# **SIMATS ENGINEERING**

# SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES

## **CAPSTONE PROJECT REPORT**

ON

**Hostel Management System** 

## **Submitted**

by

# THANIGAIVELU YOGESH, JAYA SURYA K

Reg no- 192211330, 192211342

**Subject – CSA4399 – Internet Programming for Client Server Computing** 

#### **ABSTRACT**

As the name specifies —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. Less human error, Strength and strain of manual labour can be reduced, High security, Data redundancy can be avoided to some extent Data consistency, Easy to handle, Easy data updating, Easy record keeping, Backup data can be easily generated.

#### INTRODUCTION

The Hostel Management System is developed in favour of the hostel management team which helps them to save the records of the students about their rooms and their things. It helps them from the manual work from which it is very difficult to find the record of the student and the information about these ones who had help the hostel years before. This solution is developed on the plight of the hostel management team through this they cannot require so efficient person to handle and manage the affairs of the students in the hostel, all you need to do is to login as administrator and you can see the information of all the students who have obtained and registered their hostel form, click verify to ascertion their elightly and allocate them to the available hostel. We can improve the efficiency of the hostel management, thus overcome the drawbacks of the existing management.

#### **OBJECTIVE**

Hostel Management system is the system that manages the student data, staff data, students admission process and create receipt for the fees paid by the student who stay in the hostle and also help in maintaining visitor's messages. This system is designed in favour of the 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 final the record of the students and the mess bills of the students and the information of about the those ones.

#### **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

#### **USER PANEL**

- 1. User Registration User can register through user registration form
- 2. User Login User can login through login form
- 3. Forgot Password user can retrieve password through forgot password link
- 4. User Dashboard
- 5. User Profile User can manage own profile
- 6. Book Hostel User can book hostel
- 7. Room Details Booked Room Details
- 8. Change Password User Can change own password
- 9. User access log User can watch last login detail

#### REQUIREMENT AND ANALYSIS

### SOFTWARE REQUIREMENT SPECIFICATION

A software requirements specification (SRS) is a detailed description of a software system to be developed with its functional and non-functional requirements. The SRS is developed based the agreement between customer and contractors. It may include the use case of how user is going to interact with software system. The software requirement specification document consistent of all necessary requirements required for project development. To develop the

software system we should have clear understanding of software system. To achieve this we need to continuous communication with customers to gather all requirements.

#### **Data Gathering**

Data Gathering is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study including physical and social sciences, humanities, business, etc. Data gathering techniques used in the (Software Development Lifecycle) SDLC.

#### Feasibility study

The measure of how beneficial or practical the development of informant system will be to an organization. along this topic feasibility is measured. So far taking the feasibility study and feasibility analysis during the development of the project food Ordering system 14 | P a g e we have studied on the following four major categories of feasibility study.

#### **Operational Feasibility**

Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

#### **Technical feasibility:**

A technical feasibility study assesses the details of how you intend to deliver a product or service to customers. Think materials, labour, transportation, where your business will be located, and the technology that will be necessary to bring all this together.

**Schedule Feasibility**: Schedule Feasibility is defined as the probability of a project to be completed within its scheduled time limits, by a planned due date. If a project has a high probability to be completed on-time, then its schedule feasibility is appraised as high.

## **Economic feasibility:**

the degree to which the economic advantages of something to be made, done, or achieved are greater than the economic costs: The state commissioned a report on the economic feasibility of a single-payer health system. During the development of food Ordering system . we have tried to address all these feasibility analysis phases seriously . That "s why we think , our project will succeed properly.

#### **Hardware Requirement**

- 1. Pentium IV Processor
- 2. 512 MB RAM
- 3. 40GB HDD 4. 1024 \* 768 Resolution Color Monitor

#### **Software Requirement:**

- 1. OS: Windows XP
- 2. PHP Triad (PHP5.6, MySQL, Apache, and PhpMyAdmin)

## Justification of Selection of Technology

#### 1.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.

#### 2. Language HTML:

Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted technologies such as Cascading Style Sheets and scripting languages such as JavaScript.

#### CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

#### **Bootstrap**:

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first frontend web development. It contains CSS and JavaScript-based design templates for typography, forms, buttons, modals navigation, and other interface components

#### JavaScript:

JavaScript is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based objectorientation, and first-class functions.

