Significant websites are written in PHP including the user-facing portion of Facebook, Wikipedia (MediaWiki), Yahoo!, MyYearbook, , Digg, Wordpress and Tagged. In addition to server-side scripting, PHP can be used to create stand-alone, compiled applications and libraries, it can be used for shell scripting, and the PHP binaries can be called from the command line.

2.4 Security

The National Vulnerability Database stores all vulnerabilities found in computer software. The overall proportion of PHP-related vulnerabilities on the database amounted to: 12% in 2003, 20% in 2004, 28% in 2005, 43% in 2006, 36% in 2007, and 35% in 2008. Most of these PHP-related vulnerabilities can be exploited remotely: they allow hackers to steal or destroy data from data sources linked to the webserver (such as an SQL database), send spam or contribute to DOS attacks using malware, which itself can be installed on the vulnerable servers.

However, such a feature is being developed for PHP Hosting PHP applications on a server requires a careful and constant attention to deal with these security risks. There are advanced protection patches such as Suhosin and Hardening-Patch, especially designed for web hosting environments. Installing PHP as a CGI binary rather than as an Apache module is the preferred method for added security. With respect to securing the code itself, PHP code can be obfuscated to make it difficult to read while remaining functional.

2.5 Syntax

```
<html>
<head>
    <title>PHP Test </title>
</head>
<body>
    <?php echo "<p> Hello World </p>"; ?>
</body></html>
```

PHP only parses code within its delimiters. Anything outside its delimiters is sent directly to the output and is not parsed by PHP. The most common delimiters are <?php and ?>, which are open and close delimiters respectively. <script language="php"> and </script> delimiters are also available. Short tags can be used to start PHP code, <? or <?= (which is used to echo back a string or variable) and the tag to end PHP code, ?>. These tags are commonly used, but like ASP-style tags (<% or <%= and %>), they are less portable as they can be disabled in the PHP configuration. For this reason, the use of short tags and ASP-style tags is discouraged. The purpose of these delimiters is to separate PHP code from non-PHP code, including HTML.

In terms of keywords and language syntax, PHP is similar to most high level languages that follow the C style syntax. If conditions, for and while loops, and function returns are similar in syntax to languages such as C, C++, Java and Perl.

Data types

PHP stores whole numbers in a platform-dependent range. This range is typically that of 32-bit signed integers. Unsigned integers are converted to signed values in certain situations; this behavior is different from other programming languages. Integer variables can be assigned using decimal (positive and negative), octal, and hexadecimal notations. Floating point numbers are also stored in a platform-specific range. They can be specified using floating point notation, or two forms of scientific notation. PHP has a native Boolean type that is similar to the native Boolean types in Java and C++. The null data type represents a variable that has no value. The only value in the null data type is NULL. Variables of the "resource" type represent references to resources from external sources. These are typically created by functions from a particular extension, and can only be processed by functions from the same extension; examples include file, image, and database resources. Arrays can contain elements of any type that PHP can handle, including resources, objects, and even other arrays. PHP also supports strings, which can be used with single quotes, double quotes, or heredoc syntax. The Standard PHP Library (SPL) attempts to solve standard problems and implements efficient data access interfaces and classes.

Functions

PHP has hundreds of base functions and thousands more from extensions. These functions are well documented on the PHP site, but unfortunately, the built-in library has a wide variety of naming conventions and inconsistencies. PHP currently has no functions for thread programming.

Version 5.2 and earlier

Functions are not first-class functions and can only be referenced by their name-directly or dynamically by a variable containing the name of the function. User-defined functions can be created at any time without being prototyped. Functions can be defined inside code blocks, permitting a run-time decision as to whether or not a function should be defined. Function calls must use parentheses, with the exception of zero argument class constructor functions called with the PHP new operator, where parentheses are optional. PHP supports quasi-anonymous functions through the create_function() function, although they are not true anonymous functions because anonymous functions are nameless, but functions can only be referenced by name, or indirectly through a variable $function_name();, in PHP.

Version 5.3 and newer

PHP gained support for first-class functions and closures. True anonymous functions are supported function getAdder($x) using the following syntax :

```
function  getAdder($x)
{
        return function ($y) use ($x)
        {
        return $x + $y;
        };
}
$adder  =  getAdder(8);
echo  $adder(2);  //  prints  “10”
```

Here, getAdder() function creates a closure using parameter $x (keyword “use” forces getting variable from context), which takes additional argument $y and returns it to the caller. Such a function can be stored, given as the parameter to another functions, etc. For more details see Lambda functions and closures RFC.

Objects

Basic object-oriented programming functionality was added in PHP 3. Object handling was completely rewritten for PHP 5, expanding the feature set and enhancing performance. In previous versions of PHP, objects were

handled like primitive types. The drawback of this method was that the whole object was copied when a variable was assigned or passed as a parameter to a method. In the new approach, objects are referenced by handle, and not by value. PHP 5 introduced private and protected member variables and methods, along with abstract classes and final classes as well as abstract methods and final methods. It also introduced a standard way of declaring constructors and destructors, similar to that of other object-oriented languages such as C++, and a standard exception handling model.

2.6 MYSQL

What is a database?

Quite simply, it's an organized collection of data. A database management system (DBMS) such as Access, FileMaker Pro, Oracle or SQL Server provides you with the software tools you need to organize that data in a flexible manner. It includes facilities to add, modify or delete data from the database, ask questions (or queries) about the data stored in the database and produce reports summarizing selected contents.

MySQL is a multithreaded, multi-user SQL database management system(DBMS). The basic program runs as a server providing multi-user access to a number of databases. Originally financed in a similar fashion to the JBoss model, MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQLAB now a subsidiary of Sun Microsystem , which holds the copyright to most of the codebase. The project's source code is available under terms of the GNU General Public Licence, as well as under a variety of proprietory agreements.

MySQL is a database. The data in MySQL is stored in database objects called tables. A table is a collections of related data entries and it consists of columns and rows. Databases are useful when storing information categorically. A company may have a database with the following tables: "Employees", "Products", "Customers" and "Orders".

2.6.1 Database Tables

A database most often contains one or more tables. Each table is identified by a name (e.g. "Customers" or "Orders"). Tables contain records (rows) with data.

2.6.2 Queries

A query is a question or a request. With MySQL, we can query a database for specific information and have a record set returned.

1. Create a connection to a database

Before you can access data in a database, you must create a connection to the database. In PHP, this is done with the mysqli_connect() function.

Syntax

$con=mysqli_connect("servername", "username", "password", "db name");

Parameter	Description
servername	Optional. Specifies the server to co "localhost:3306"
username	Optional. Specifies the username to log

Example

In the following example we store the connection in a variable ($con) for later use in the script. The “die” part will be executed if the connection fails:

```
<?php  $con=mysqli_connect("localhost", "root", "", "acrsdb");
if(mysqli_connect_errno()){
$con=mysqli_connect("servername", "username", "password", "db name");
}?>
```

2. Closing a Connection

The connection will be closed automatically when the script ends. To close the connection before, use the mysql_close() function:

```
<?php  $con=mysqli_connect("localhost", "root", "", "acrsdb");
if(mysqli_connect_errno()){
$con=mysqli_connect("servername", "username", "password", "db name");
 }
Mysql_close();?>
```

3. Create a Database

The CREATE DATABASE statement is used to create a database in MySQL.

Syntax

CREATE DATABASE database_name

To get PHP to execute the statement above we must use the mysql_query() function. This function is used to send a query or command to a MySQL connection.

4. Create a Table

The CREATE TABLE statement is used to create a table in MySQL

Syntax

CREATE TABLE table_name (column_name1 data_type(1),
column_name2 data_type(2),
column_name2 data_type(2),
….)

2.6.3 MySQL Functions

mysqli_affected_rows - Get number of affected rows in previous MySQL operation

mysqli_change_user - Change logged in user of the active connection

mysqli_client_encoding - Returns the name of the character set

mysqli_close - Close MySQL connection

mysqli_connect - Open a connection to a MySQL

mysqli_create_db - Create a MySQL database

mysqli_data_seek - Move internal result pointer

mysqli_db_name - Get result data

mysqli_db_query - Send a MySQL query

mysqli_drop_db - Drop (delete) a MySQL database

mysqli_errno - Returns the numerical value of the error message from previous MySQL operation

mysqli_error - Returns the text of the error message from previous MySQL operation mysqli_escape_string - Escapes a string for use in a mysql_query

mysqli_fetch_array - Fetch a result row as an associative array, a numeric array, or both mysqli_fetch_assoc - Fetch a result row as an associative array

mysqli_fetch_field - Get column information from a result and return as an object
mysqli_fetch_lengths - Get the length of each output in a result
mysqli_fetch_object - Fetch a result row as an object
wsmysql_num_rows - Get number of rows in result

mysql_pconnect - Open a persistent connection to a MySQL server

mysql_ping - Ping a server connection or reconnect if there is no connection

mysql_query - Send a MySQL query

mysql_result - Get result data

mysql_select_db - Select a MySQL database

mysql_set_charset - Sets the client character set
mysql_stat - Get current system status
mysql_tablename - Get table name of field
mysql_thread_id - Return the current thread ID
mysql_unbuffered_query - Send an SQL query to MySQL, without fetching and buffering
the result (See Appendix 2 for more My_SQL Functions.)

2.6.4 Laying Out Pages with CSS

In Macromedia Dreamweaver 8, you can use CSS styles to lay out your page. You can either insert div tags manually and apply CSS positioning styles to them, or you can use Dreamweaver layers to create your layout. A layer in Dreamweaver is an HTML page element—specifically, a div tag, or any other tag—that has an absolute position assigned to it. Whether you use CSS, tables, or frames to lay out your pages, Dreamweaver has rulers and grids for visual guidance in your layout. Dreamweaver also has a tracing image feature, which you can use to re-create a page design that was created in a graphics application.

Client-side role of forms

Forms support the client side of the client-server relationship. When a visitor enters information into a form displayed in a web browser (the client) and clicks the submit button, the information is sent to the server where a server-side script or application processes it. Common server-side technologies used for processing form data include Macromedia ColdFusion, Microsoft Active Server Pages (ASP), and PHP. The server responds by sending requested information back to the user (or client), or performing some action based on the form's contents.

2.6.5 phpMyAdmin

phpMyAdmin is an open source tool written in PHP intended to handle the administration of MySQL over the World Wide Web. phpMyAdmin supports a wide range of operations with MySQL.Currently it can create and

drop databases, create/drop/alter tables, delete/edit/add fields, execute any SQL statement, manage users and permissions, and manage keys on fields. while you still have the ability to directly execute any SQL statement. phpMyAdmin can manage a whole MySQL server (needs a super-user) as well as a single database. To accomplish the latter you'll need a properly set up MySQL user who can read/write only the desired database. It's up to you to look up the appropriate part in the MySQL manual.

phpMyAdmin can:

- browse and drop databases, tables, views, fields and indexes
- create, copy, drop, rename and alter databases, tables, fields and indexes
- maintenance server, databases and tables, with proposals on server configuration
- execute, edit and bookmark any SQL-statement, even batch-queries
- load text files into tables
- create and read dumps of tables
- export data to various formats: CSV, XML, PDF, ISO/IEC 26300 - OpenDocument Text and Spreadsheet, Word, Excel and $L^{A}T_{E}X$ formats
- administer multiple servers
- manage MySQL users and privileges
- check referential integrity in MyISAM tables
- using Query-by-example (QBE), create complex queries automatically connecting required tables
- create PDF graphics of your Database layout
- search globally in a database or a subset of it
- transform stored data into any format using a set of predefined functions, like displaying BLOB-data as image or download-link
- support InnoDB tables and foreign keys
- support mysqli, the improved MySQL extension

A word about users:

Many people have difficulty understanding the concept of user management with regards to phpMyAdmin. When a user logs in to phpMyAdmin, that username and password are passed directly to MySQL. phpMyAdmin does no account management on its own (other than allowing one to manipulate the MySQL user account information); all users must be valid MySQL users.

