
# An Undergraduate Internship/Project on Hostel Management System

By

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**Summer, 2021**

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**September 12, 2021**

**Dissertation submitted in partial fulfillment for the degree of Bachelor of Science in Computer Science**

**Department of Computer Science & Engineering**

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# Attestation

I hereby, declare that the report is done by me, Nazmul Hassan Suhail (ID: 1630200), submitted in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB), under the guidance of Md. Abu Sayed. I also declare that all my work is authentic which I come up with during my internship period. All the sources and information which I added in my report are noted on reference section.

Signature

Date 12/09/2021

Nazmul Hassan Suhail

Name

# Acknowledgement

It has been a great privilege to work for ATI Limited as an Intern. I have received much support and encouragement from the individuals who have years of experience in software and mobile applications Development. My appreciation goes to the members of ATI Limited for spending their valuable time and knowledge which was essential for the completion of this report. Firstly, I would like to thank my Internal Supervisor
Md. Abu Sayed (Lecturer, Department of Computer Science and Engineering,
Independent University Bangladesh), for giving me the opportunity to complete
Internship Program under his guidance. I am grateful to him for playing a vital role in shaping up my early and ongoing intellect development. Secondly, I would like to thank Ahnaf Khan Tulon, my company's supervisor for the sincere guidance in the project. I am thankful for the continuous guidance and support along with the vast pool of knowledge which was key for the completion of the project. Lastly, I would like to acknowledge all the employees of ATI Limited for showing me the right path during my internship period. I am very grateful for their unprecedented support and guidance and without their help the Project would never be possible.

# Letter of Transmittal

Date: September 12, 2021

Md. Abu Sayed

Lecturer

Department of Computer Science & Engineering Independent University, Bangladesh Plot 16 Block B, Aftabuddin Ahmed Road,Bashundhara R/A, Dhaka-1229

**Subject: Letter of Transmittal for submission of Internship Report Summer, 2021**

Dear Sir,

It is my pleasure to present you my Internship Report on "Hostel Management System". The report that I am submitting is for the partial fulfilment of the requirement for Bachelor in Computer Science and Engineering at Independent University, Bangladesh. In preparing this report, I have attempted to include all the relevant information to make the report communicative and comprehensive. During internship period, I have served in "ATI Limited" for four months where I haven't only gained real life work experience but also understood the process of the department and its various aspects. As a document of my effort during the internship periods I even have conducted all the project works that I even have done during my internship periods, especially their requirement, functionalities and technical specifications. I pray and hope that this report will be quite interesting and will fulfil your expectations. I have tried my best to avoid my short comings and hope that my report will satisfy you. I would like to thank you immensely for all your guidance and support.

Sincerely,

Nazmul Hassan Suhail

ID: 1630200

# Evaluation Committee

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Supervisor

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Internal Examiner

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External Examiner

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# Abstract

In today's world people are so worked up they want more effective and reliable solution all the time, which will serve them well with less cost. It is only natural for the students to look for cheap accommodation to complete their study in a comfortable environment where they feel like home. To get the room they must go thorough proper registration process and book their room according to their budget. It is totally online-based system which enables the users to connect from anywhere and get the services with few clicks. All the registered students information is store in a database, which will be maintain by admin, hence there will be no possibility for losing the data.

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# Chapter 1

# Introduction

## 1.1 Overview/Background of the Work

Before creating any system, we need to study and gather information related to our project work, so it is pretty essential to analyze the current business process model of the existing system. To this end I have taken account about the whole activities of the entire management and the participation of students, as a result based on the analysis done so far and the problems that I identified, also tried to provide the best possible solutions with some suggested features which will help the system to give a quality service performance.

In today's world the online services play a vital role to make peoples life easier and simple. For the past few years, the technology evolved so much that people can now do their daily activities via voice command now, pay bill by scanning QR code and much more. We cannot imagine the life without technology. Every single part of our life is shifting to online platform which is good in a sense that people can give their opinion and express their satisfaction in real time also they can leave a suggestion or feedback if anyone needed based on the service given.

In the Southeast Asia, most of the country's populations lives under poverty line hence they are not fully utilizing the benefit of internet since it is too costly for them. In this modern era everyone tries to update themselves so are the underprivileged peoples too, nowadays everything is dependable on internet and online services. The trend is now changing due to telecom operators is now providing us cheap internet packages, around 95 percent of the populations are able to use internet and other services. Hence, the online based systems have now grown on significant amount which provides the user on most efficient way possible.