#### PHP:

Php is a server side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages. PHP scripts can only be interpreted on a server that has PHP installed

#### **CODING:**

```
Login.php

<?php
session_start();
include('includes/config.php');
include('includes/checklogin.php');
check_login();
//code for registration
if($_POST['submit'])
{
$roomno=$_POST['room'];
$seater=$_POST['seater'];
$feespm=$_POST['fpm'];
$foodstatus=$_POST['foodstatus'];</pre>
```

```
$stayfrom=$ POST['stayf'];
$duration=$ POST['duration'];
$course=$ POST['course'];
$regno=$ POST['regno'];
$fname=$ POST['fname'];
$mname=$ POST['mname'];
$Iname=$ POST['Iname'];
$gender=$ POST['gender'];
$contactno=$ POST['contact'];
$emailid=$ POST['email'];
$emcntno=$ POST['econtact'];
$gurname=$_POST['gname'];
$gurrelation=$ POST['grelation'];
$gurcntno=$ POST['gcontact'];
$caddress=$ POST['address'];
$ccity=$ POST['city'];
$cstate=$ POST['state'];
$cpincode=$ POST['pincode'];
$paddress=$ POST['paddress'];
$pcity=$ POST['pcity'];
$pstate=$ POST['pstate'];
$ppincode=$ POST['ppincode'];
$query="insert
into registration(roomno,seater,feespm,foodstatus,stayfrom,duration,course,regno,first
Name, middle Name, last Name, gender, contact no, emailid, egy contact no, guardian Name, gu
ardianRelation,guardianContactno,corresAddress,corresCity,corresState,corresPincode
,pmntAddress,pmntCity,pmnatetState,pmntPincode)
$stmt = $mysqli->prepare($query);
$rc=$stmt-
>bind param('iiiisisissssisississsisssi',$roomno,$seater,$feespm,$foodstatus,$stayfrom,$
duration, $course, $regno, $fname, $mname, $lname, $gender, $contactno, $emailid, $emcntn
```

o, Sgurname, Sgurrelation, Sgurcntno, Scaddress, Sccity, Scstate, Scpincode, Spaddress, Spcity