- phpMyAdmin can compress (Zip, GZip -RFC 1952- or Bzip2 formats) dumps and CSV exports if you use PHP with Zlib support (—with-zlib) and/or Bzip2 support (—with-bz2). Proper support may also need changes in php.ini.a phpMyAdmin screen appears as shown below.

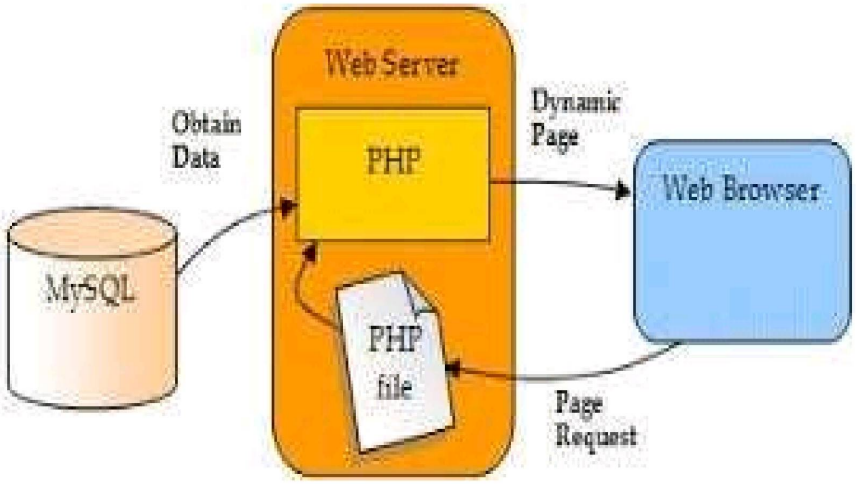
2.6.6 Requirements

- PHP
- You need PHP 5.2.0 or newer, with session support and the Standard PHP Library (SPL) extension.
- To support uploading of ZIP files, you need the PHP zip extension.
- For proper support of multibyte strings (eg. UTF-8, which is currently default), you should install mbstring and ctype extensions.
- You need GD2 support in PHP to display inline thumbnails of JPEGs (“image/jpeg: inline”) with their original aspect ratio
- When using the “cookie” authentication method, the mcrypt extension is strongly suggested for most users and is required for 64–bit machines. Not using mcrypt will cause phpMyAdmin to load pages significantly slower.

2.7 XAMPP

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

XAMPP's ease of deployment means a XAMPP stack can be installed quickly and simply on an operating system by a developer, with the advantage a number of common add-in applications such as Wordpress and Joomla! can also be installed with similar ease using Bitnami.



2.8 NORMALIZATION

Normalization is a process of organizing the data in database to avoid data redundancy, insertion anomaly, update anomaly & deletion anomaly. To overcome these anomalies we need to normalize the data. There are 4 basic types of normalizations. They are:

- First normal form(1NF)
- Second normal form(2NF)
- Third normal form(3NF)
- Boyce & Codd normal form (BCNF)

A table is said to be in 2NF if the two conditions stated are satisfied. The table is in First normal form and all the non-prime attribute are dependent on the proper subset of any candidate key of table. The attribute that is not part of any candidate key are known as nonprime attribute. A table design is said to be in 3NF if the table is in 2NF and Transitive functional dependency of non-prime attribute on any super key are removed. A table design is said to be in BCNF if there is only one super key.

Chapter 3

SYSTEM DESIGN

3.1 Input Design

The system design is divided in to two portions. The Administrator section and the User(student's) section.

Administrator

1. The Administrator can allot different students to the different hostels.
2. He can vacate the students for the hostels.
3. He can control the status of the fee payement.
4. He can edit the details of the students.He can change their rooms, edit and delete the student records.

A process of converting user originated inputs to a computer-based format. Input design is an important part of development process since inaccurate input data are the most common cause of errors in data processing. Erroneous entries can be controlled by input design. It consists of developing specifications and procedures for entering data into a system and must be in simple format. The goal of input data design is to make data entry as easy, logical and free from errors as possible. In input data design, we design the source document that capture the data and then select the media used to enter them into the computer.

There are two major approaches for entering data in to the computer. They are

- Menus.
- Dialog Boxes.

Menus

A menu is a selection list that simplifies computer data access or entry. Instead of remembering what to enter, the user chooses from a list of options. A menu limits a user choice of response but reduce the chances for error in data entry.

Dialog Box

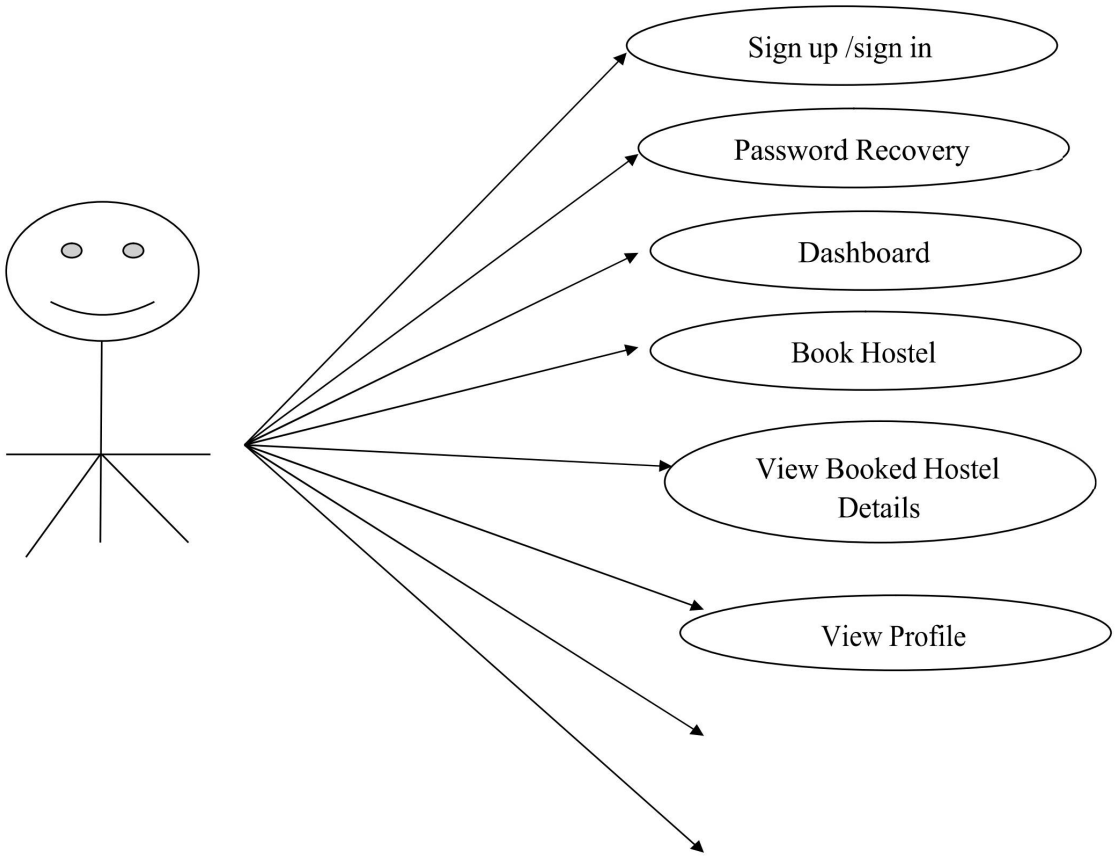
Dialog boxes are windows and these windows are mainly popup, which appear in response to certain conditions that occur when a program is run. It allows the display of bitmaps and pictures. It can have various controls like buttons, text boxes, list boxes and combo boxes. Using these controls we can make a 'dialog' with the program. The proposed system has three major inputs. They are Machine Registration, Machine Scheduling and Request Form.

3.2 Process Design

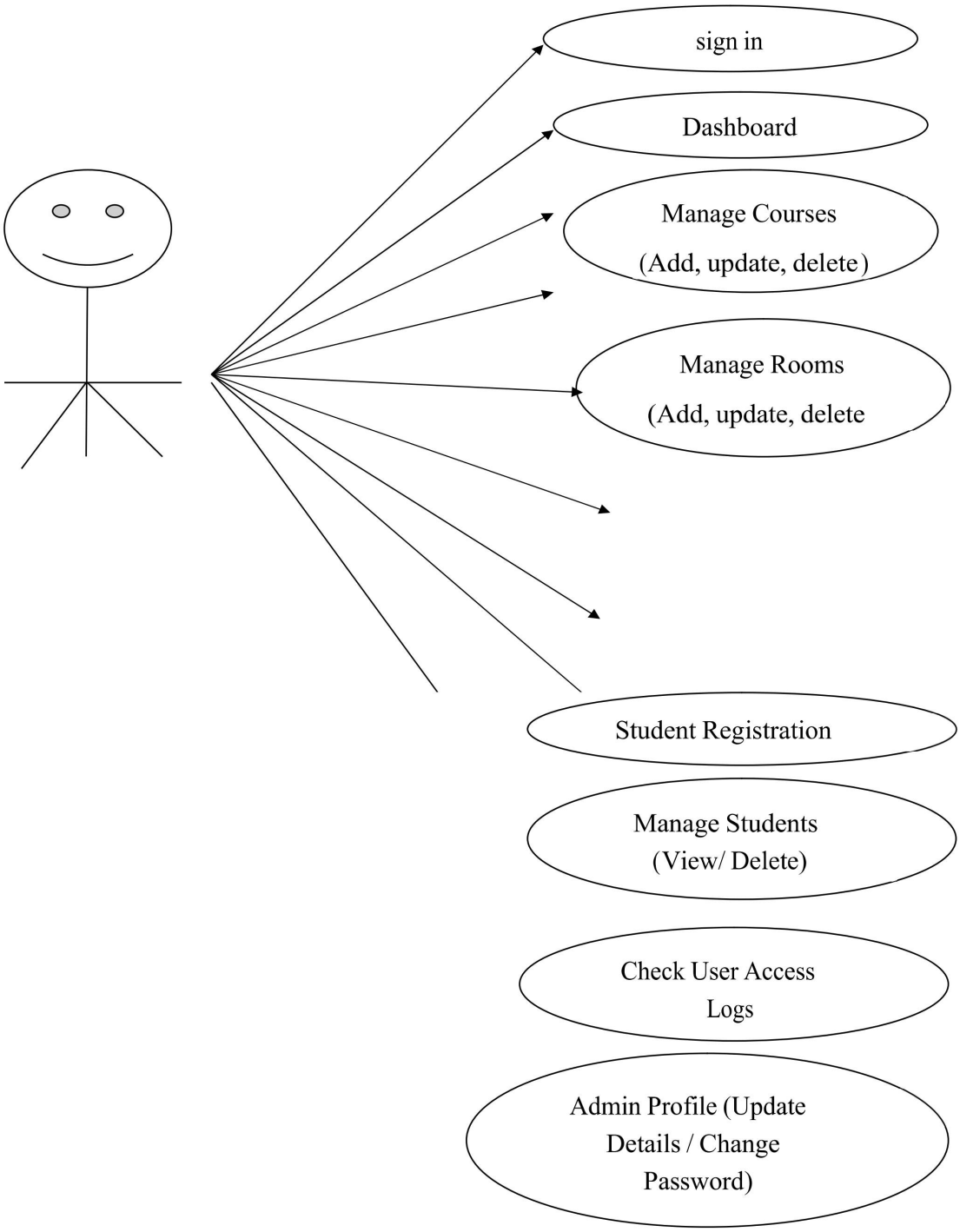
Process design plays an important role in project development. In order to understand the working procedure, process design is necessary. Data Flow Diagram and System Flow chart are the tools used for process design. System Flow Chart is a graphical representation of the system showing the overall flow of control in processing at the job level; specifies what activities must be done to convert from a physical to logical model. Data Flow Diagram is the logical representation of the data flow of the project. The DFD is drawn using various symbols. It has a source and a destination. The process is represented using circles and source and destination are represented using squares. The data flow is represented using arrows. One reader can easily get the idea about the project through Data Flow Diagram.