## 1.2 Objectives

The main purpose of the project is to provide the students hassle free experience throughout their entire booking process since the hostel management system can be accessed via online which is fully web-based and can be accessed from anywhere. If any users have any query they can post on real-time and admin will take care of it, which will ensure the quality of services in the future.

By using the system, the student can book the room in advance and they can use their booked room at their convenient time. This feature is good for universities, college etc. students who live in remote or village area and have to go through a huge trouble to manage a seat, now all they need to do is book a seat within their price range and they are good to go. The current and previous students can drop their opinion about the services of hostel or what facilities they are expecting to serve them better.

## 1.3 Scopes

To book the room the user must go through the registration or sign-up process, upon completing that process the user is eligible for sign in. If any user/s forgot their password, they can recover their password from recovery option by following the necessary step provided by the system. After successful login the user can update the profile to their own preferences and view their booking details, also if they face any inconvenience, they can get in touch by using contact us option. They are also eligible to ask question in FAQ section from their respective account.

There will be an admin page from where everything can be controlled to make the system operates properly. The admin can add or manage rooms, monitor or remove students also if any students face issues during registration or sign up process upon contacting with the cell phone number given on website the admin can register for them. The admin can answer all the questions of the visitors or users in a FAQ section.

# Chapter 2

# Literature Review

## 2.1 Relationship with Undergraduate Studies

CEN 401, Database Management: From this course I was able to understand requirement analysis, rich picture, six elements analysis etc. and how to plan and design the project.

CEN 455, Web Applications and Internet: This course help me to develop web-based application which help me on this internship program, on the front-end HTML, CSS etc. are implemented and on back-end PHP, SQL are used.

## 2.2 Related works

Before going forward with the project I need to do some research work related to my subject which include research papers, journals, online links etc for proper justification.

A case study indicate how the existing system work inefficiently if the number of students grow, the collection of data for each student will pile up to lots of paper work and also all papers need to be stored in a proper storage to maintain all information regarding inputted data of students. Hence, they come up with "E-registration" which will eliminate the paper works and make the system much more efficient[1].

Since the technology is changing day by day one of the paper suggested using finger print to get the student information and whether he/she are present in the hostel or not the status alert will be sent to parent via SMS notification [2].

The article that I cited, suggested to accommodate the students based on their academic performance which will help those students who are financially challenged and help their studies without worrying about the place to stay [3].

In the Dhaka city only "Super Hostel" is functional and provide luxurious accommodation but the cost is too high for any average student to pay. This hostel project jointly run by China and Bangladesh targeting job holders but later they added students on

their services. Since the price is too high not all students can afford their services rather, they look for alternatives and that's where my system comes in to help those students who are looking for affordable places.

# Chapter 3

# Project Management & Financing

## 3.1 Work Breakdown Structure

Work Breakdown Structure (WBS) is a hierarchical structure which demonstrates a project's breakdown into smaller segments. For my project, I have produced a WBS so that the work is coordinated. WBS covers a visual of all the scopes, risks, points of communication, responsibilities, costs and guarantees that it does not skip essential deliverable. For brainstorming and collaboration, it is the ideal tool, the WBS give us the road-map which lead us to the clear understanding of the whole project. Below I have provided WBS of the project [4]:

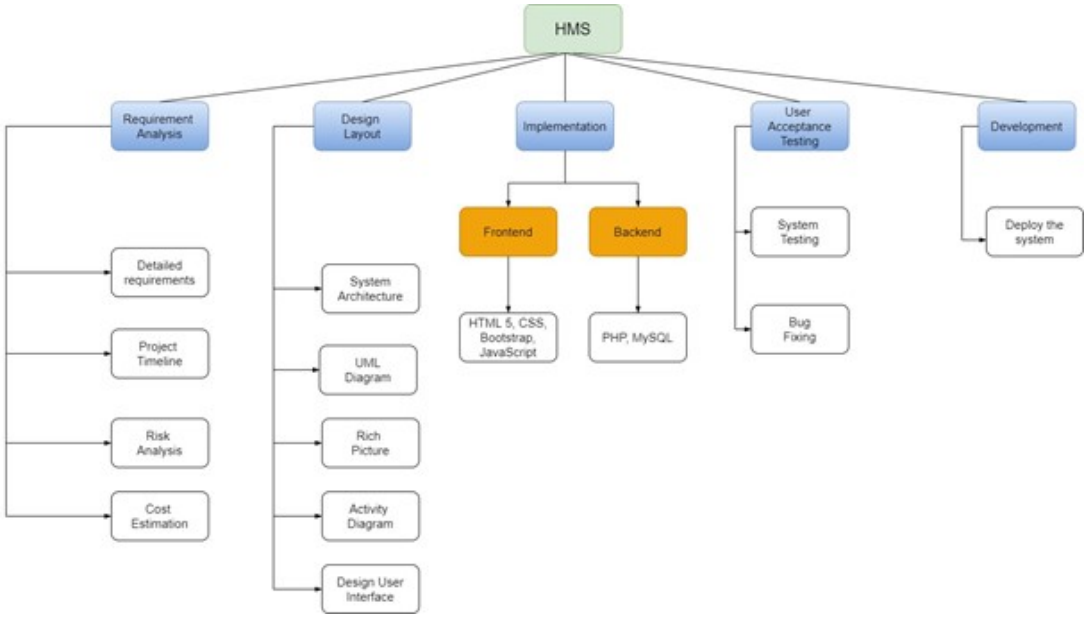



Figure 3.1: WBS of HMS

## 3.2 Process/Activity wise Time Distribution

The table given below shows task wise time distribution:

| Task | Days | Work Percentage |
|---|---|---|
| Requirement Analysis | 20 | 20 |
| Design Layout | 15 | 10 |
| Implementation | 25 | 40 |
| User Acceptance Testing (UAT) | 10 | 15 |
| Deployment | 10 | 15 |
| Total | 80 | 100 |

Table 3.1: Task wise time distribution

## 3.3 Gantt Chart

The Gantt chart helps to plan all the tasks from initialization to deployment within stipulated time-frame. The chart given below shows the weekly time-period of overall project.

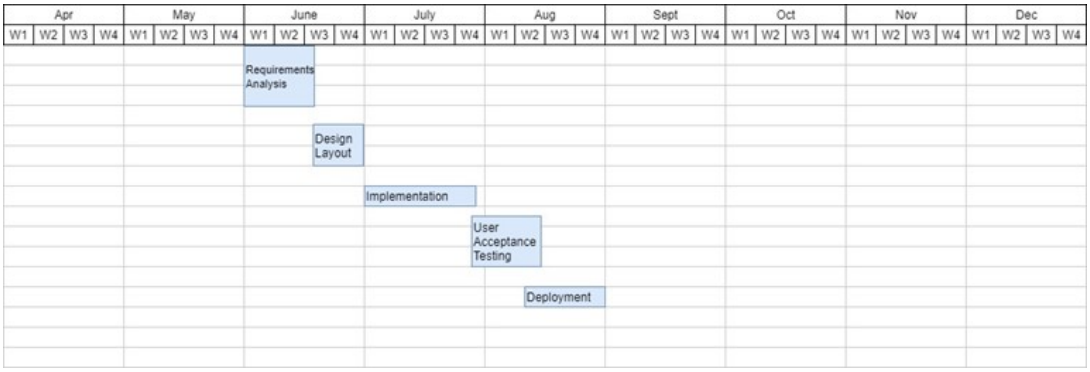



Figure 3.2: Gantt Chart of HMS

## 3.4 Process/Activity wise Resource Allocation

To complete the project some set of resources might be needed, which may vary from time to time. It is essential for any company to use their resources efficiently and handover the project on time to gain the reputation and make a statement on the competitive market.

1. **Requirements Analysis:** The analysis helps us to understand what the users is hoping from the system that is going to be built or modified. To identify the needs of different stakeholders, we need to collect information accordingly to resolve their expectation. Hence, requirements analysis means to analyze customer needs, document the data

properly to implement later, verify and manage the system requirements. To build hostel management system, the requirement analysis takes around 20 days and considered 20 percent of the total work.

2. **Design Layout:** It determines to attract the user to the website, also it arranges all the possible contents and elements of the page to a well organized manner. The design aim to deliver the proper message, information related to website and to reach vast number of people as much as possible. This takes around 15 days and considered to be 10 percent of the total work.

3. **Implementation:** In this part the whole system development takes places which divide the work into smaller, parallel or sequential steps or sub-processes, so that if any necessary changes are needed while the system on development phase it can be resolved immediately. This is one of the important phases of the system which takes around 25 days to complete and considered 40 percent almost half of the total work.

4. **User Acceptance Testing (UAT):** UAT determines the testing phase which is performed by the end user to validate/accept the system before moving to the production phase. In the final phase of UAT we work with testing, after functional, integration and system testing are done. Quality assurance is also considered in this phase. This takes around 10 days and considered 15 percent of the total work.

5. **Deployment:** At the last and final stage, the project will go live on client's domain & hosting platform and we keep the whole system under surveillance for at least 1 week, and necessary training is provided to the client to wrap up the delivery process. This takes around 10 days and considered 15 percent of the total work.