,\$pstate,\$ppincode);

```
$stmt->execute();
$stmt->close();
$query1="insert
into userregistration(regNo,firstName,middleName,lastName,gender,contactNo,email,p
assword) values(?,?,?,?,?,?,?)";
$stmt1= $mysqli->prepare($query1);
$stmt1-
>bind param('sssssiss',$regno,$fname,$mname,$lname,$gender,$contactno,$emailid,$c
ontactno);
$stmt1->execute();
echo"<script>alert('Student Succssfully register');</script>";
}
?>
<!doctype html>
<html lang="en" class="no-js">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1, minimum-</pre>
scale=1, maximum-scale=1">
  <meta name="description" content="">
  <meta name="author" content="">
  <meta name="theme-color" content="#3e454c">
  <title>Student Hostel Registration</title>
  k rel="stylesheet" href="css/font-awesome.min.css">
  k rel="stylesheet" href="css/bootstrap.min.css">
  k rel="stylesheet" href="css/dataTables.bootstrap.min.css">>
  k rel="stylesheet" href="css/bootstrap-social.css">
  k rel="stylesheet" href="css/bootstrap-select.css">
  k rel="stylesheet" href="css/fileinput.min.css">
```

```
k rel="stylesheet" href="css/awesome-bootstrap-checkbox.css">
  k rel="stylesheet" href="css/style.css">
<script type="text/javascript" src="js/jquery-1.11.3-jquery.min.js"></script>
<script type="text/javascript" src="js/validation.min.js"></script>
<script type="text/javascript" src="http://code.jquery.com/jquery.min.js"></script>
<script>
function getSeater(val) {
$.ajax({
type: "POST",
url: "get seater.php",
data:'roomid='+val,
success: function(data){
//alert(data);
$('#seater').val(data);
}
});
$.ajax({
type: "POST",
url: "get seater.php",
data:'rid='+val,
success: function(data){
//alert(data);
$('#fpm').val(data);
}
});
}
</script>
</head>
```

```
<body>
  <?php include('includes/header.php');?>
  <div class="ts-main-content">
    <?php include('includes/sidebar.php');?>
    <div class="content-wrapper">
      <div class="container-fluid">
        <div class="row">
           <div class="col-md-12">
             <h2 class="page-title">Registration </h2>
             <div class="row">
               <div class="col-md-12">
                 <div class="panel panel-primary">
                   <div class="panel-heading">Fill all Info</div>
                   <div class="panel-body">
                      <form method="post" action="" class="form-horizontal">
<div class="form-group">
<label class="col-sm-4 control-label"><h4 style="color: green" align="left">Room
Related info </h4> </label>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Room no. </label>
<div class="col-sm-8">
<select
                          name="room"
                                                            id="room"class="form-
control" on Change="getSeater(this.value);" on Blur="checkAvailability()" required>
<option value="">Select Room</option>
```

```
<?php $query ="SELECT * FROM rooms";</pre>
$stmt2 = $mysqli->prepare($query);
$stmt2->execute();
$res=$stmt2->get result();
while($row=$res->fetch object())
{
?>
<option
                                  $row->room no;?>"> <?php
          value="<?php
                           echo
                                                                    echo
                                                                           $row-
>room no;?></option>
<?php } ?>
</select>
<span id="room-availability-status" style="font-size:12px;"></span>
</div>
</div>
<div class="form-group">
<lase="col-sm-2 control-label">Seater</label>
<div class="col-sm-8">
<input type="text" name="seater" id="seater" class="form-control" >
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Fees Per Month</label>
<div class="col-sm-8">
<input type="text" name="fpm" id="fpm" class="form-control" >
</div>
</div>
<div class="form-group">
```

```
<label class="col-sm-2 control-label">Food Status</label>
<div class="col-sm-8">
<input type="radio" value="0" name="foodstatus" checked="checked"> Without Food
<input type="radio" value="1" name="foodstatus"> With Food(Rs 2000.00 Per Month
Extra)
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Stay From</label>
<div class="col-sm-8">
<input type="date" name="stayf" id="stayf" class="form-control" >
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Duration</label>
<div class="col-sm-8">
<select name="duration" id="duration" class="form-control">
<option value="">Select Duration in Month
<option value="1">1</option>
<option value="2">2</option>
<option value="3">3</option>
<option value="4">4</option>
<option value="5">5</option>
<option value="6">6</option>
<option value="7">7</option>
<option value="8">8</option>
<option value="9">9</option>
<option value="10">10</option>
<option value="11">11</option>
```

```
<option value="12">12</option>
</select>
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label"><h4 style="color: green" align="left">Personal
info </h4> </label>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">course </label>
<div class="col-sm-8">
<select name="course" id="course" class="form-control" required>
<option value="">Select Course</option>
<?php $query ="SELECT * FROM courses";</pre>
$stmt2 = $mysqli->prepare($query);
$stmt2->execute();
$res=$stmt2->get_result();
while($row=$res->fetch object())
{
?>
<option
           value="<?php
                                     $row->course fn;?>"><?php
                            echo
                                                                    echo
                                                                             $row-
>course_fn;?>  (<?php echo $row->course_sn;?>)</option>
<?php } ?>
</select> </div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Registration No : </label>
<div class="col-sm-8">
```

```
class="form-control"
<input
          type="text"
                          name="regno"
                                             id="regno"
required="required" >
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">First Name : </label>
<div class="col-sm-8">
          type="text"
<input
                          name="fname"
                                             id="fname"
                                                             class="form-control"
required="required" >
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Middle Name : </label>
<div class="col-sm-8">
<input type="text" name="mname" id="mname" class="form-control">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Last Name : </label>
<div class="col-sm-8">
                          name="lname"
          type="text"
                                             id="lname"
                                                             class="form-control"
<input
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Gender: </label>
<div class="col-sm-8">
```

```
<select name="gender" class="form-control" required="required">
<option value="">Select Gender</option>
<option value="male">Male</option>
<option value="female">Female</option>
<option value="others">Others</option>
</select>
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Contact No : </label>
<div class="col-sm-8">
          type="text"
                                                             class="form-control"
<input
                         name="contact"
                                            id="contact"
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Email id : </label>
<div class="col-sm-8">
<input
          type="email"
                           name="email"
                                              id="email"
                                                             class="form-control"
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Emergency Contact: </label>
<div class="col-sm-8">
         type="text"
                        name="econtact"
                                                             class="form-control"
<input
                                            id="econtact"
required="required">
</div>
```

```
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Guardian Name : </label>
<div class="col-sm-8">
                                             id="gname"
                                                              class="form-control"
<input
          type="text"
                          name="gname"
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Guardian Relation : </label>
<div class="col-sm-8">
<input
         type="text"
                       name="grelation"
                                            id="grelation"
                                                              class="form-control"
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Guardian Contact no : </label>
<div class="col-sm-8">
                                            id="gcontact"
<input
         type="text"
                        name="gcontact"
                                                              class="form-control"
required="required">
</div>
</div>
<div class="form-group">
            class="col-sm-3
                                 control-label"><h4
                                                         style="color:
                                                                           green"
align="left">Correspondense Address </h4> </label>
</div>
<div class="form-group">
```

```
<label class="col-sm-2 control-label">Address: </label>
<div class="col-sm-8">
             rows="5"
                                                               class="form-control"
<textarea
                         name="address" id="address"
required="required"></textarea>
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">City: </label>
<div class="col-sm-8">
<input type="text" name="city" id="city" class="form-control" required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">State </label>
<div class="col-sm-8">
<select name="state" id="state"class="form-control" required>
<option value="">Select State</option>
<?php $query ="SELECT * FROM states";</pre>
$stmt2 = $mysqli->prepare($query);
$stmt2->execute();
$res=$stmt2->get result();
while($row=$res->fetch object())
{
?>
<option value="<?php echo $row->State;?>"><?php echo $row->State;?></option>
<?php } ?>
</select> </div>
</div>
```