3.3 Use case Diagram

3.3.1 User Use case Diagram



3.3.2 Admin Use Case Diagram



3.4 Data Flow Diagram

A Data Flow Diagram (DFD) is a graphical representation of the "flow" of data through an http://en.wikipedia.org/wiki/Information_system Information System. A data flow diagram can also be used for the visualization of Data Processing. It is common practice for a designer to draw a context-level DFD first which shows the interaction between the system and outside entities. This context-level DFD is then "exploded" to show more detail of the system being modeled.

Data flow diagram Notation:

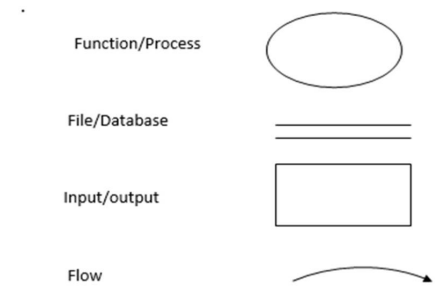


Fig 3.4.1 DFD for Student Module

Fig 3.4.2 DFD for Allotment Process

Fig 3.4.3 DFD for Student registration

Fig 3.4.4 DFD for Admin registration

3.5 ER and Schema Diagram

An Entity Relation(ER) Diagram is a specialized graphics that illustrates the interrelationship between entities in a database. ER diagrams often use symbols to represent 3 different types of information. Boxes are commonly used to represent entities. Diamonds are normally used to represent relationships and ovals are used to represent attributes.

An Entity Relationship Model (ERM), in software engineering is an abstract and conceptual representation of data. Entity Relationship modeling is a relational schema database modeling method, used to produce a type of conceptual schema or semantic data model of a system, often a relation database, and its requirements in a top-down fashion.

3.5.1 Entity:

Entity is the thing which we want to store information. It is an elementary basic building block of storing information about business process. An entity represents an object defined within the information system about which you want to store information. Entities are distinct things in the enterprise.

3.5.2 Relationships:

A relationship is a named collection or association between entities or used to relate two or more entities with some common attributes or meaningful interaction between the objects.

3.5.3 Attributes:

Attributes are the properties of the entities and relationship, Descriptor of the entity. Attributes are elementary pieces of information attached to an entity.

