

# **HOSTEL MANAGEMENT AND ROOM ALLOTMENT SYSTEM**

**CSE2004 Database Management System  
Project Report**

**Submitted by**

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# **HOSTEL MANAGEMENT DATABASE**

## **Project Details**

### **Introduction**

Hostel Management System is a web application which aims at computerisation of the current procedure of allocating and management of hostel rooms.

Currently, in many colleges and universities the process involves students filling up the forms and submitting them in respective hostel offices which involves a lot of paperwork, hence less efficient.

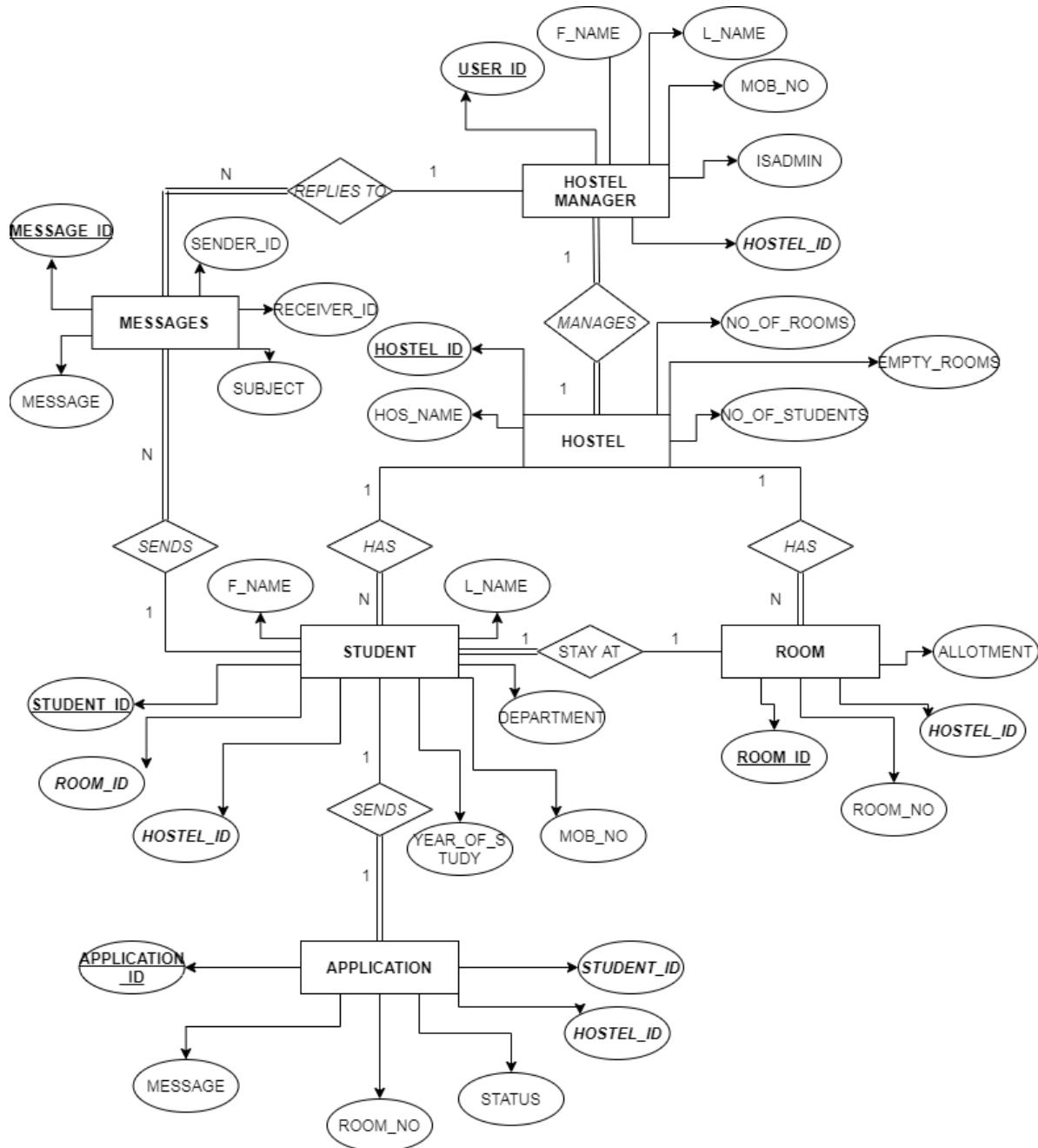
### **Objective**

1. To deal with Hostel Management System in an easy and an efficient manner.
2. Create strong and secure database that allows for any connection in a secret way, to prevent any outside or inside attacks.

### **Scope of the project**

1. Hostel Management System is designed for Hostel (like schools, Universities).
2. There will be predefined criteria for the reservation to the hostels.
3. The administrator/hostel-manager will be able to access the student and room information to effectively manage a hostel.
4. The student can apply for room allotment and communicate other requirements.
5. The project provides a communication system between students and hostel manager

## ER Diagram



*(Please note the ER diagram of the database shown above has minor variations in the entities from the 1st and 2nd project reviews. This may also lead to some slight variations in the Relational Model and Normalised tables. However, these variations do not affect the objectives and applications of the project in any way)*

### **ER to Relational Model**

**HOSTEL\_MANAGER(User\_ID , F\_name , L\_name , Mob\_no,  
IsAdmin, Hostel\_ID)**

**HOSTEL( Hostel\_ID ,Hostel\_name ,No\_of\_rooms ,No\_of\_Students)**

**STUDENT\_AT\_HOSTEL( Student\_ID ,F\_name ,L\_name ,Mob\_no ,  
Dept , Year\_of\_Study, Hostel\_ID)**

**ROOM\_OCCUPIED(Room\_ID , Allotment, Room\_No, Hostel\_ID,  
Student\_ID)**

**APPLICATION\_SENT(Application\_ID , Message, Status, Room\_No,  
Hostel\_ID, Student\_ID)**

**MESSAGES(Message\_ID , Sender\_ID, Receiver\_ID, Subject,  
Message)**

*(Please note the Messages entity is used by both Hostel Manager and Student tables. So, the Sender\_ID and Receiver\_ID attributes store the User\_ID of the Hostel Manager and Student\_ID of the student according to who sends the message and who receives it. Hence, this eliminates the need to have separate relational models for each relation.)*

## **Normalised Tables**

Tables have been normalised up to **3NF** normalisation level.

**MANAGERNAMES(USER\_ID, F\_name, L\_name)**

**ADMINNO(ID,Mob\_no)**

**HOSTELNAMES(Hostel\_ID, Hostel\_name)**

**HOSTELINFO(Hostel\_ID, No\_of\_rooms, No\_of\_students)**

**STUDENTNAMES(Student\_ID, Fname, Lname)**

**STUDENTINFO(Student\_ID, Mob\_no, Dept, Year\_of\_study)**

**ROOM(Room\_ID)**

**VISITORS(Visitor\_ID,Visitor\_name)**

**VISITDATA(Visitor\_ID, Date, In\_time, Out\_time)**

**FURNITURE(Furniture\_ID, Furniture\_type)**

The process of normalising to 3NF is given below.

A) First Normal Form (1NF).

- The tables were already in 1NF normalised since each column of the tables were unique and had no duplicates.

B) Second Normal Form (2NF).

## **Application Details and Features**

### **Software used:**

Front End: HTML , CSS and Java Script

Back End: mySQL(For Database), php (For connecting the database).