## 3.5 Estimated Costing

| Name of Equipment's | Comment | Price |
|---|---|---|
| Router | To access the system wirelessly within the premises the router is required | Tk 4900/- |
| Server | To run the application and storing all required data server will be used | Tk 120,000/- (approx.) |
| Computer | It is needed to operate and maintain the system | Tk 40,000 × 2 = 80,000/- |
| Firewall | The firewall will prevent the unwanted access to the system, also it will keep away malicious or malware out of the system | Tk 5000/- |
| Web Hosting | It is needed to surf the system online | Tk 6000/- |
| Switch | Switch helps to connect all devices altogether in a single place. | Tk 8500/- |
| Total Cost | | Tk 224,400/- |

Figure 3.3: Estimated Cost

# Chapter 4

# Methodology

To build the system we must collect all the necessary data that are relevant and well researched, we followed interviews and set of questionnaires approach. In a questionnaire, we formulate some sets of question to the stakeholders which helps us to devise the idea of the entire system and clear our confusion if we had any. The Interview sessions will create a chance for open discussion which will very much essential because we can ask all sorts of question at any angle and get the details explanation and devise our plan accordingly to build the system.

After all the data collections is done, and going thorough extensive analysis we need to come up with the method to build our system since it might change according to the customer preferences, hence we use extreme programming in this case.

After analyzing the requirements based on data collected, the implementation process need to following some procedures in a cost-effective manner and user-friendly solution. Hence, the implementation uses Extreme Programming (XP) to develop this system. The Extreme Programming (XP) is well known for the Agile frameworks. The goal of XP is to write high-qualitative software which can adapt to customers' changing requirements. XP has simple rules that are supported by five values. They are Communication, Simplicity, Feedback, Respect, Courage.

The Extreme Programming is used because it's essential to do planning, designing the User Interfaces, coding and have continuous communication with client to developers so that all the client's demand have been met with efficient iterative move.

The advantages of extreme programming are given below:

To solve the problems while developing the project, extreme programming helps in many ways some are listed below:

• The assurance of timely delivery of the project.

• By collaborating with the customer justifies the acceptance and issues of the system and give the solution accordingly.

• Without breaking the main functionality of the system developed so far while testing and changing of the existing work of the system. A fully functioning system provides us

an ample amount of time to make certain changes which doesn't affect our ongoing performance of a system.

• When the system is on development phase if any issues and other bug fixes are needed those have to be resolved early to avoid imperfection project delivery.

• By connecting the customer throughout the whole project, it opens up the door of communication, customer opinion etc. to make the working project a success.

• The changes may occur, but we need to deliver the entire system within a given time-frame [5].