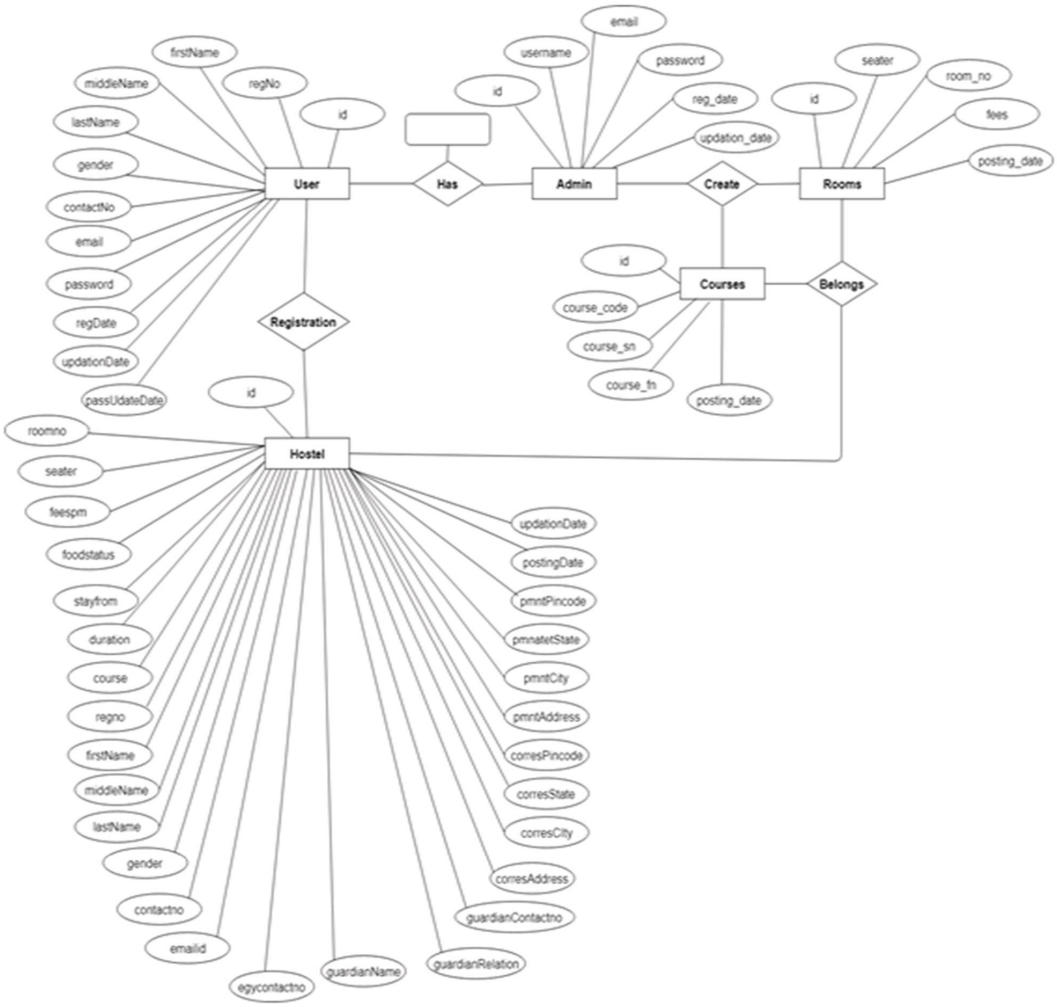


Fig 3.5.3.1 Entity Relation diagram

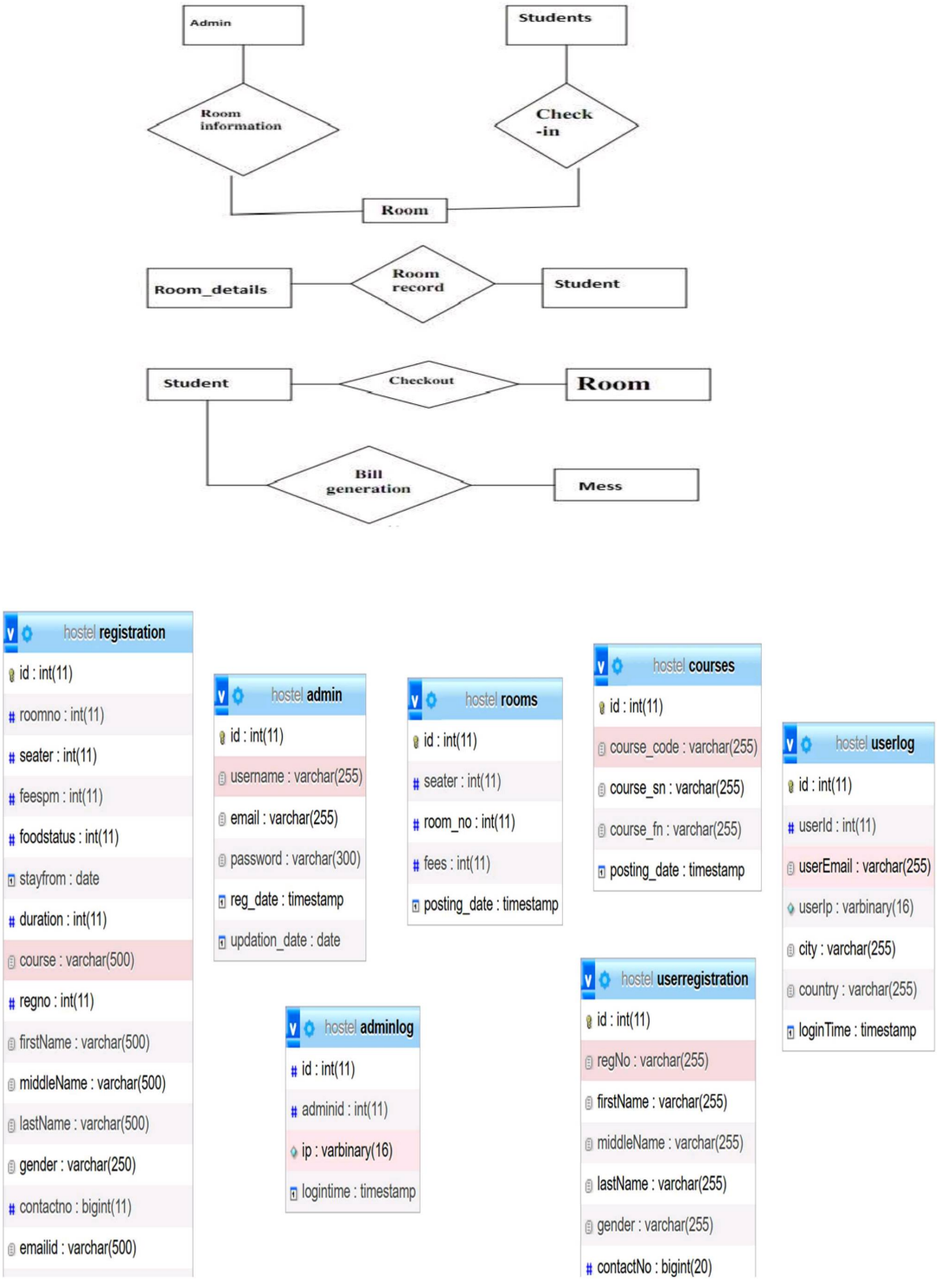


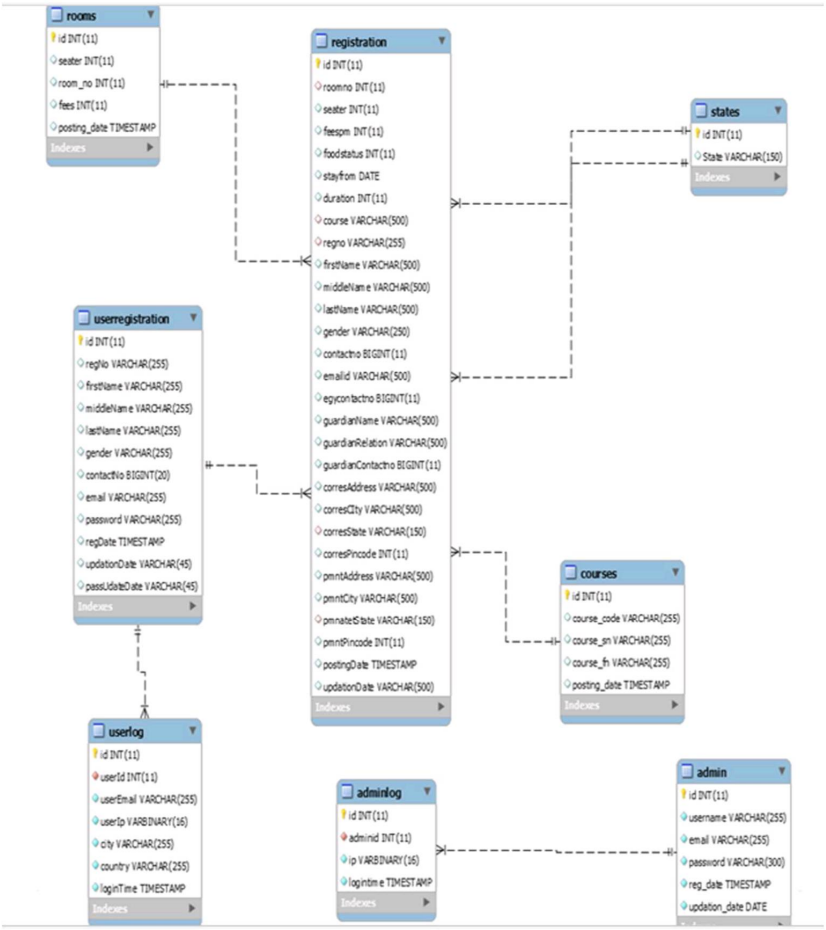
Fig 3.5.3.2 Shema Diagram

3.6 Database Design

The data in the system has to be stored and retrieved from database. Designing the database is part of system design. Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system.

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make database access easy, quick, inexpensive and flexible for the user. Relationships are established between the data items and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates. The MySQL database has been chosen for developing the relevant databases.

3.6.1 Database Table Relationship



3.6.2 Admin Table Structure

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index More
2	username	varchar(255)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index More
3	email	varchar(255)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index More
4	password	varchar(300)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index More
5	reg_date	timestamp			No	CURRENT_TIMESTAMP		Change Drop Primary Unique Index More
6	updation_date	date			No	None		Change Drop Primary Unique Index More

3.6.3 Course Table Structure

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index More
2	course_code	varchar(255)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index More
3	course_sn	varchar(255)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index More
4	course_fn	varchar(255)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index More
5	posting_date	timestamp			No	CURRENT_TIMESTAMP		Change Drop Primary Unique Index More

3.6.4 Rooms Table Structure

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial Fulltext Distinct values
2	seater	int(11)			No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
3	room_no	int(11)			No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
4	fees	int(11)			No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
5	posting_date	timestamp			No	CURRENT_TIMESTAMP		Change Drop Primary Unique Index Spatial Fulltext Distinct values

3.6.5 State Table Structure

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial Fulltext Distinct values
2	State	varchar(150)	latin1_swedish_ci		Yes	NULL		Change Drop Primary Unique Index Spatial Fulltext Distinct values

3.6.6 Registration Table structure

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial More
2	roomno	int(11)			No	None		Change Drop Primary Unique Index Spatial More
3	seater	int(11)			No	None		Change Drop Primary Unique Index Spatial More
4	feespm	int(11)			No	None		Change Drop Primary Unique Index Spatial More
5	foodstatus	int(11)			No	None		Change Drop Primary Unique Index Spatial More
6	stayfrom	date			No	None		Change Drop Primary Unique Index Spatial More
7	duration	int(11)			No	None		Change Drop Primary Unique Index Spatial More
8	course	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
9	regno	int(11)			No	None		Change Drop Primary Unique Index Spatial More
10	firstName	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
11	middleName	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
12	lastName	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
13	gender	varchar(250)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
14	contactno	bigint(11)			No	None		Change Drop Primary Unique Index Spatial More
15	emailid	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
16	egycontactno	bigint(11)			No	None		Change Drop Primary Unique Index Spatial More
17	guardianName	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
18	guardianRelation	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
19	guardianContactno	bigint(11)			No	None		Change Drop Primary Unique Index Spatial More
20	corresAddress	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
	rresCity	varchar(500)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More

3.7 Stored Procedures

This procedure will count and display the number of courses in the courses table.

Export of routine `STR_COUR`

```
1 DELIMITER $$
2 CREATE DEFINER=`root`@`localhost` PROCEDURE `STR_COUR`(IN
  `id` INT(11), IN `course_code` VARCHAR(255), IN
  `course_sn` VARCHAR(255), IN `course_fn` VARCHAR(255), IN
  `posting_date` TIMESTAMP)
3 insert into courses
  VALUES(id,course_code,course_sn,course_fn,posting_date)$$
4 DELIMITER ;
```

3.8 Triggers

This trigger is used to displays the action performed in the rooms table.

Export of trigger `trg_room`

```
1 CREATE TRIGGER `trg_room` AFTER INSERT ON `rooms`
2  FOR EACH ROW INSERT INTO booking_backup
3 VALUES(new.id,b.seater,new.room_no,new.fees,new.posting_d
  ate)
```

3.9 Output Design

Designing computer output should proceed in an organized, well throughout manner; the right output element is designed so that people will find the system whether or executed. When we design an output we must identify the specific output that is needed to meet the system. The usefulness of the new system is evaluated on the basis of their output. Once the output requirements are determined, the system designer can decide what to include in the system and how to structure it so that the require output can be produced. For the proposed software, it is necessary that the output reports be compatible in format with the existing reports. The output must be concerned to the overall performance and the system's working, as it should. It consists of developing specifications and procedures for data preparation, those steps necessary to put the inputs and the desired output, i.e, maximum user friendly. Proper messages and appropriate directions can control errors committed by users. The output design is the key to the success of any system. Output is the key between the user and the sensor. The output must be concerned to the system's working, as it should.

Output design consists of displaying specifications and procedures as data presentation. User never left with the confusion as to what is happening without appropriate error and acknowledges message being received. Even an unknown person can operate the system without knowing anything about the system.

Chapter4

SYSTEM ANALYSIS AND IMPLEMENTATION

4.1 Existing System

For the past few years the number of educational institutions are increasing rapidly. Thereby the number 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. We can improve the efficiency of the system, thus overcome the following drawbacks of the existing system.

- more human error.
- more strength and strain of manual labour needed
- Repetition of the same procedures.
- low security
- Data redundancy
- difficult to handle
- difficult to update data
- record keeping is difficult
- Backup data can be easily generated

4.2 System Testing

System testing is the stage of implementation, which is aimed at ensuring that the system works accurately and efficiently before live operation commences. Testing is the process of executing 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 in "Network Backup System" are unit testing, integration testing and user acceptance testing.

4.2.1 Unit Testing

The software units in a system are modules and routines that are assembled and integrated to perform a specific function. Unit testing focuses first on modules, independently of one another, to locate errors. This enables, to detect errors in coding and logic that are contained within each module. This testing includes entering data and ascertaining if the value matches to the type and size supported by java. The various controls are tested to ensure that each performs its action as required.

4.2.2 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 Server module and Client module options are integrated and tested. This testing provides the assurance that the application is well integrated functional unit with smooth transition of data.

4.2.3 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 keeping in touch with the system users at time of developing and making changes whenever required.

4.3 IMPLEMENTATION

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 change over, 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.

4.3.1 User Training

After the system is implemented successfully, training of the user is one of the most important subtasks of the developer. For this purpose user manuals are prepared and handled over to the user to operate the developed system. Thus the users are trained to operate the developed system. Both the hardware and software securities are made to run the developed systems successfully in future. In order to put new application system into use, the following activities were taken care of:

- Preparation of user and system documentation
- Conducting user training with demo and hands on
- Test run for some period to ensure smooth switching over the system

The users are trained to use the newly developed functions. User manuals describing the procedures for using the functions listed on menu are circulated to all the users. It is confirmed that the system is implemented up to users need and expectations.

4.4 Security and Maintenance

Maintenance involves the software industry captive, typing up system resources .It means restoring something to its original condition. Maintenance follows conversion to the extend that changes are necessary to maintain satisfactory operations relative to changes in the user's environment. Maintenance often includes minor enhancements or corrections to problems that surface in the system's operation. Maintenance is also done based on fixing the problems reported, changing the interface with other software or hardware enhancing the software.

Any system developed should be secured and protected against possible hazards. Security measures are provided to prevent unauthorized access of the database at various levels. An uninterrupted power supply should be so that the power failure or voltage fluctuations will not erase the data in the files.

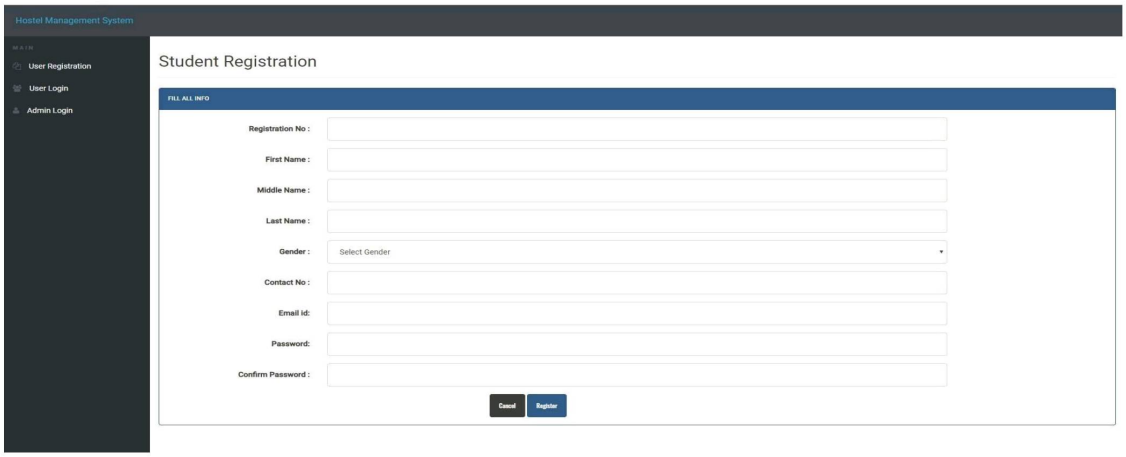
Password protection and simple procedures to prevent the unauthorized access are provided to the users .The system allows the user to enter the system only through proper user name and password.