### **Users of the project:**

#### **1.Student**

- Apply for allotment of room.
- View the various hostels available for allotment
- Send messages and contact the hostel manager.
- View student profile , hostel info and hostel manager info.

#### **2.Hostel Manager**

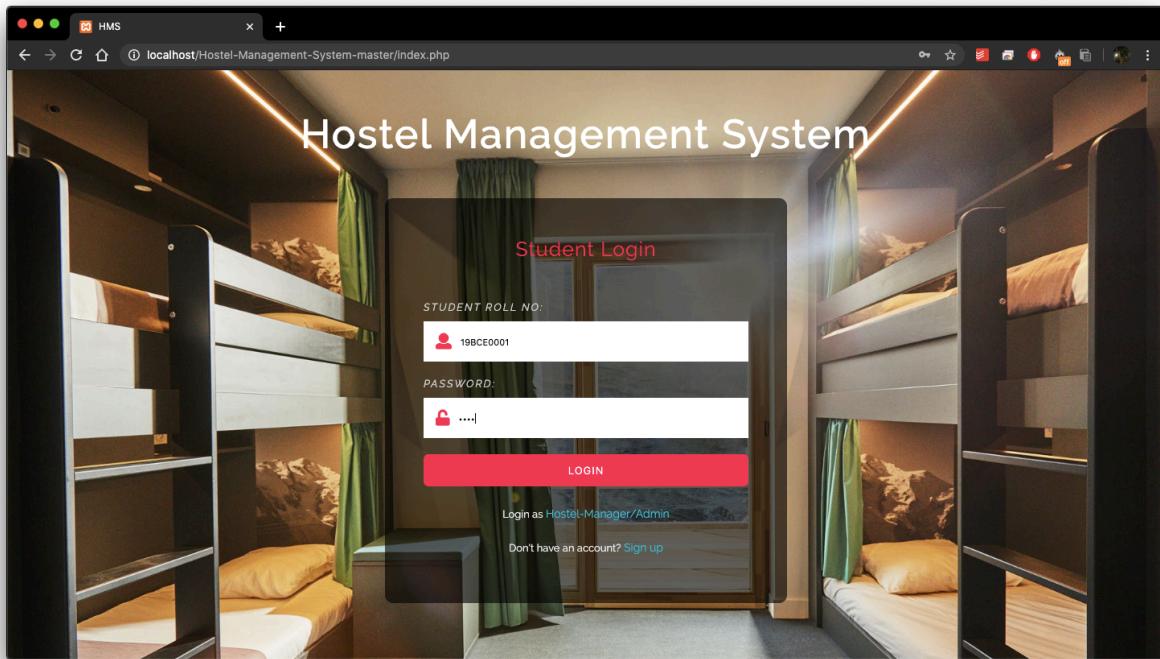
- View applications received from students to the managing hostel.
- Allot rooms to applied students.
- Vacate students from allowed room.
- View allotted and available empty rooms.
- Reply to messages received from students.

#### **3.Administrator**

- Appoint a hostel manager to a hostel.
- Remove a hostel manger from a hostel.
- View students information and their room information.

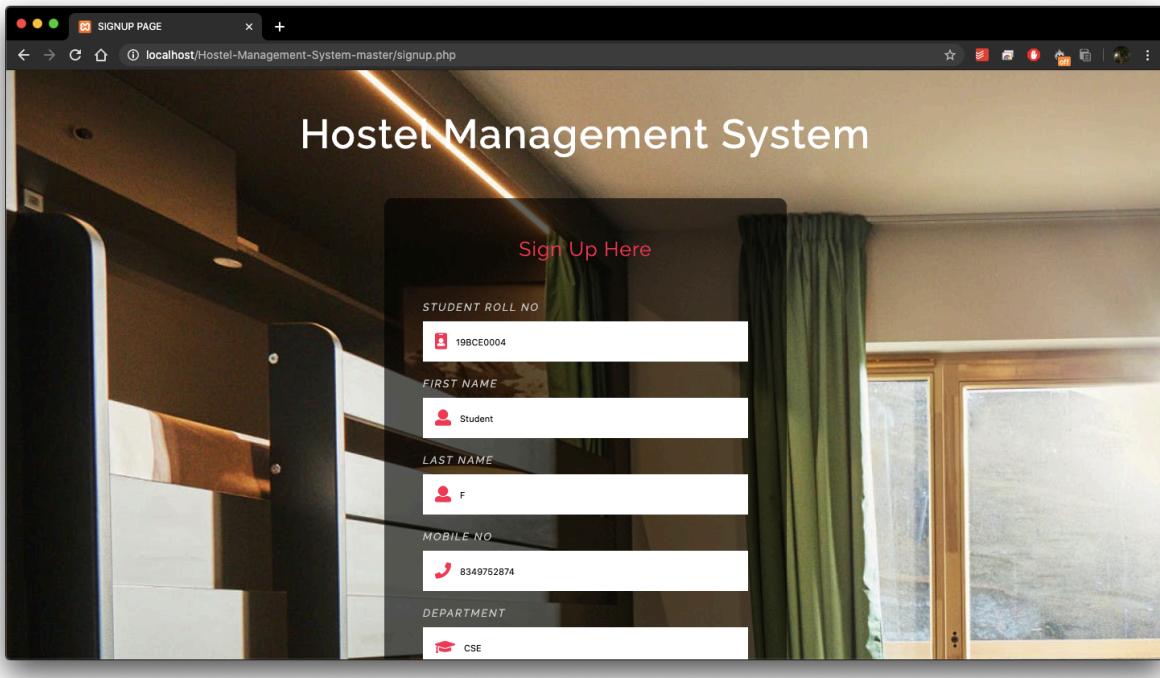
## Page by page view of the application.