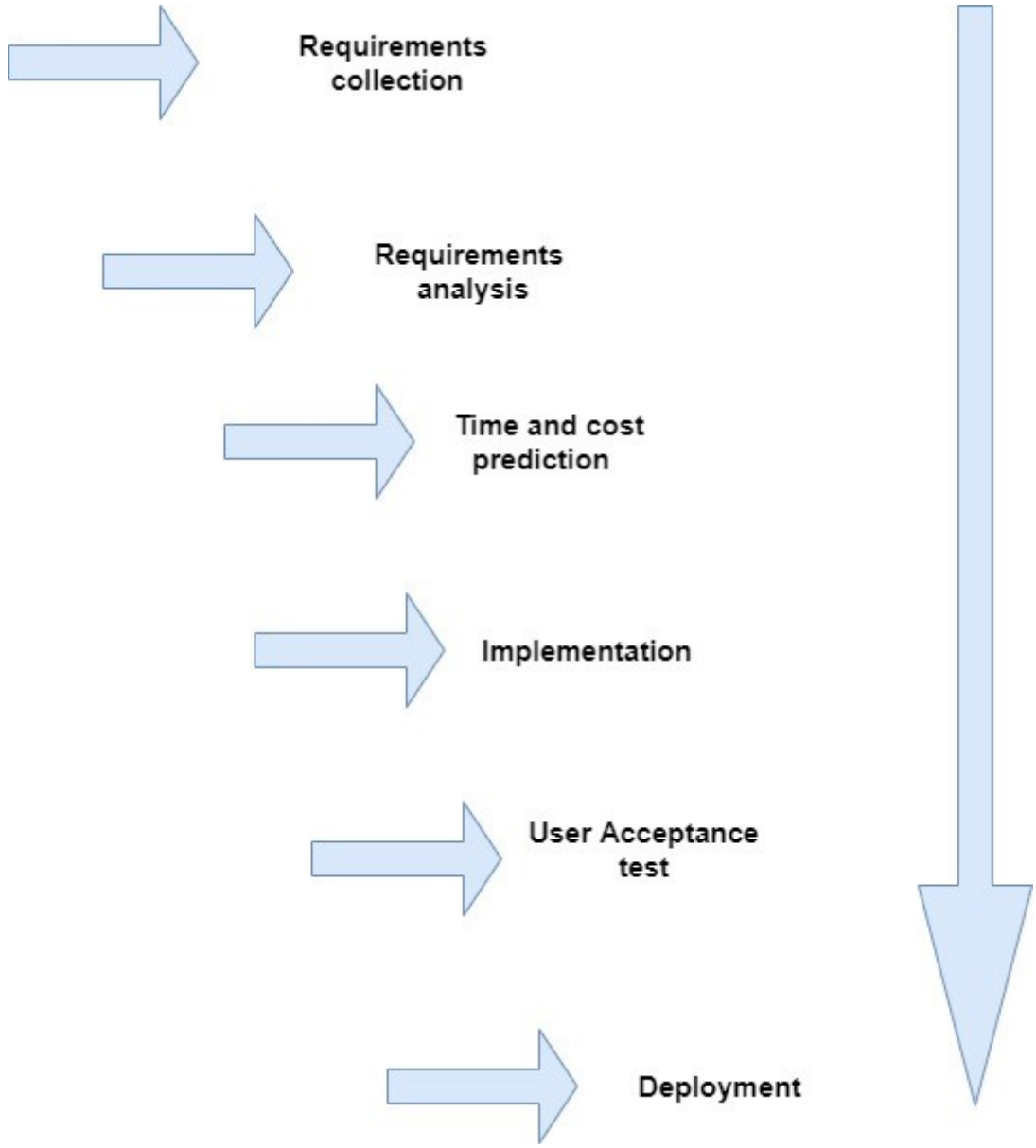



Figure 4.1: HMS Methodology

# Chapter 5

# Body of the Project

## 5.1 Work Description

The Hostel Management System is an online based student's room accommodation service where any student who do not have the privilege to journey from a far distance to attend colleges and universities can book room from anyplace if they have proper internet connectivity. The room registration is completed after going through a series of proper registration process. The main goal of this service is to make the entire experience more efficient and easy for students, minimizing the hassle a student faces when searching for a place where they want to stay for their education purposes. To access the system a user needs to sign up first with their valid information like name, email address, gender, mobile number etc. Once the registration process is over the user can book their preferable seat according to their budget and availability of seats in a room. To book the seat the user needs to pay an advance payment to confirm their seat by providing TrxID (Transaction ID) before completing the booking process. Once the booking is complete the user can navigate to the booking details tab to see their full information. If the user ever forgets their password before logging in they can recover it by clicking the "Forgot password" button and providing the valid email address, after which a link is sent to the mail address which contains a form where the required procedure to reset the password is provided. The user can change their password and other info from profile tab and also drop any query via contact us from nav bar.The admin control the whole system, like allocating, editing and deleting the rooms and courses, answering the user queries, monitoring or deleting the registered students etc.

## 5.2 System Analysis

### 5.2.1 Six Element Analysis

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| Registration | From the navbar the user selects the sign up page for registration. User give input to the sign up form to register into the system. If all the information are correct the user will get registered, otherwise the system will display an error message accordingly. | N/A | Computer, Smart devices | Browser, Notepad++, Xampp, OS | MySQL | Internet, LAN/WAN |

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| Book room | User log in to the system with valid email address and password. From the user dashboard, a user selects "Book Hostel" from navbar. A booking form is displayed, filling up the relevant info in the input field, selecting the seat according to their preferences and providing transaction ID of advance payment method | N/A | Computer, Smart devices | Browser, Notepad++, Xampp, OS | MySQL | Internet, LAN/WAN |

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| | on the booking form and then clicking on booking button will conclude booking process. Admin has the authority to book the user by setting temporary password, which the user can change from their profile section after logging in to the system. | | | | | |

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| Manage room | Admin logs in to the system navigate to the room section from navbar, allocate room number, along with price and seater quantity and upon clicking the "Create Room" button the room will be allocated which will be visible on manage rooms area. Admin can also edit the room by clicking the edit icon from manage rooms area, | N/A | Computer, Smart devices | Browser, Notepad++, Xampp, OS | MYSQL | Internet, LAN/WAN |

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| | after modifying the room by clicking the update button the room will get updated. | | | | | |
| Manage students | Admin navigate to the booking details section via navbar, upon selecting admin can view all the registered students, can monitor their booking details by selecting on monitor icon and if anyone want to cancel their booking | N/A | Computer, Smart devices | Browser, Notepad++, Xampp, OS | MySQL | Internet, LAN/WAN |