Chapter 5

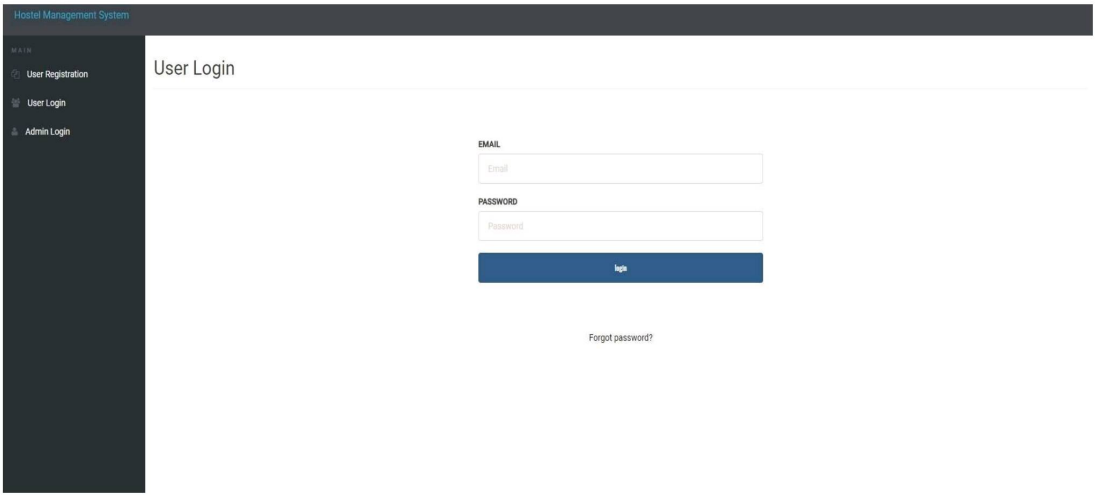
SNAPSHOTS

USER MODULE

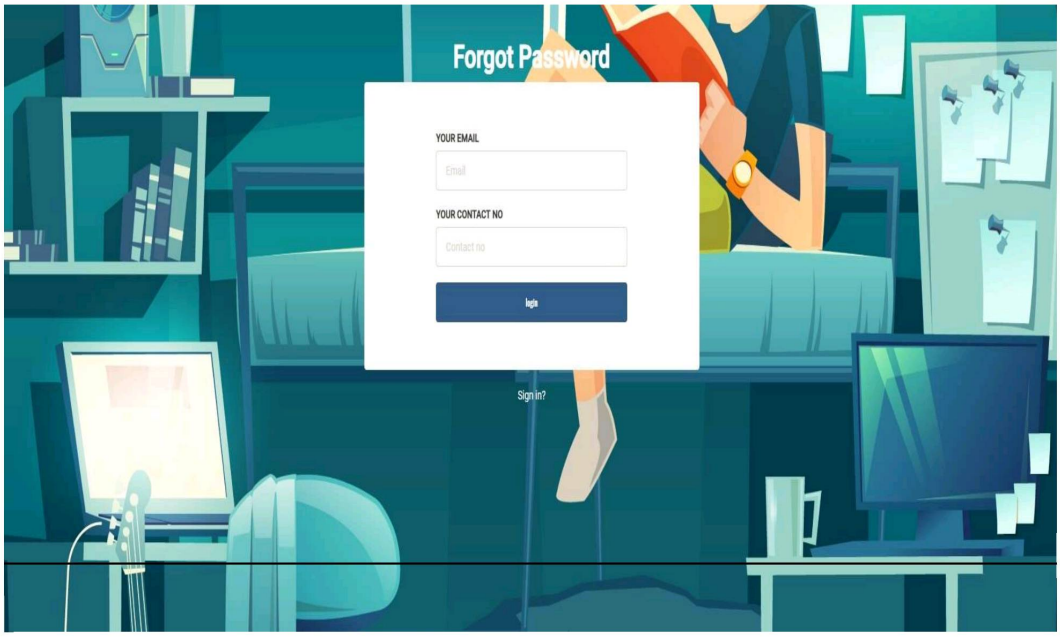
4.5.1 User Signup



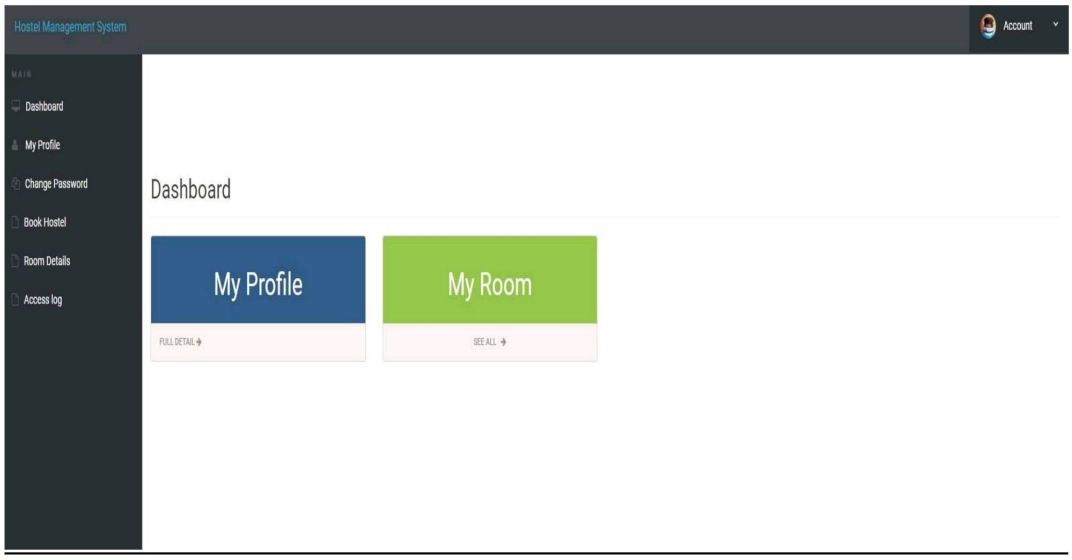
4.5.2 User Login



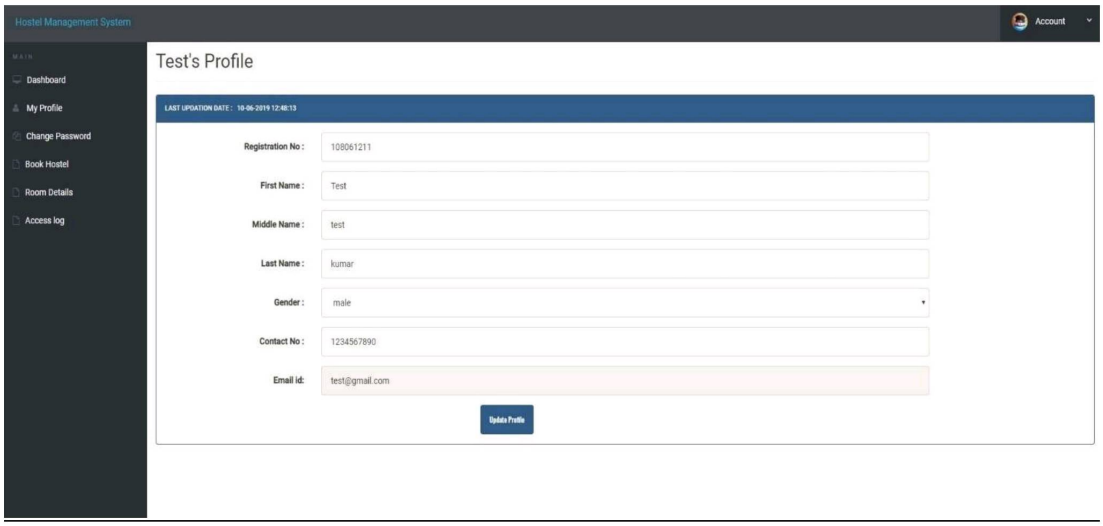
4.5.3 User Password Recovery



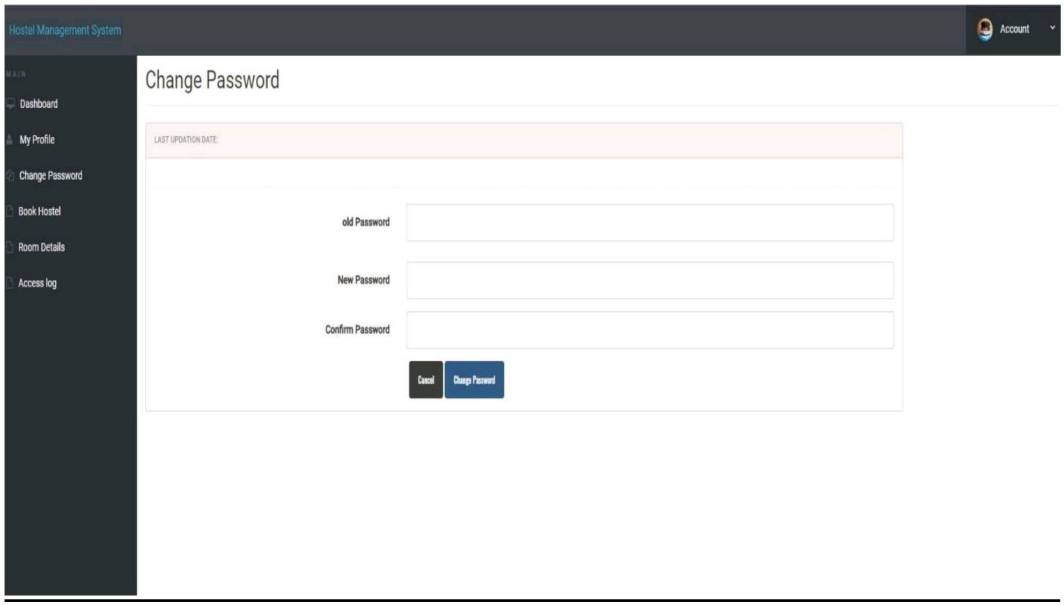
4.5.4 User Dashboard



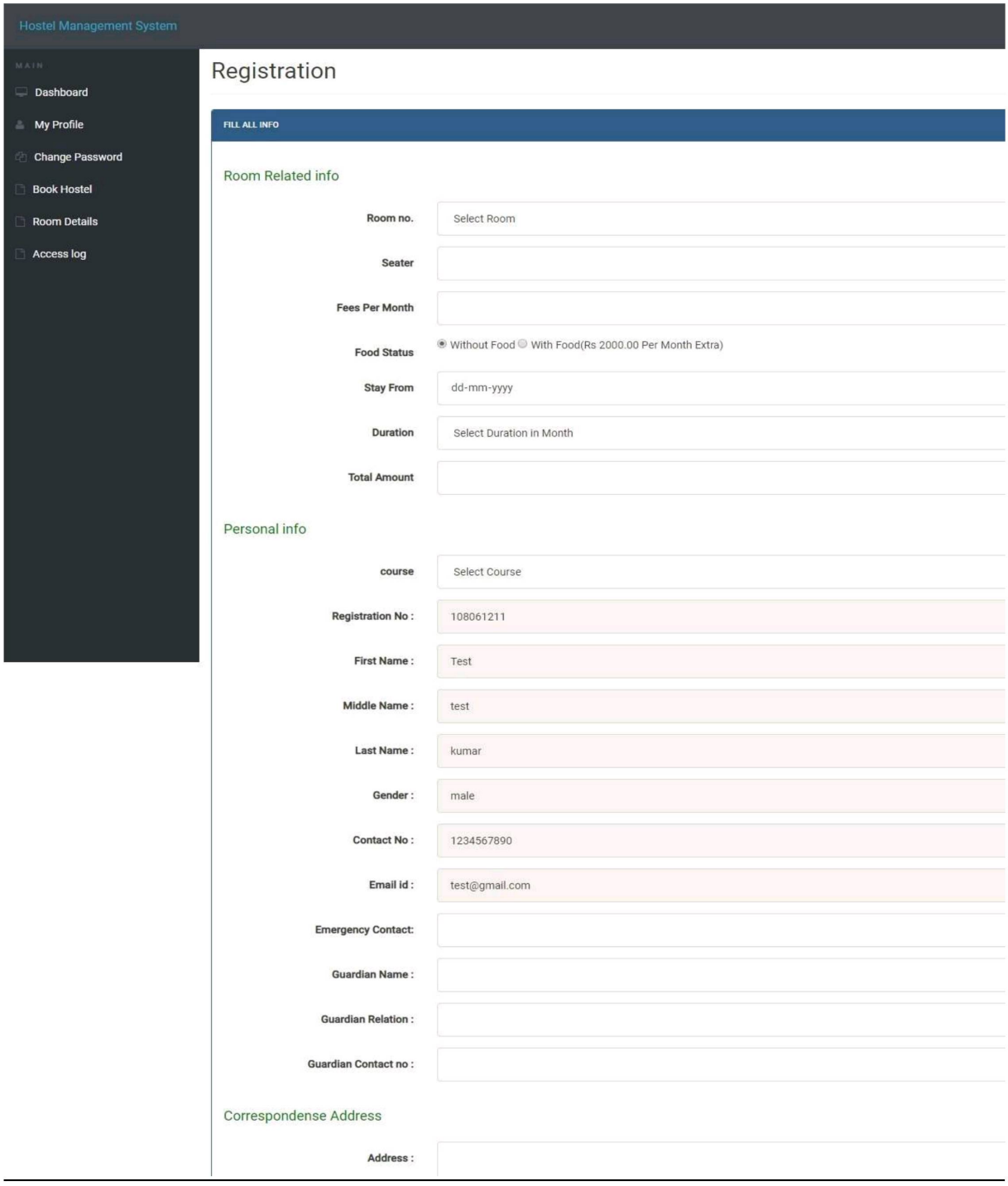
4.5.5 User Profile



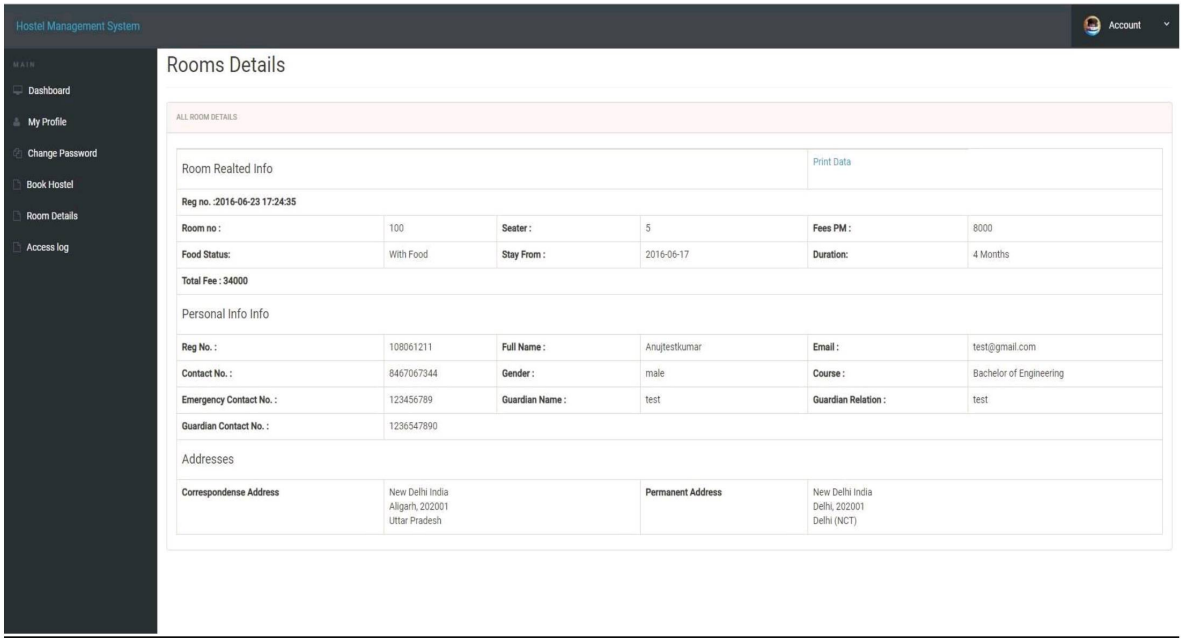
4.5.5 User Change Password



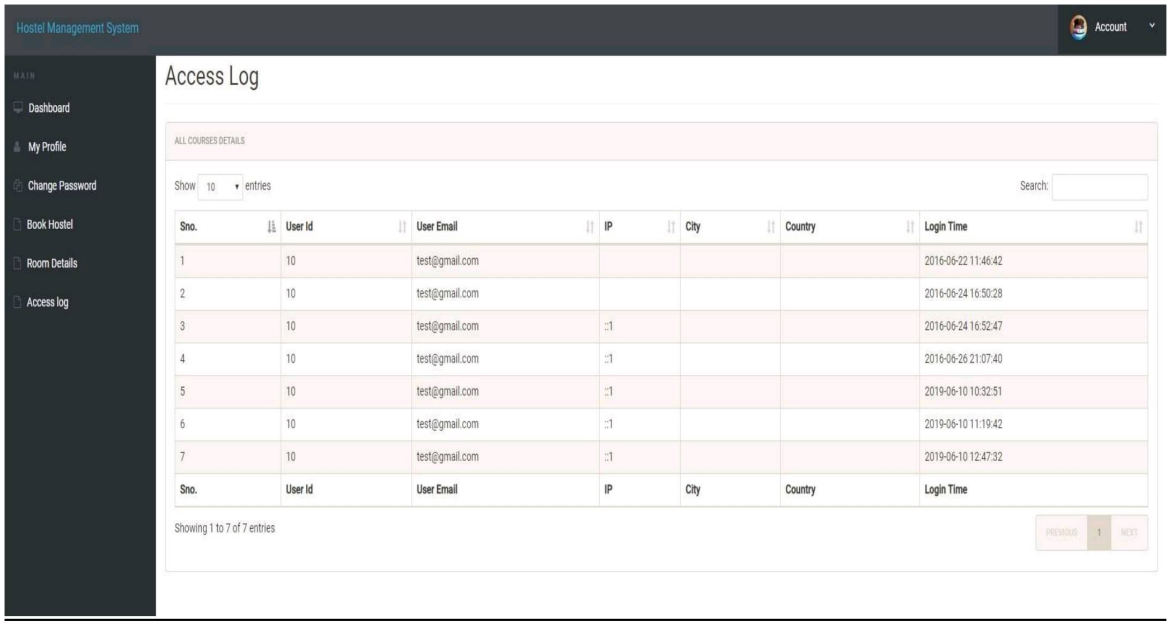