### Common pages:



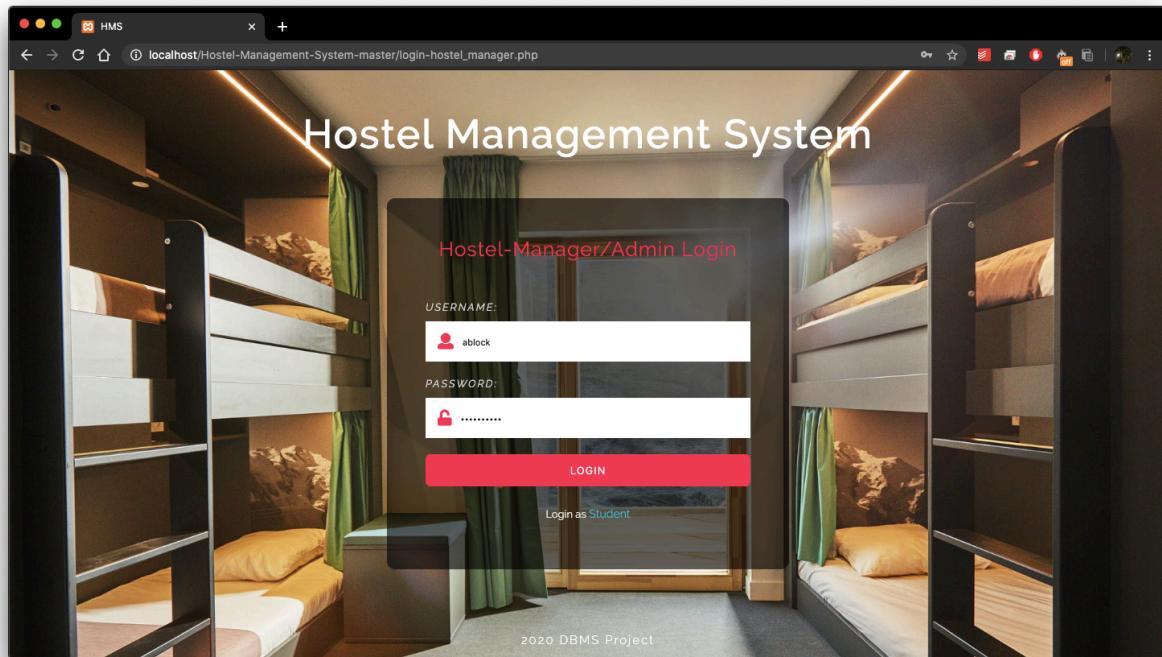
**Figure 1:Login page for students.**

**Students need to enter their Roll No and password to enter their home page.**



**Figure 2:** Student signup page.

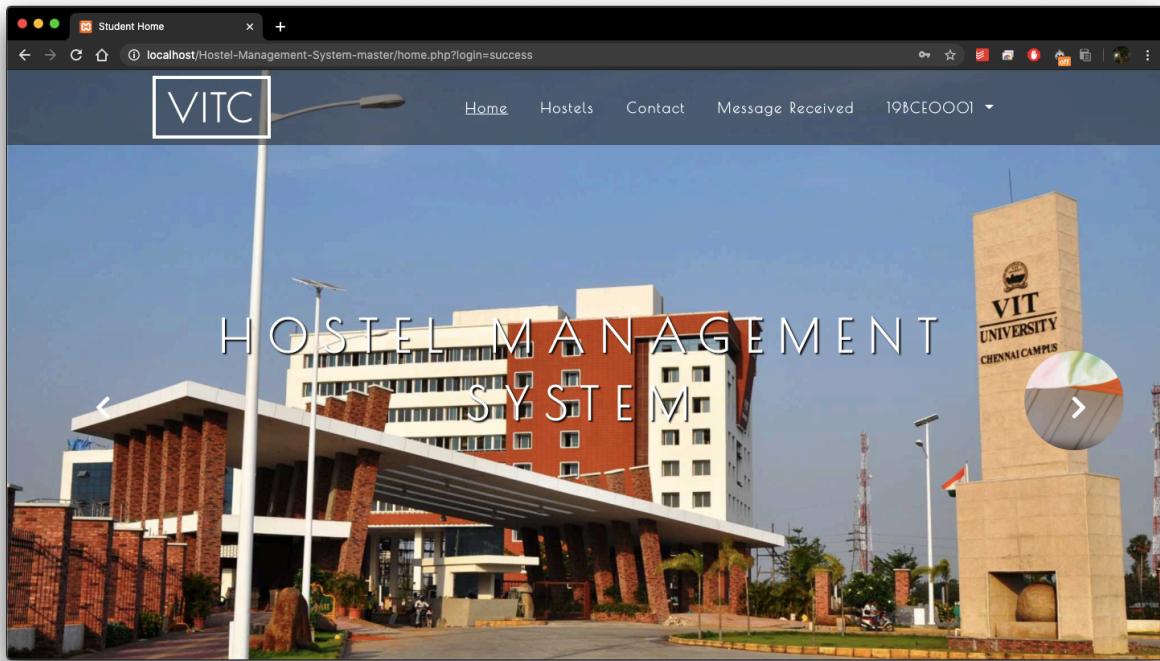
**Students need to enter their Roll no, First and last name , password and other details to signup in order to use the application.**



**Figure 4: Hostel Manager/Admin login.**

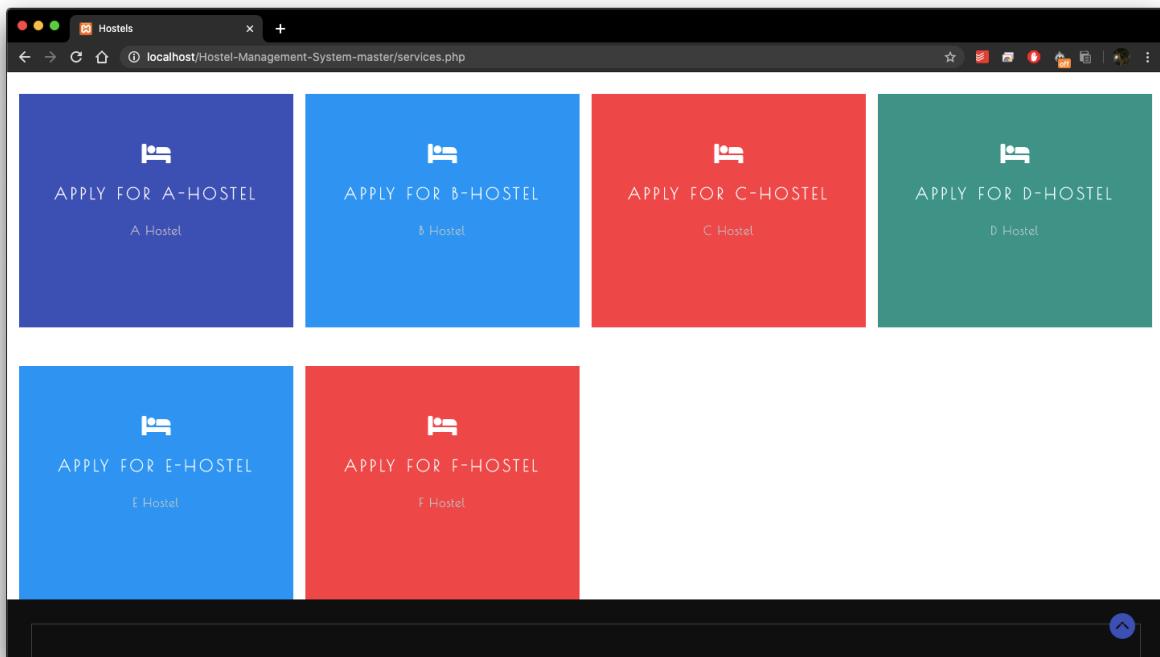
**Hostel managers should use username and password given by admin.**

## Student pages:



**Figure 4:Student home.**

**It contains a gallery of the university and links to all available features to students.**



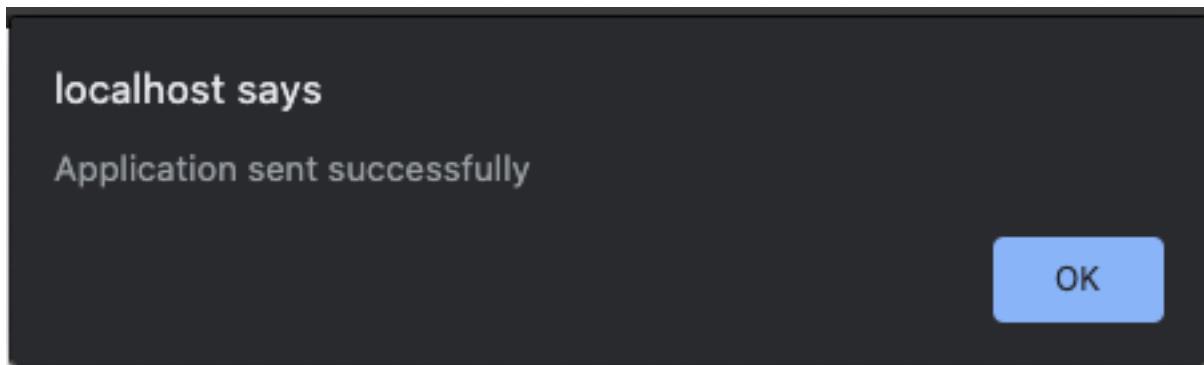
**Figure 5: Hostels page- Shows available hostels and application links to apply to them.**

The screenshot shows a web browser window with the URL `localhost/Hostel-Management-System-master/application_form.php?id=A`. The page has a header with the logo 'VITC' and navigation links for Home, Hostels, Contact, Message Received, and a dropdown for '19BCE0001'. The main content area is titled 'Application Form' and contains several input fields:

- A group of four input fields labeled 'Student A':
  - First Name: Student A
  - Last Name: 19BCE0001
  - Hostel Name: A
  - Password: ....
- A single input field labeled 'Please Give A Room'.
- A red button labeled 'Click To Apply'.