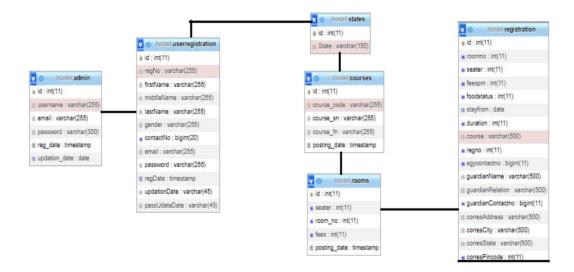
```
<div class="form-group">
<lase="col-sm-2 control-label">Pincode: </label>
<div class="col-sm-8">
         type="text"
                        name="pincode"
                                            id="pincode"
                                                             class="form-control"
<input
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-3 control-label"><h4 style="color: green" align="left">Permanent
Address </h4> </label>
</div>
<div class="form-group">
<label class="col-sm-5 control-label">Permanent Address same as Correspondense
address: </label>
<div class="col-sm-4">
<input type="checkbox" name="adcheck" value="1"/>
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Address : </label>
<div class="col-sm-8">
           rows="5"
                        name="paddress"
                                            id="paddress" class="form-control"
<textarea
required="required"></textarea>
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">City: </label>
<div class="col-sm-8">
```

```
class="form-control"
<input
           type="text"
                           name="pcity"
                                              id="pcity"
required="required">
</div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">State </label>
<div class="col-sm-8">
<select name="pstate" id="pstate"class="form-control" required>
<option value="">Select State</option>
<?php $query ="SELECT * FROM states";</pre>
$stmt2 = $mysqli->prepare($query);
$stmt2->execute();
$res=$stmt2->get result();
while($row=$res->fetch object())
{
?>
<option value="<?php echo $row->State;?>"><?php echo $row->State;?></option>
<?php } ?>
</select> </div>
</div>
<div class="form-group">
<label class="col-sm-2 control-label">Pincode: </label>
<div class="col-sm-8">
                       name="ppincode"
                                            id="ppincode"
                                                              class="form-control"
<input
         type="text"
required="required">
</div>
</div>
<div class="col-sm-6 col-sm-offset-4">
```

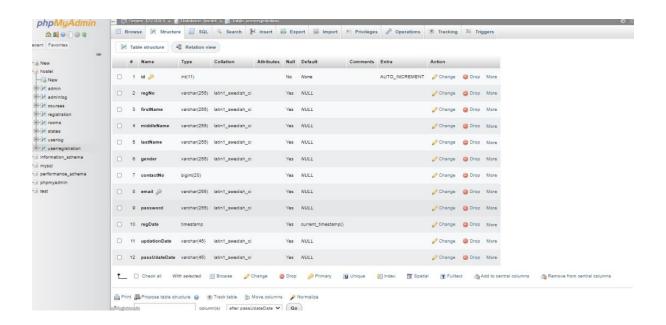
```
<button class="btn btn-default" type="submit">Cancel</button>
<input type="submit" name="submit" Value="Register" class="btn btn-primary">
</div>
</form>
                    </div>
                    </div>
                  </div>
               </div>
             </div>
               </div>
             </div>
           </div>
         </div>
      </div>
    </div>
  </div>
  <script src="js/jquery.min.js"></script>
  <script src="js/bootstrap-select.min.js"></script>
  <script src="js/bootstrap.min.js"></script>
  <script src="js/jquery.dataTables.min.js"></script>
  <script src="js/dataTables.bootstrap.min.js"></script>
  <script src="js/Chart.min.js"></script>
  <script src="js/fileinput.js"></script>
  <script src="js/chartData.js"></script>
  <script src="js/main.js"></script>
</body>
<script type="text/javascript">
  $(document).ready(function(){
    $('input[type="checkbox"]').click(function(){
```

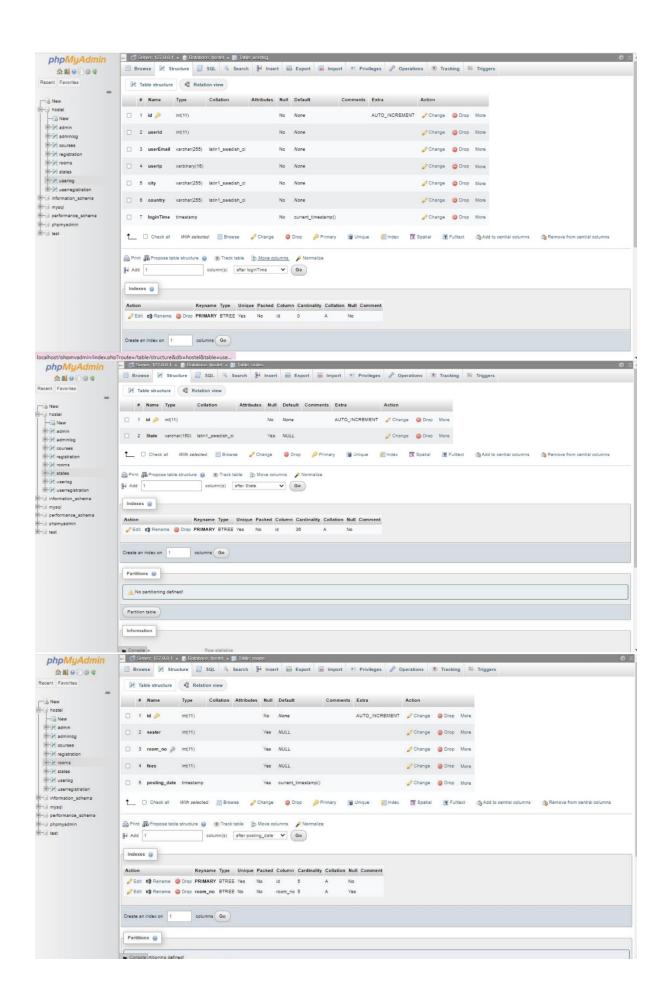
```
if($(this).prop("checked") == true){
         $('#paddress').val( $('#address').val() );
         $('#pcity').val( $('#city').val() );
         $('#pstate').val( $('#state').val() );
         $('#ppincode').val( $('#pincode').val() );
       }
    });
  });
</script>
  <script>
function checkAvailability() {
$("#loaderIcon").show();
jQuery.ajax({
url: "check availability.php",
data:'roomno='+$("#room").val(),
type: "POST",
success:function(data){
$("#room-availability-status").html(data);
$("#loaderIcon").hide();
},
error:function (){}
});
}
</script>
</html>
```