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| | admin can delete those student by clicking delete icon from action column. | | | | | |
| FAQ | After logging in user can select contact us section to drop their queries in an input form and send it to the admin by a click of a button. Admin will answer all registered and unregistered users by selecting FAQ section from the dashboard, | N/A | Computer, Smart devices | Browser, Notepad++, Xampp, OS | MYSQL | Internet, LAN/WAN |

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| | which is located on navbar upon selecting the system will redirect to the relevant input form from where the admin can answer all the users question. | | | | | |

Table 5.1: Six elements analysis of HMS

### 5.2.2 Feasibility Analysis

The feasibility study is mainly used to determine if the whole project should go ahead keeping business and technique in mind.

**Operational Feasibility:**

Operational Feasibility dictates whether the system meets all the requirements to become operational or not, once it clear that phase the system will be installed and put under probation period to analyze further. It can also be compared with existing system to determine the feasibility of current one, also all the requirements can be meet once the system is used by multiple users when it is fully functionally running. Since the system is continuously updating its information to users, also users can easily access and get what are they looking for from the system, hence, the project meets all the criteria of operational feasibility[6].

**Technical Feasibility:**

Technical feasibility depends on the necessity of hardware and software to develop the website.Since the system can run in any computer that is connected to the internet and omit the hardware involvement. The software requirements need to be met in this

case since the system is developed by using HTML and PHP, which are available via open-source technologies and hence the system is technically feasible[7].

**Economic Feasibility:**

To initiate any project all companies think about the overall budget, profit and loss and other financial benefits. To operate and control this web based application lower number of work force is required by eliminating extra manpower in the process. Since there is no hidden charge and all the open-source technologies is used therefore this project is economically feasible[8].

### 5.2.3 Problem Solution Analysis

There are certain numbers of problem we faced while the system on development phase and we fixed those issues in every stage:-

- There was an error occurring numerous time of password hashing on database for user/admin later the problem was fixed and implemented.
- From the admin module room allocation was not assigning properly and hence need to be fixed accordingly.
- The user profile is not updating according to input provided in the form, therefore we need to look into it to solve the problem.
- There was an ajax call related issue in one of the section where jquery is not found later it was fixed by following the correct procedure.
- The booking button was visible after user registration was done, which created a duplicate registration for individual user, hence to solve the issue the booking button will get hidden after the registration is complete.
- The profile picture randomly selecting the images instead of default image, hence by changing some part from the code the problem was resolved.

### 5.2.4 Effect and Constraints Analysis

The website let the user to select the rooms to their own preferences and once they are done with all the processes they are good to go. Besides, there are some limitations and issues that still need to be resolved. Due to internet connectivity or other technical issues in the remote area, some might unable to book the seat, instead they need to call the admin for booking. Hence keeping all the aspects in mind we need to upgrade and add some features in the distant future which will make the user experience much more efficient and user friendly.