**Figure 6: Application form to the hostels.**

**The hostel page redirects to the application form of the selected hostel. Here students need to fill their name, roll no. , applying hostel name and password.**



**Figure 7: A successful application will be notified using the above dialog box.**

The screenshot shows a web browser window with the title bar "Contact" and the URL "localhost/Hostel-Management-System-master/contact.php". The page header includes the VITC logo and navigation links for Home, Hostels, Contact (which is underlined to indicate it's the active page), Message Received, and a dropdown menu showing "19BCE0001". The main content area has a heading "Contact Us" and four input fields: "Hostel Name", "Student A" (containing "19BCE0001"), "Subject", and a large "Message..." text area. A red "Submit" button is positioned to the right of the "Subject" field.

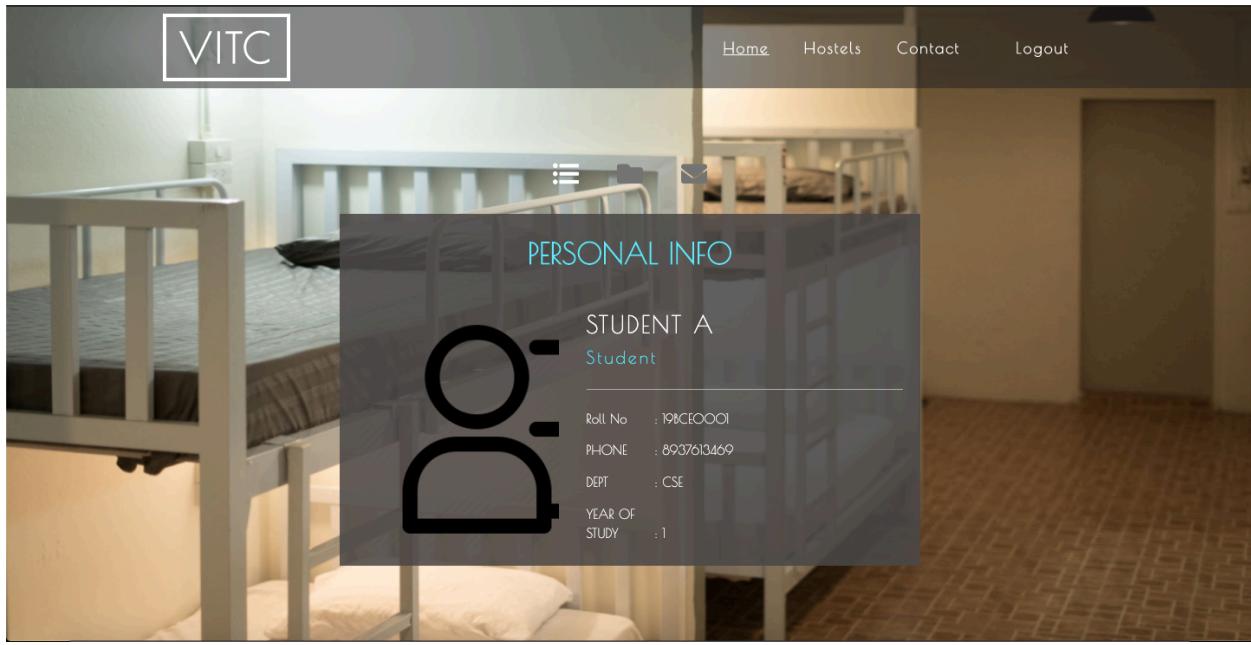
**Figure 8: Contact page for contacting hostel manager.**

**Students may use this Page to send messages to their hostel managers regarding any issue related to the hostel environment like maintenance, ragging etc..**

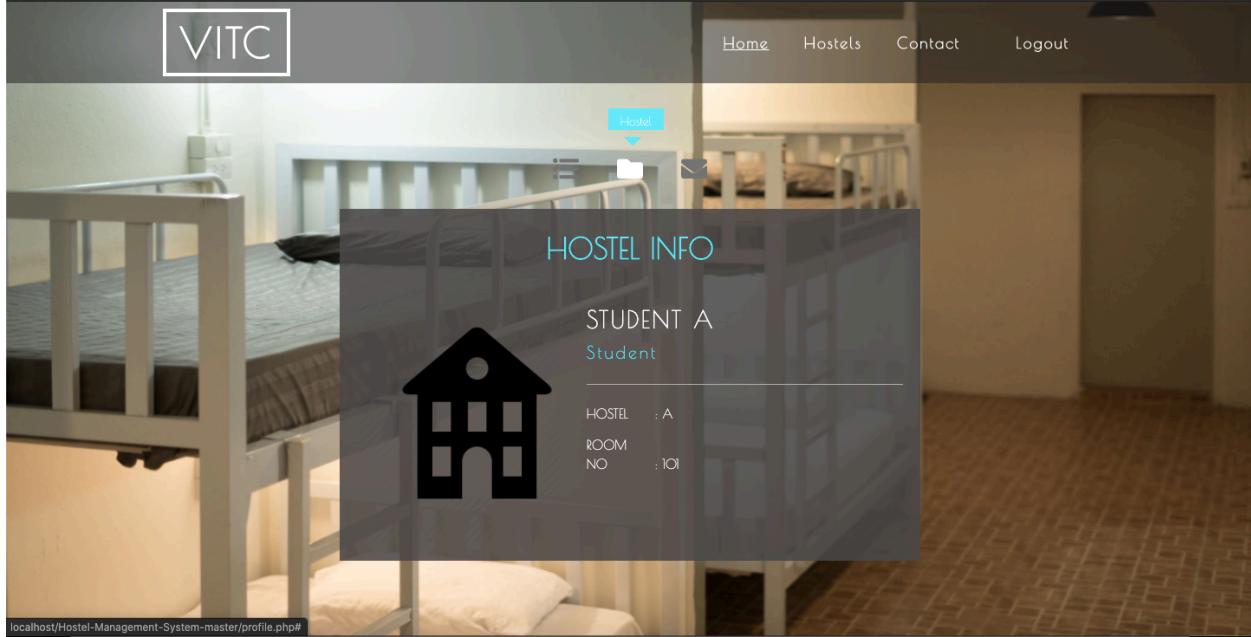
The screenshot shows a web browser window with the title bar "Messages" and the URL "localhost/Hostel-Management-System-master/message\_user.php". The page header includes the VITC logo and navigation links for Home, Hostels, Contact, Message Received, and a dropdown menu showing "19BCE0001". The main content area displays a message card with the following details:  
- Subject: Fan fixed  
- Message: The fan at room 101 has been fixed.  
- Sender: A Hostel Manager  
- Date: 2020-05-25 08:13 PM