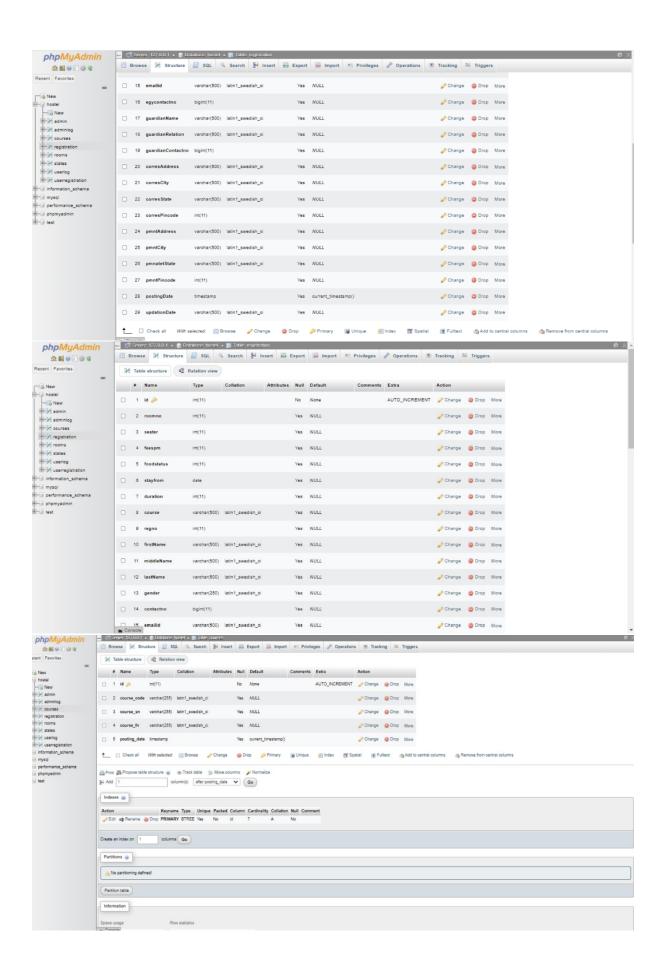
#### DATABASE NORMALIZATION

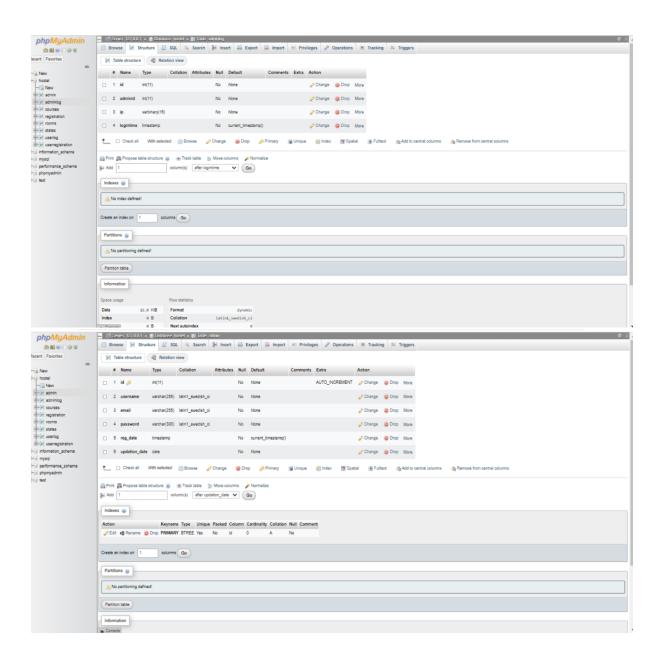


#### **DATABASE:**



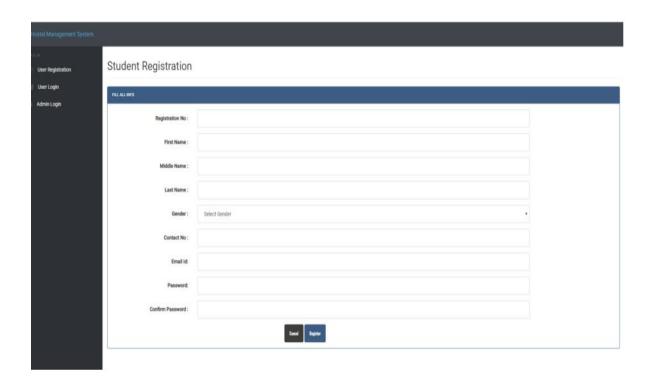




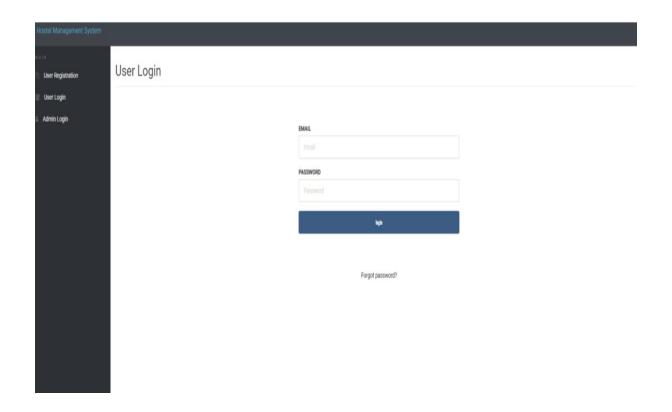


# **OUTPUT DESIGN:**

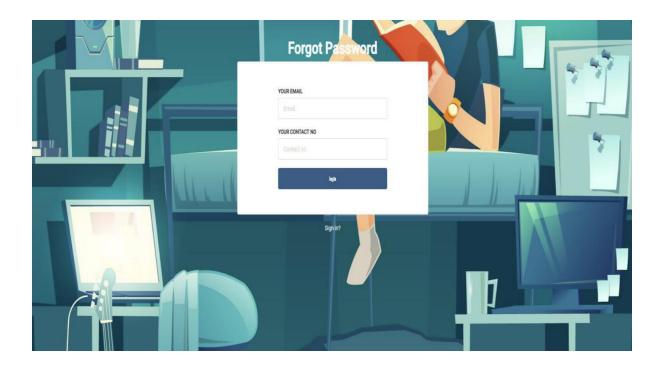
# **User Signup**



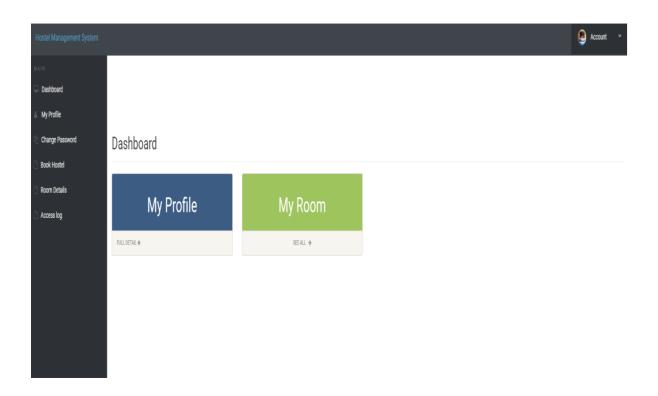
# **User Signin**



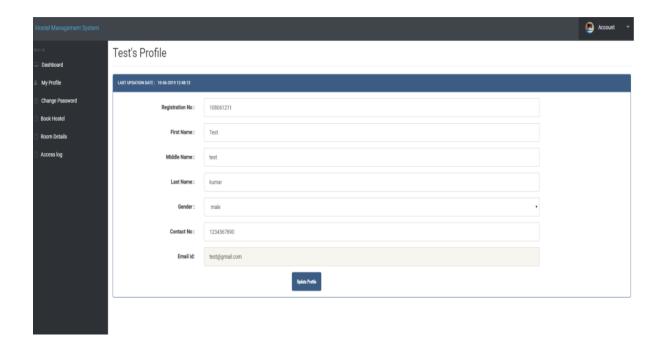
# **User Password Recovery**



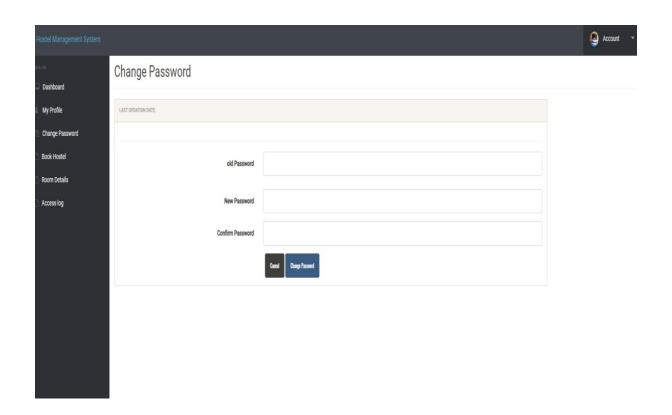
# **User Dashboard**



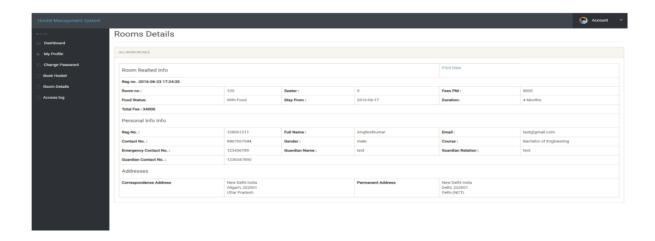
## **User Profile**



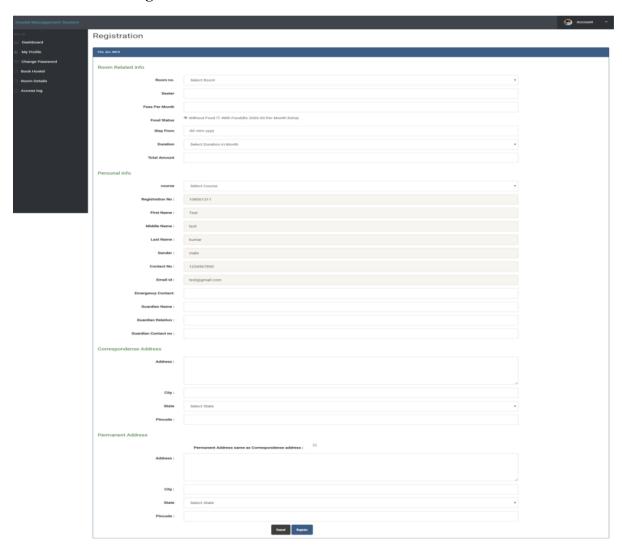