4.5.7 User Hostel Booking



4.5.8 User Room Details

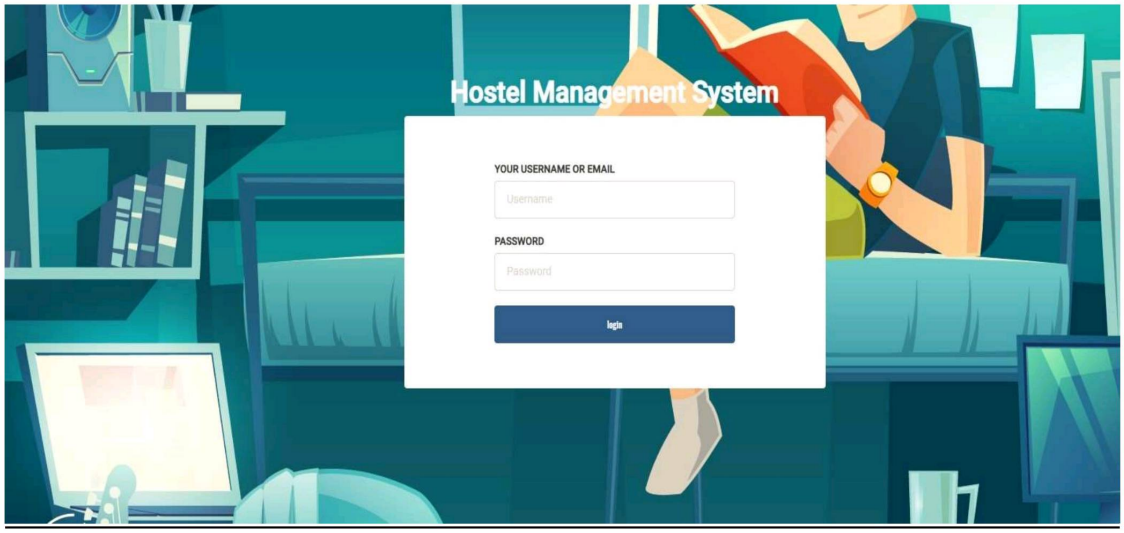


4.5.9 User Access log Details

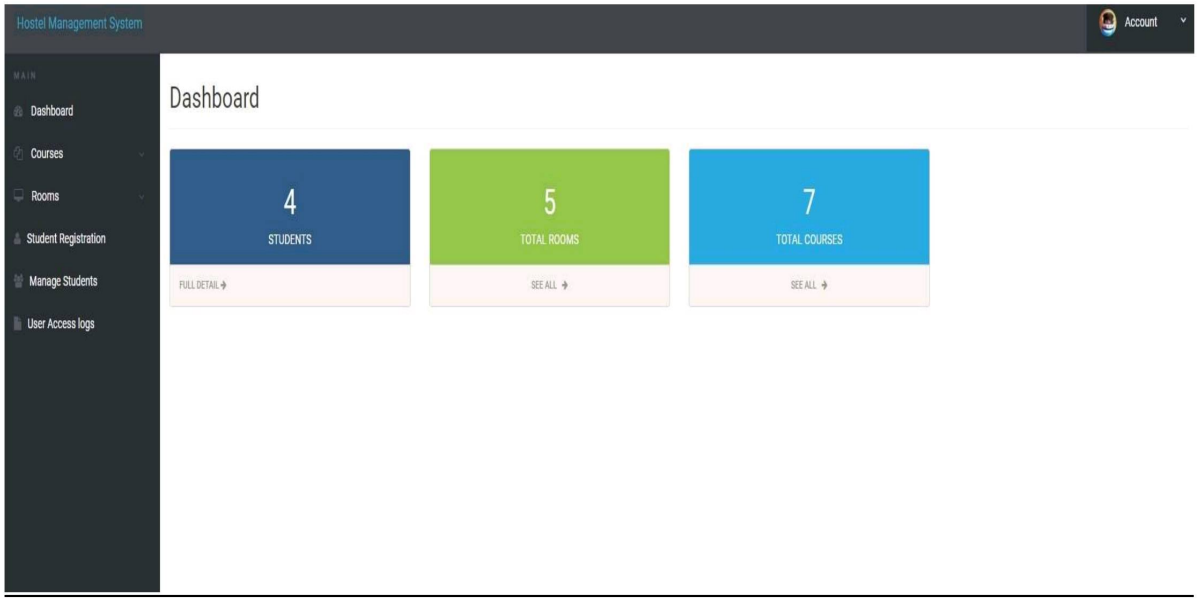


4.6 Admin Module

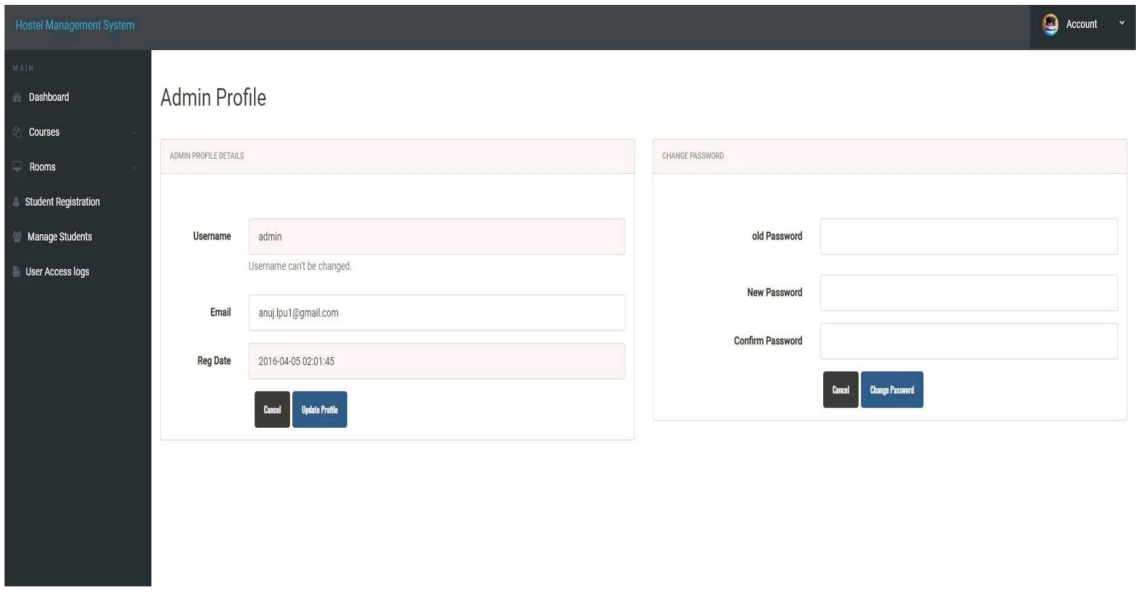
4.6.1 Admin Login



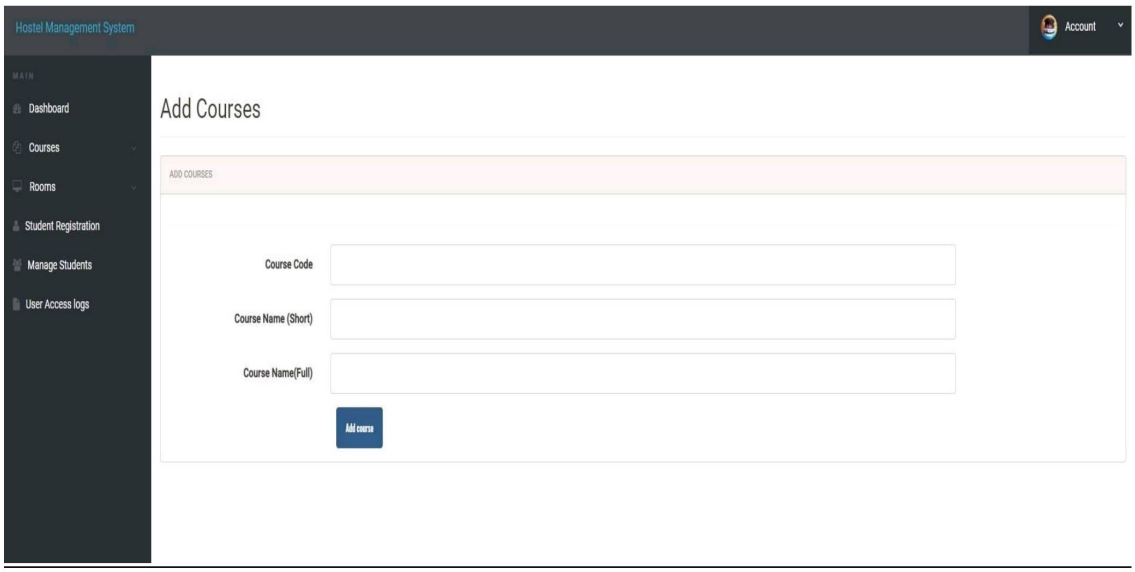
4.6.2 Admin Dashboard



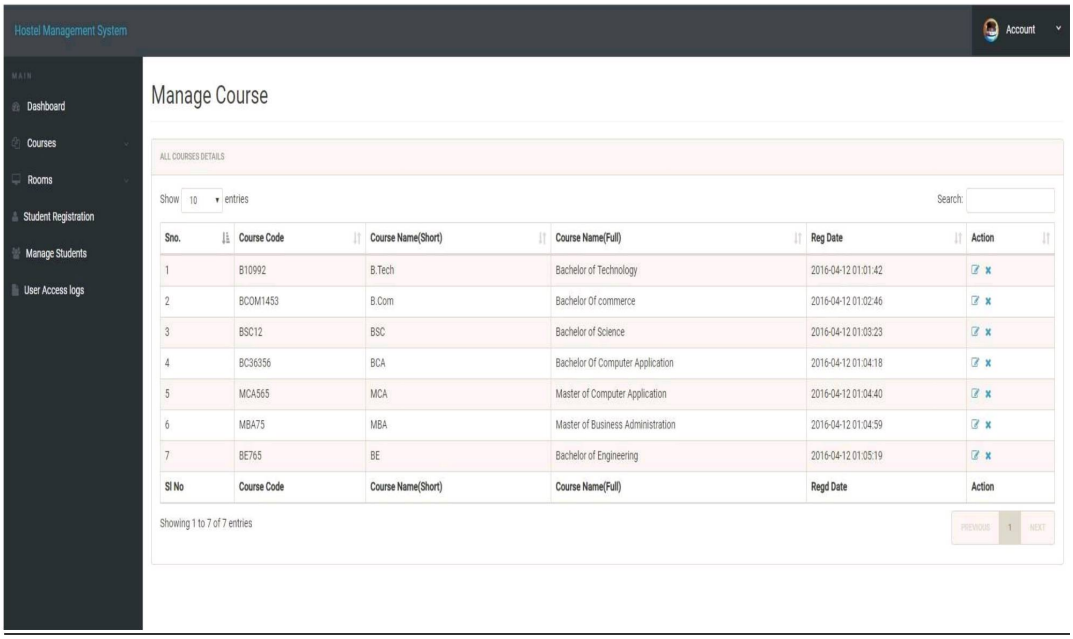
4.6.3 Admin Profile



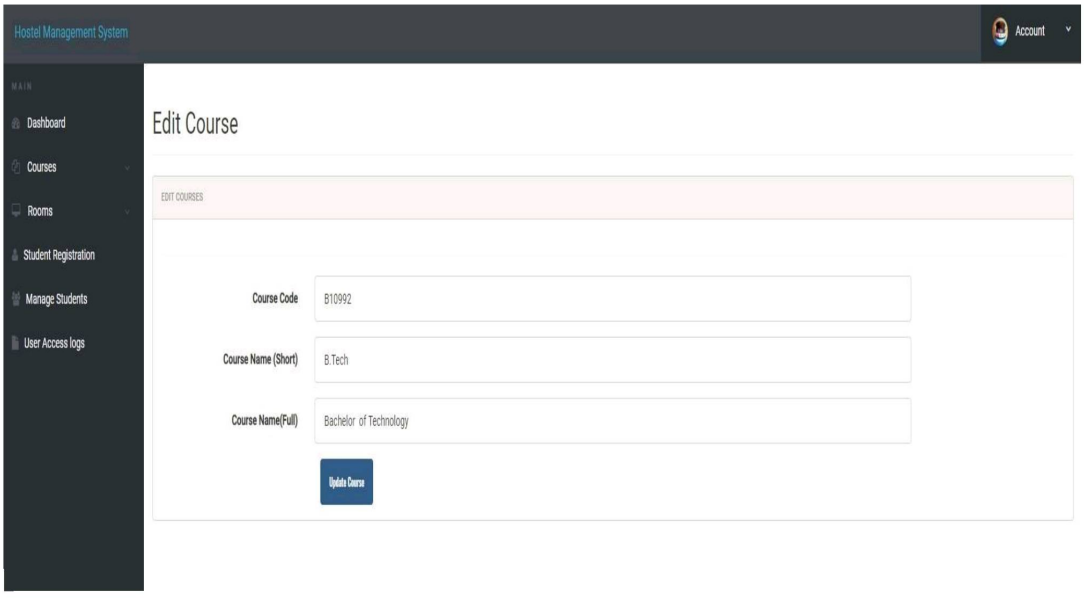
4.6.4 Admin Add Course



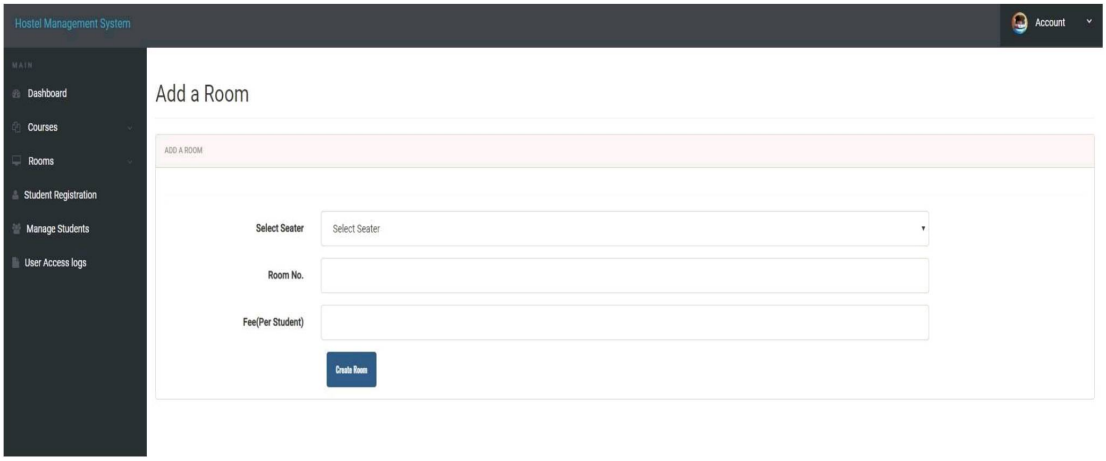
4.6.5 Admin manage Course