**Figure 9: Messages received page.**

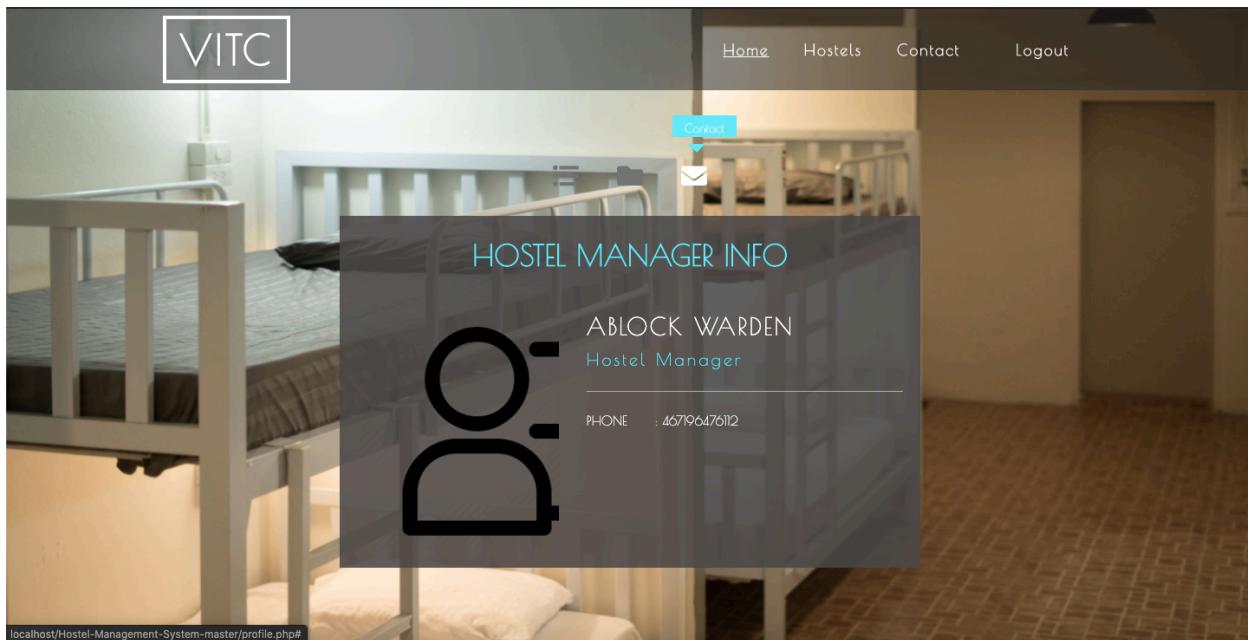
**Shows the messages received from the hostel manager along with the date and time.**



**Figure 10.1**



**Figure 10.2**



**Figure 10.3**

**Figure 10.1, 10.2 , 10.3 together comprise of the profile page of the student. Here the student will be allowed to view their information, their residing hostel information and their Hostel Manager's information.**

**Hence we've come to the end of the pages and features available to students.**

**Follow next page for the hostel manager and admin pages.**

## Hostel Manager pages

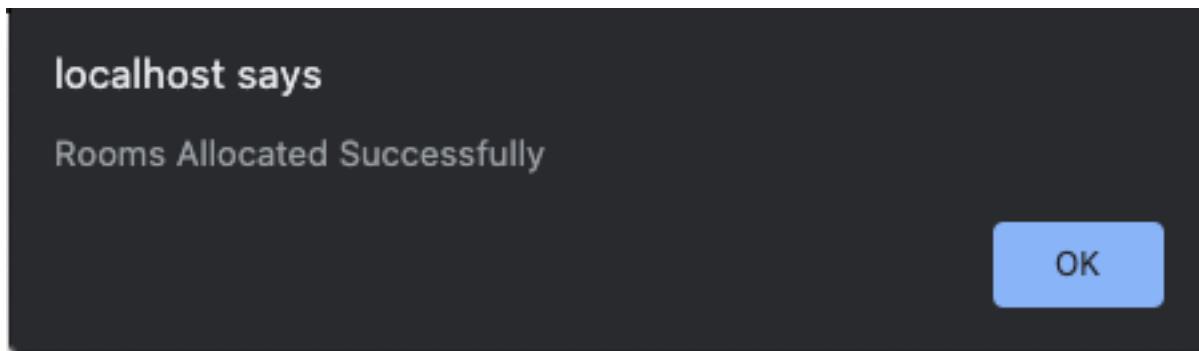


**Figure 11: Hostel Manager Home.**

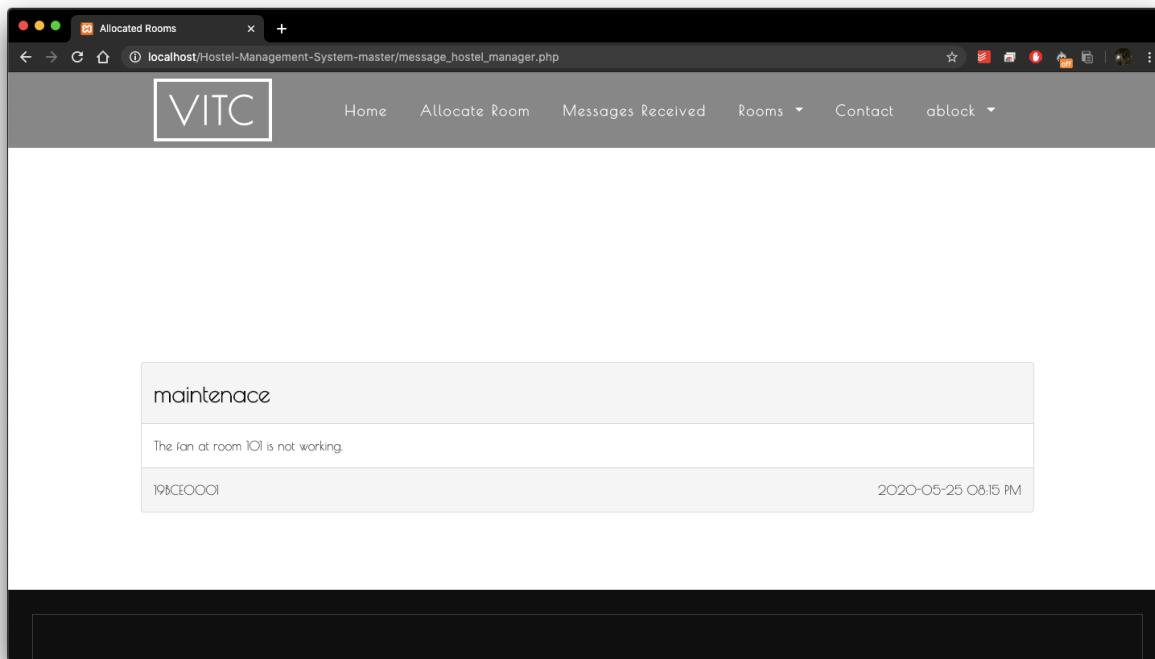
**It's very similar to student home also contains the same gallery but it contains links to features available to hostel managers.**

A screenshot of a web browser showing the 'Allocate Room' page. The URL in the address bar is 'localhost/Hostel-Management-System-master/allocate\_room.php'. The page has a header with a search bar labeled 'Search by Roll Number' and a red 'Search' button. Below the header is the heading 'Applications Received'. A table lists student information: Student Name (Student A), Student ID (191CE0001), Hostel (A), and Message (Please give a room). At the bottom is a red 'Allocate' button.