# **User Change Password**



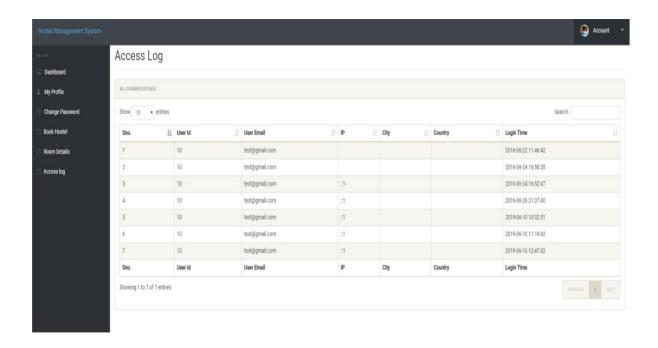
# **User Hostel Booked Details**



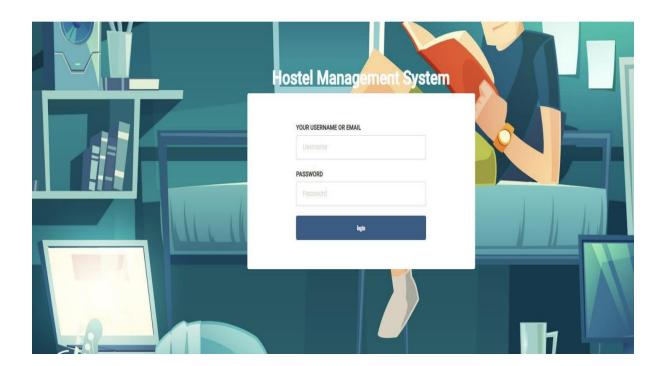
# **User Hostel Booking**



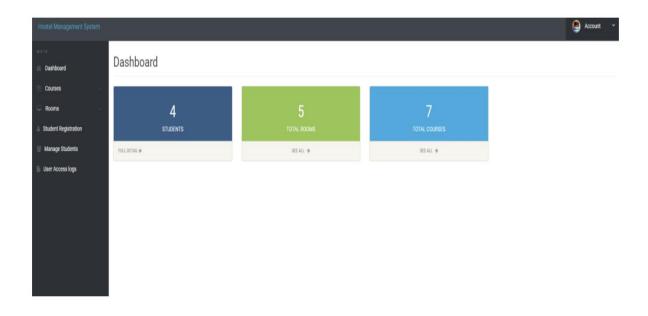
# **User Access Log Details**



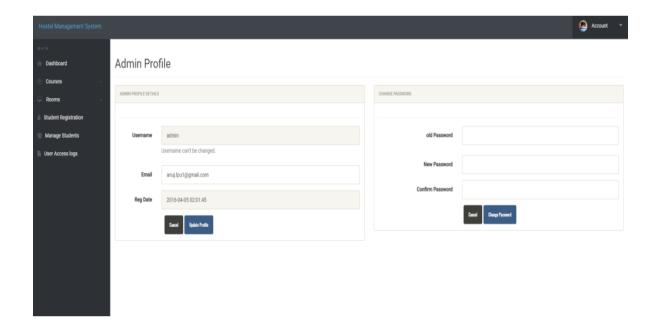
# Admin Login



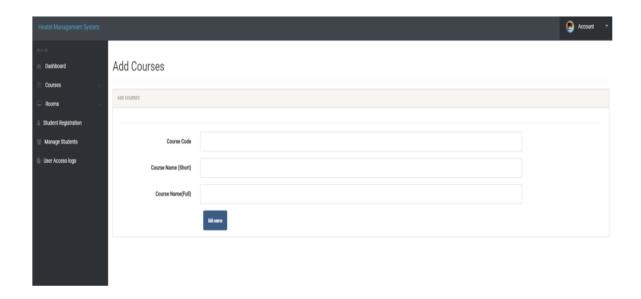
## **Admin Dashboard**



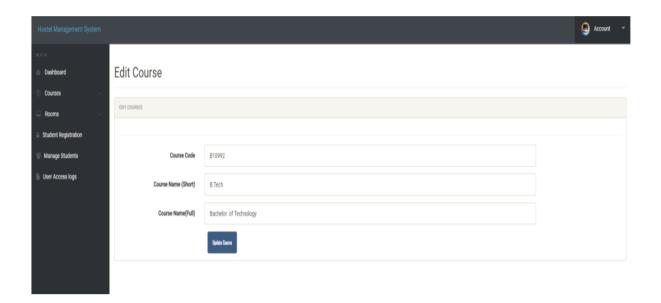
# **Admin Profile**



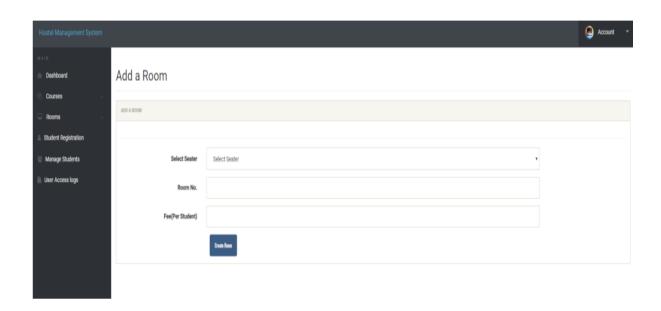
## Admin add course



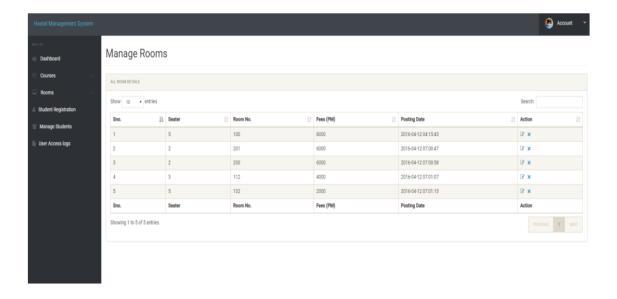
## Admin edit course details



## Admin add room



Admin Manage rooms



## **Registered Student**



est Kumar'S INFORMATION »