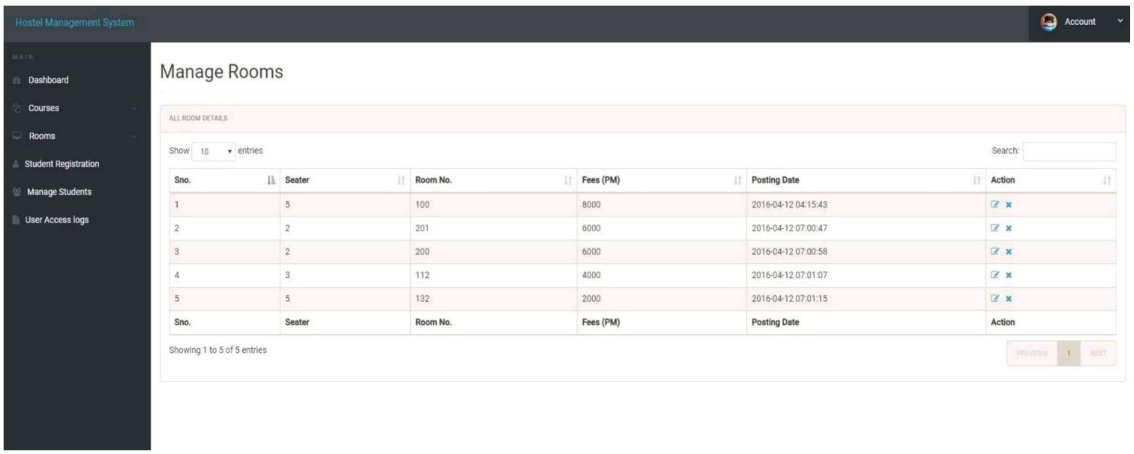
4.6.6 Admin edit Course Details



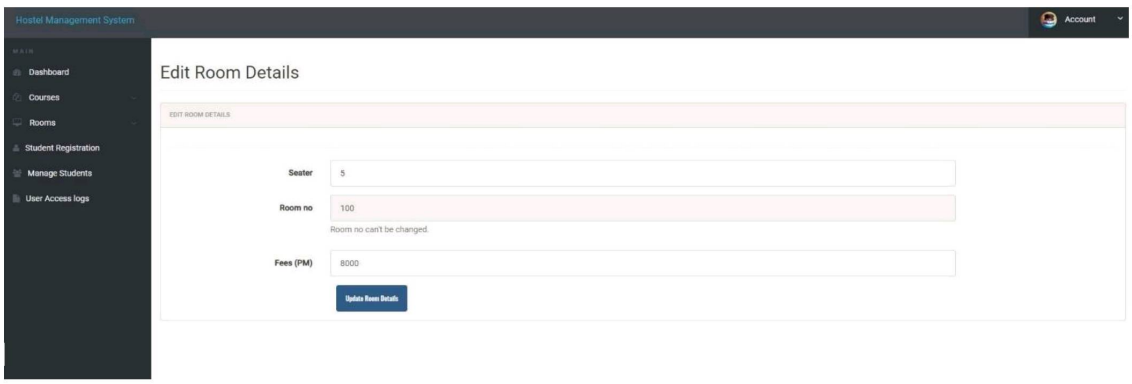
4.6.7 Admin add Room



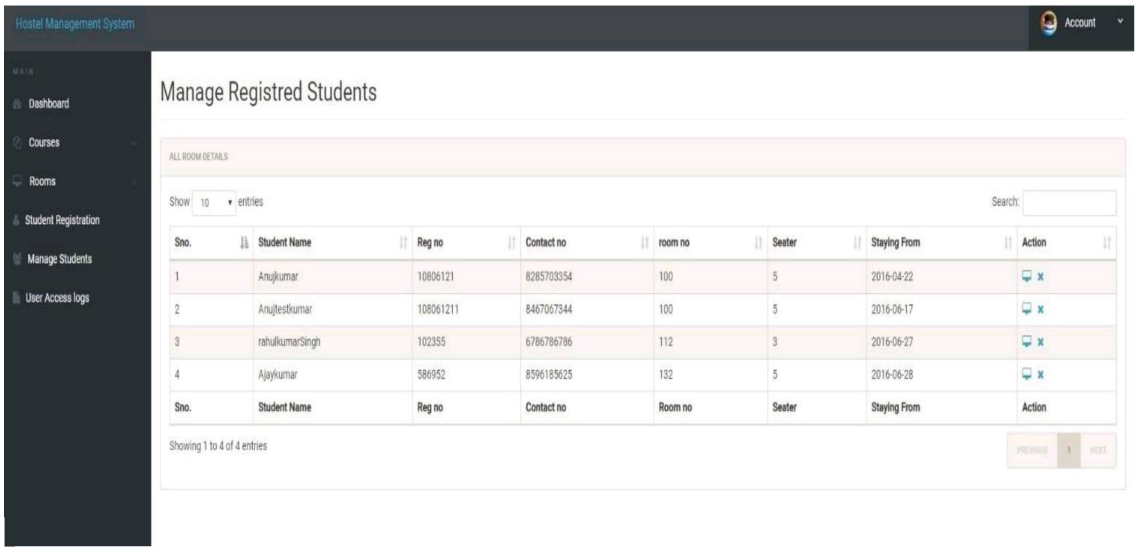
4.6.8 Admin Manage room



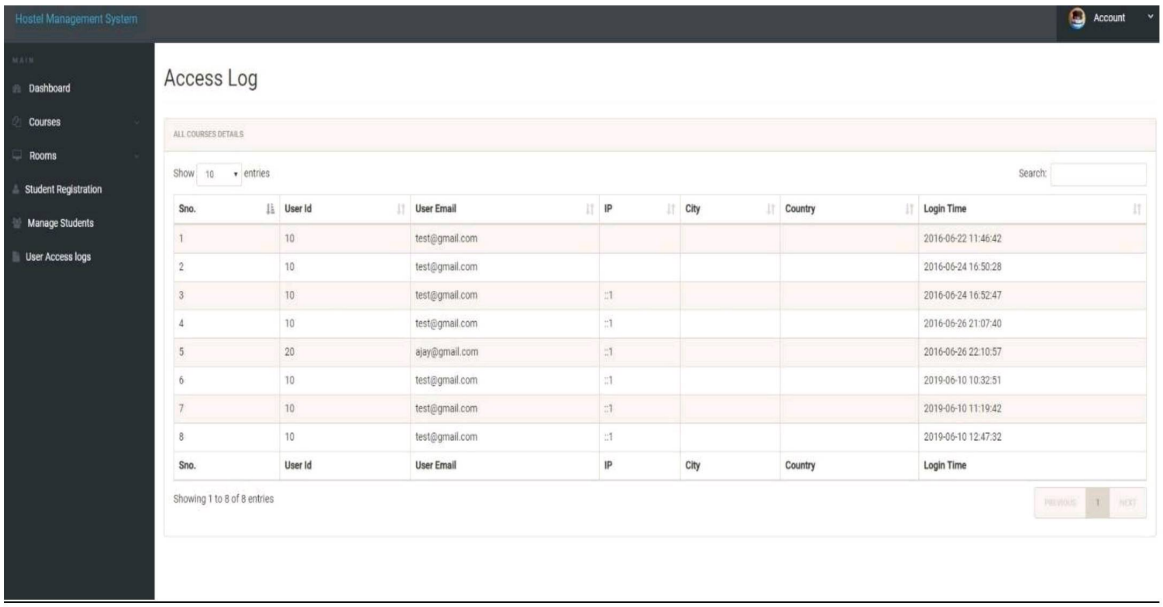
4.6.9 Admin Edit Room Details



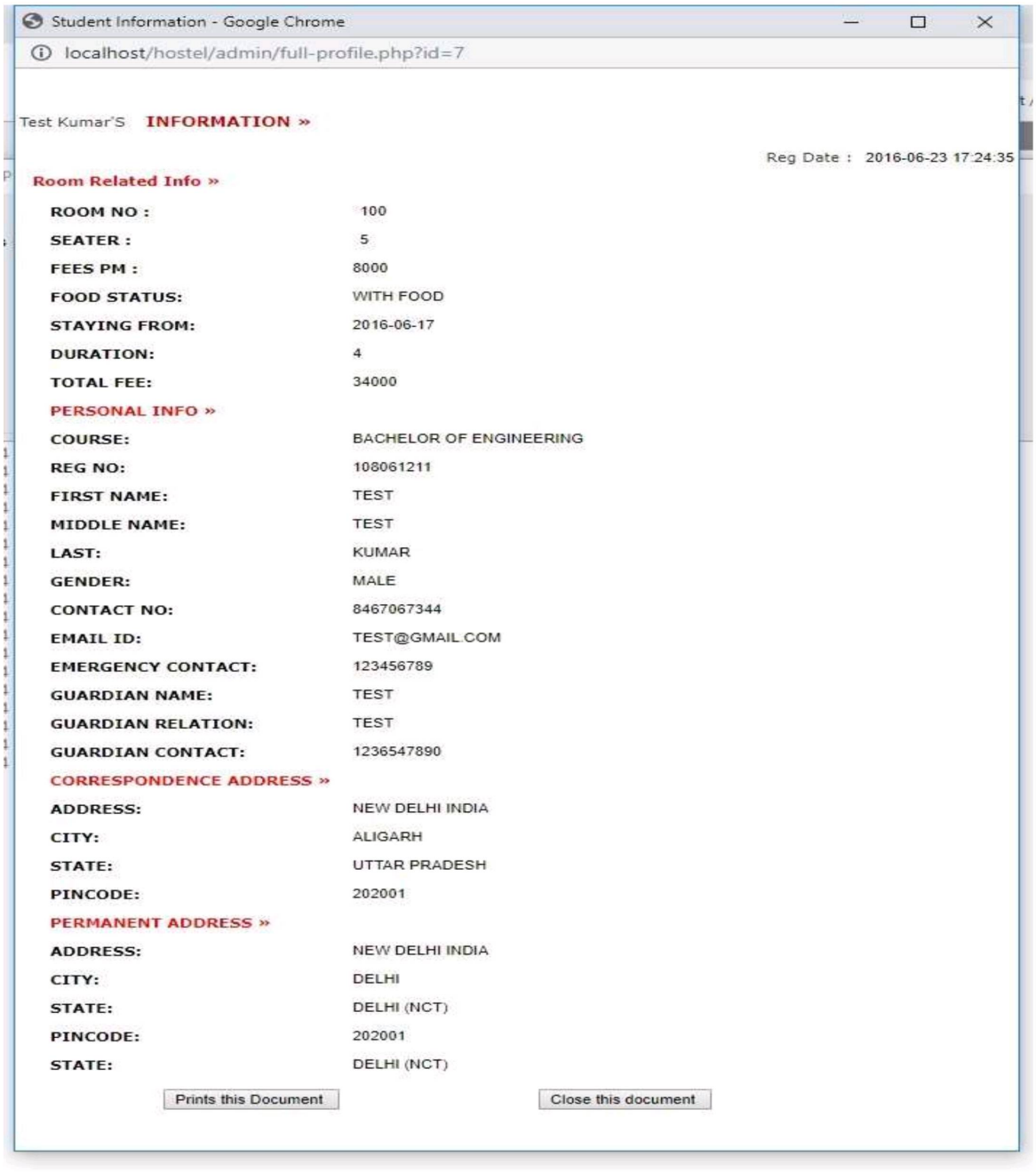
4.6.10 Manage Registered Students



4.6.11 User Access log



4.6.12 Registered Student Details



Chapter 6

CONCLUSION

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

The expanded functionality of today's software requires an appropriate approach towards software development. This hostel management software is designed for people who want to manage various activities in the hostel. For the past few years the number of educational institutions are increasing rapidly.

Thereby the number 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.

Chapter 6

BIBILIOGRAPHY

1. www.w3schools.com

2. in.php.net

3. en.wikipedia.org/wiki/PHP

4.www.hotscripts.com/category/php/

5. www.apache.org/

6.www.mysql.com/click.php?e=35050