**Figure 12: This page allows HM to allot rooms to students who applied to the hostel.**



**Figure 13:** When rooms have been successfully allotted the above dialog box notifies the Hostel Manager.



**Figure 14:** Messages received page of hostel manager.

**The Hostel manager will be able to see the messages sent to him/her from the students. It also shows the date and time and the subject of the message along with who sent it.**

The screenshot shows a web browser window titled "Allocated Rooms" with the URL "localhost/Hostel-Management-System-master/allocated\_rooms.php". The page features a header with the VITC logo and navigation links for Home, Allocate Room, Messages Received, Rooms, Contact, and ablock. Below the header is a search bar labeled "Search By Roll Number" with a red "Search" button. The main content area is titled "Rooms Allotted" and displays a table with one row of data:

Student Name	Student ID	Contact Number	Hostel	Room Number
Student A	19BCEO001	8937613469	A	101

**Figure 15: Allocated rooms.**

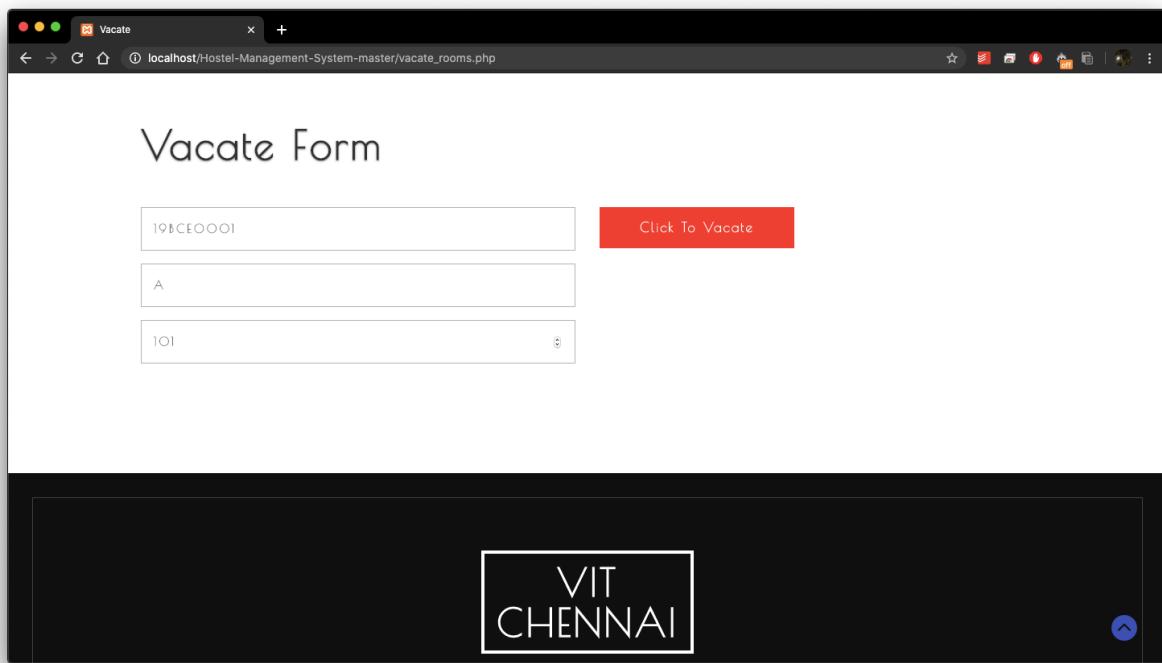
**This page shows the rooms which have been allotted to students and who is staying in it.**

The screenshot shows a web browser window titled "Empty Rooms" with the URL "localhost/Hostel-Management-System-master/empty\_rooms.php". The page features a search bar labeled "Search By Room Number" with a red "Search" button. The main content area is titled "Empty Rooms" and displays a table with five rows of data:

Hostel Name	Room Number
A	102
A	103
A	104
A	105

**Figure 16: Empty rooms page.**

**This page shows rooms which are vacant and yet to be allotted.**



**Figure 17:** Vacate room page.

The Hostel manager needs to enter the Room no and the Roll no of the student residing in the room to vacate the student.