Reg Date: 2016-06-23 17:24:35

#### Room Related Info »

 ROOM NO:
 100

 SEATER:
 5

 FEES PM:
 8000

FOOD STATUS: WITH FOOD STAYING FROM: 2016-06-17

DURATION: 4
TOTAL FEE: 34000

#### PERSONAL INFO »

COURSE: BACHELOR OF ENGINEERING

REG NO: 108061211

FIRST NAME: TEST

MIDDLE NAME: TEST

LAST: KUMAR

GENDER: MALE

CONTACT NO: 8467067344

EMAIL ID: TEST@GMAIL.COM

EMERGENCY CONTACT: 123456789
GUARDIAN NAME: TEST
GUARDIAN RELATION: TEST

GUARDIAN CONTACT: 1236547890

## CORRESPONDENCE ADDRESS »

ADDRESS: NEW DELHI INDIA

CITY: ALIGARH

STATE: UTTAR PRADESH

PINCODE: 202001

#### PERMANENT ADDRESS »

ADDRESS: NEW DELHI INDIA

 CITY:
 DELHI

 STATE:
 DELHI (NCT)

 PINCODE:
 202001

 STATE:
 DELHI (NCT)

Prints this Document

Close this document

#### **FUTURE SCOPE**

It is easy to extend the system that we have proposed. A person could see any of the issued, unissued or all the rooms according to his/her will. In future we can implement some features for —HOSTEL MANAGEMENT SYSTEM project. In this system its possible to categorize room rent for middle class students and poor students. Some poor students are given a particular concession for the entire year

#### **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.