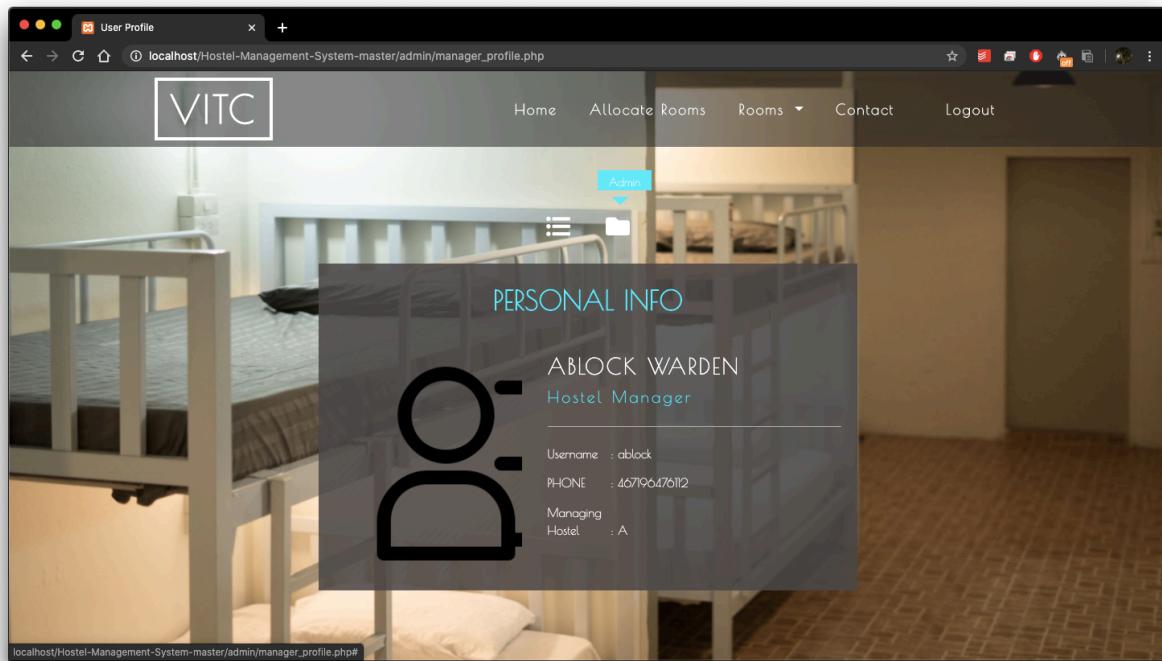


**Figure 18:** The above dialog box is generated upon the successful vacation of a room.

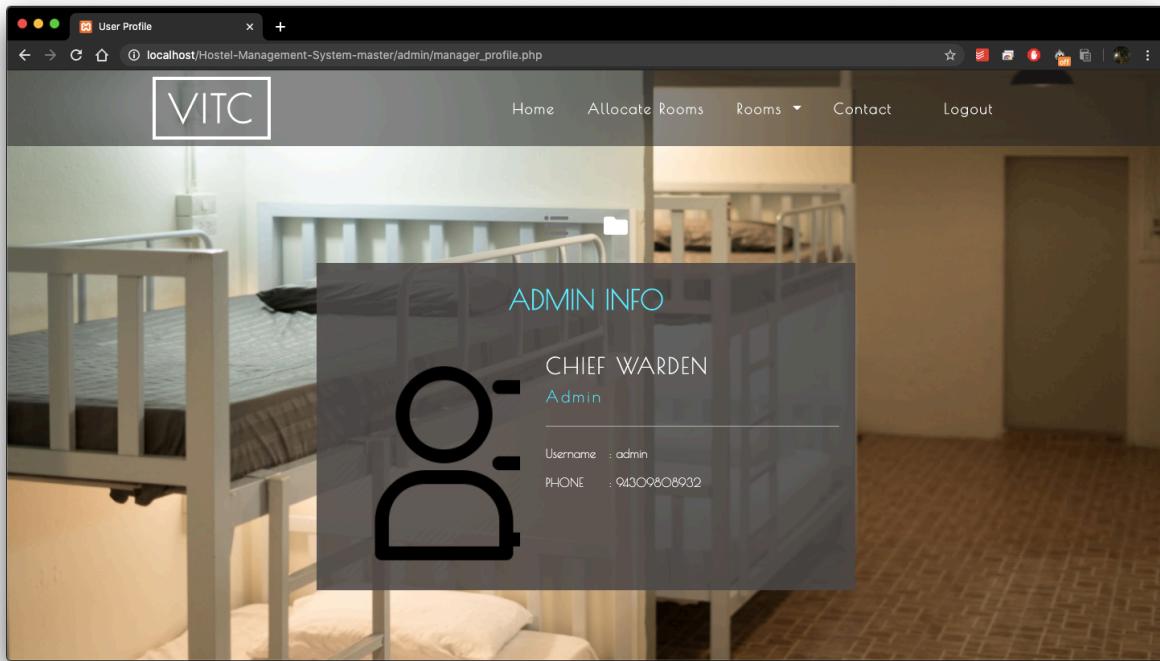
The screenshot shows a web browser window titled "Contact" with the URL "localhost/Hostel-Management-System-master/contact\_manager.php". The page has a header with the VITC logo and navigation links: Home, Allocate Rooms, Messages Received, Rooms, Contact, and ablock. The main content area is titled "Reply Students" and contains four input fields: "Ablock", "A", "Student Roll Number", and "Subject". To the right of these fields is a large text area labeled "Message..." and a red "Send" button.

**Figure 19: Reply to student.**

This page allows the Hostel Manager to contact the students and reply to their messages by entering their roll no.



**Figure 20.1**



**Figure 20.2**

**Figure 20.1 and Figure 20.2 makes up the hostel manager profile page . Here the Manager will be able to see his/her info and their managing hostel.**

**This page also allows them to see the information of the admin.**

**This completes the Features of the Hostel Manager, move to the next page to see the features available to the admin.**

## Administrator Pages

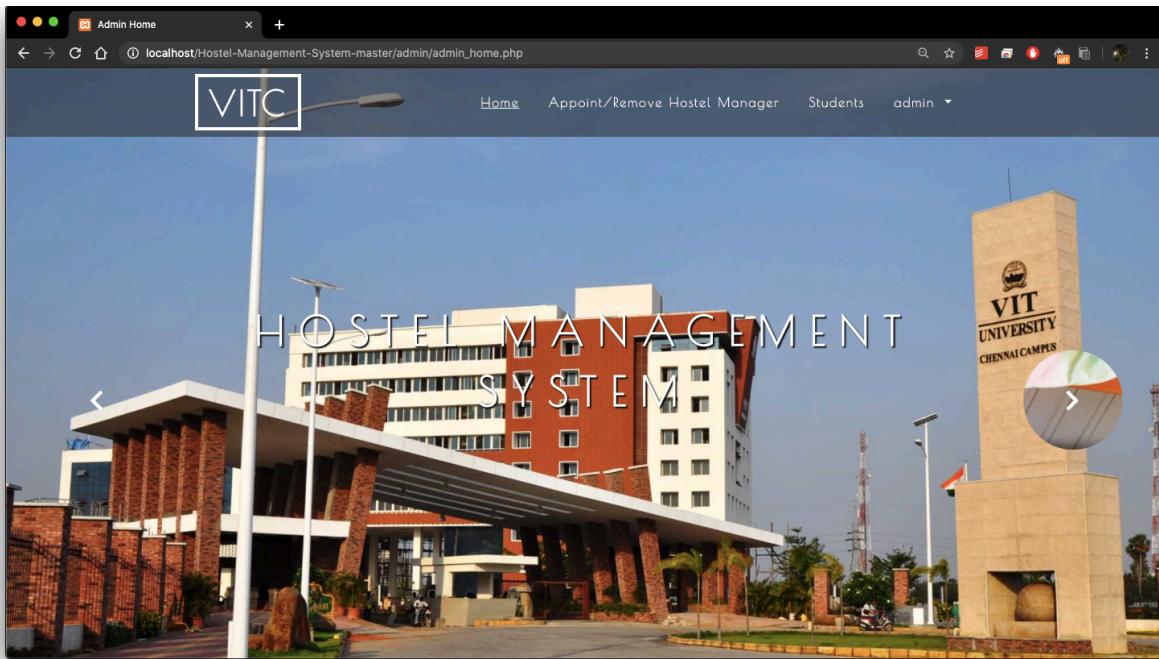


Figure 21: Admin Home page.

Similar to student and Hostel manager home page this page also contains a gallery of university but it also contains links to the hostel manager features.

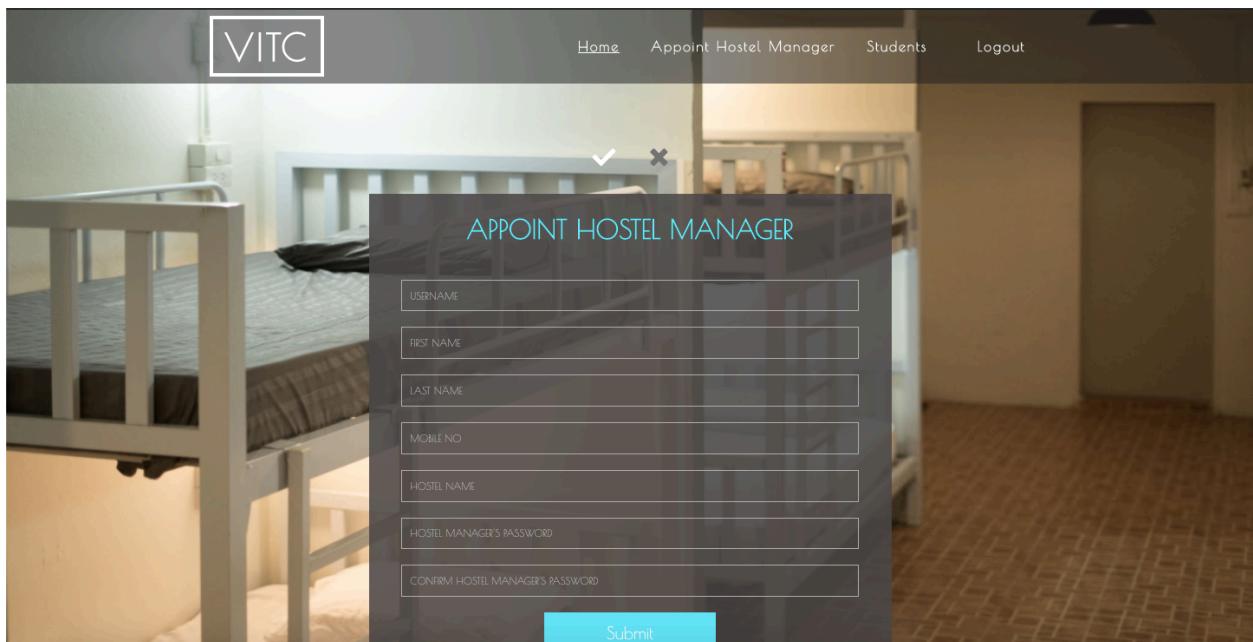
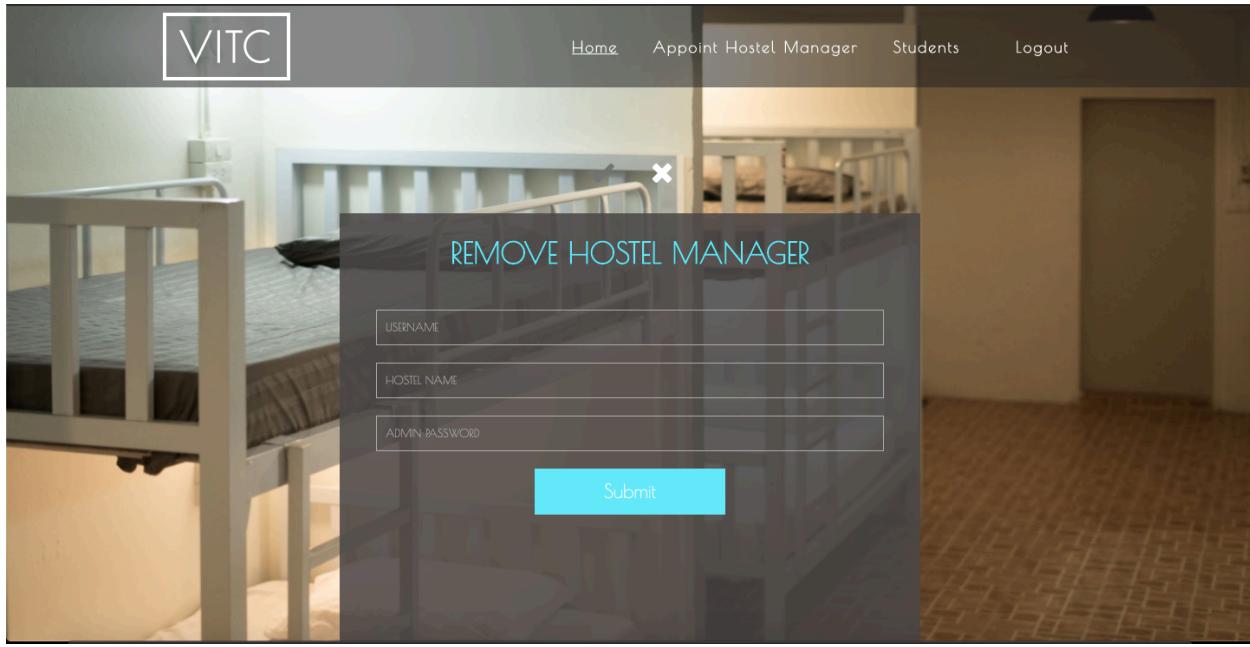


Figure 22.1:



**Figure 22.2:**

**Figure 22.1 and 22.2 is the Appoint/Remove hostel manager page.**

**Figure 22.1: To appoint a new Hostel manager the admin will need to fill in the form containing the username and password of the new Hostel manager along with the managing hostel and contact information of the manager.**

**Figure 22.2: To remove an already appointed manager the administrator will need to enter the hostel name , username of the manager and the password of the admin**

**Note:**

**Only the admin has the ability to appoint/remove a hostel manager. This is main and fundamental responsibility of the administrator.**

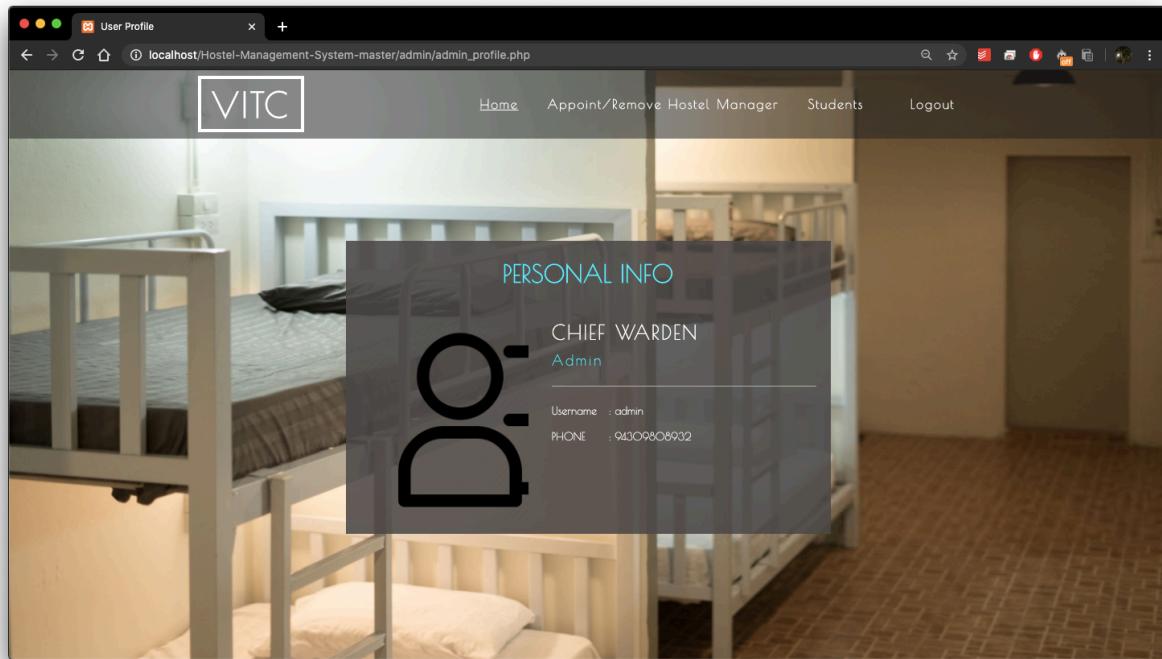
**Move to next page to see other features of the administrator.**

The screenshot shows a web application interface for managing student room allotments. At the top, there is a navigation bar with links for Home, Appoint Hostel Manager, Students, and admin. Below the navigation bar is a search bar labeled "Search by Roll Number" with a red "Search" button. The main content area is titled "Rooms Allotted" and displays a table with the following data:

Student Name	Student ID	Contact Number	Hostel	Room Number
Student D	18BEC0001	327017480484	B	201
Student E	18BEC0002	68356358267	B	202
Student A	19BCE0001	8937613409	A	101

**Figure 23: Students page.**

**The administrator has access to any student information and room information in this page.**



**Figure 24: Admin Profile Page.**

**This page shows the administrator profile and his/her information.**