## 5.3 System Design

### 5.3.1 Rich Picture

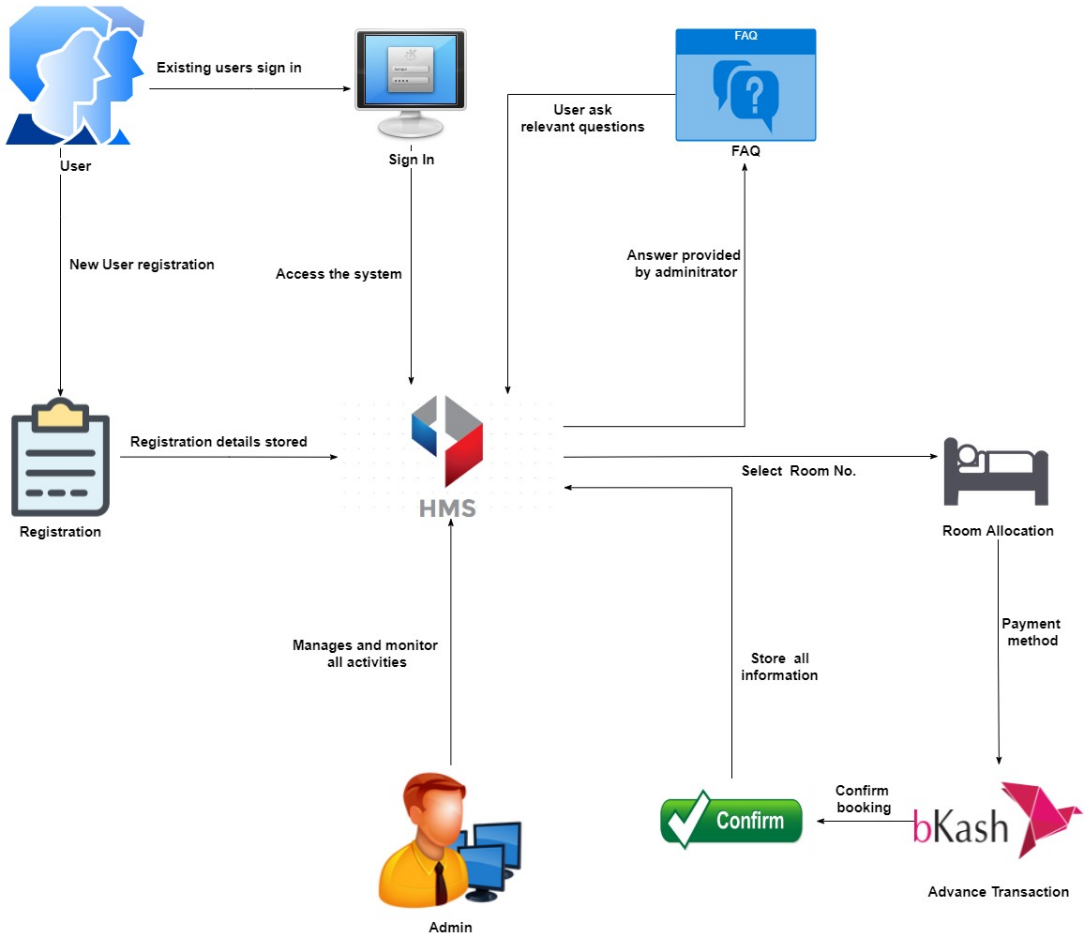



Figure 5.1: Rich Picture of HMS

### 5.3.2 UML Diagrams

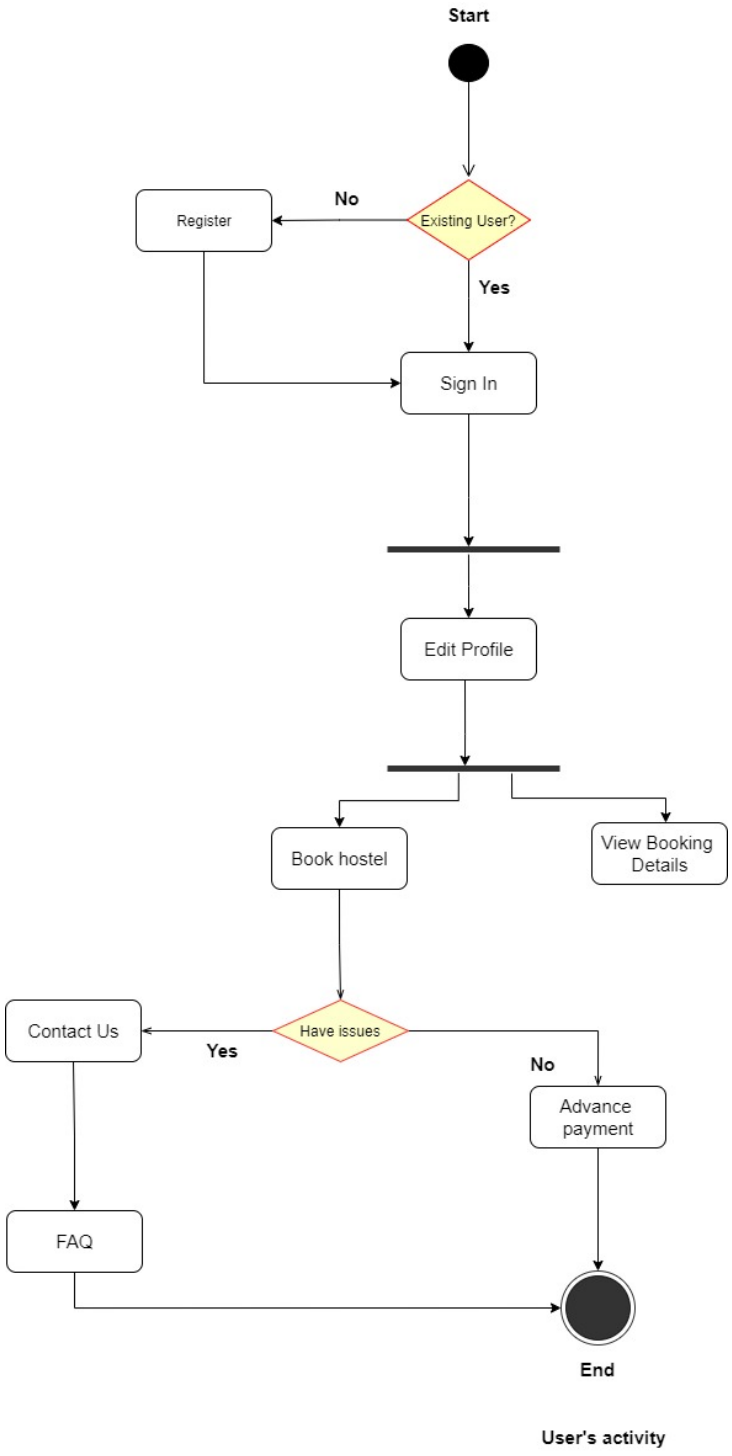



Figure 5.2: User Activity

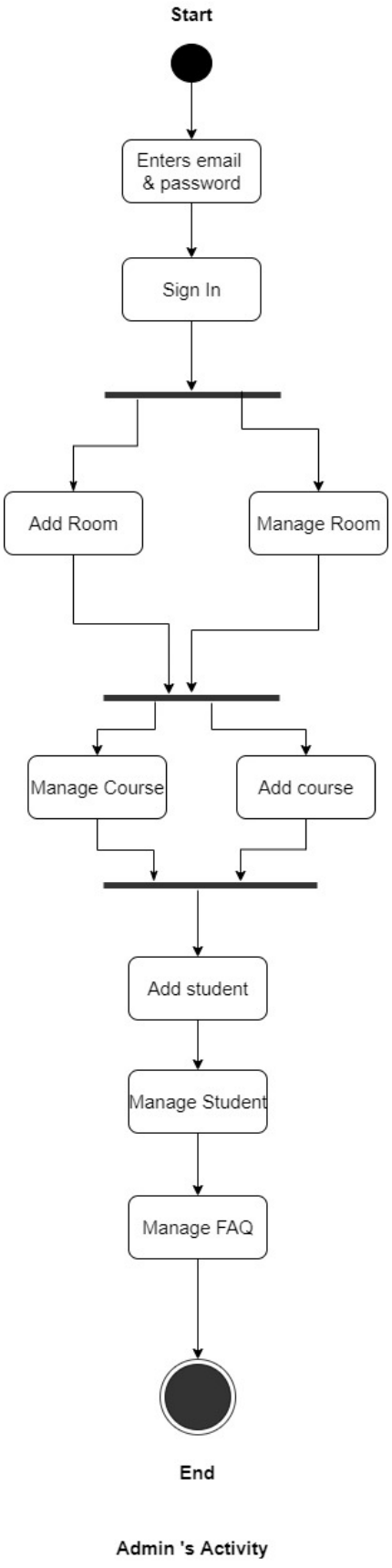



Figure 5.3: Admin Activity

### 5.3.3 Use Case Diagram


Figure 5.4: Used Case Diagram of HMS

| | |
|---|---|
| UCD No.1 | Sign up & log in |
| Description of UCD | The user requires appropriate information to complete sign up process. To sign in user need to input registered email address and password to gain access to the system. |
| Primary Actor | Users |
| Secondary Actor | Admin |
| Brief explanation of flow of event | • Store all the information into database.<br>• Validation of email & password.<br>• If matches log into the system. |
| UCD No.-2 | Booking Hostel |
| Description of UCD | The user need to login to the system after proper sign up was completed, have to fill up the booking form and selecting the desired room depending on price range, need to pay an advance to done with booking. |
| Primary Actor | Users |
| Secondary Actor | None |
| Brief explanation of flow of event | • Select the room number, course from drop-down list and providing other details.<br>• By clicking on booking button to book the seat or cancel if not sure. |
| UCD No.-3 | Forget Password recovery |
| Description of UCD | The user can recover their password if they totally can't remember. They need to enter their registered email address and a link is sent to their respective email to reset their password and to create a new one. |
| Primary Actor | Users |
| Secondary Actor | None |
| Brief explanation of flow of event | • Select the forgot password button.<br>• Input registered email address.<br>• Check the mail inbox for the link.<br>• Click on the link to set a new one. |

| | |
|---|---|
| UCD No.-4 | Add & edit rooms |
| Description of UCD | The admin needs to allocate the room based on price and room number. After assigning admin can also update or delete the room from the system. |
| Primary Actor | Admin |
| Secondary Actor | None |
| Brief explanation of flow of event | • Admin log in.<br>• Select Rooms section to add, and from manage section update or delete rooms. |
| UCD No.-5 | Add & manage students |
| Description of UCD | The admin can register student in case of any issue from user end and also if the user want to cancel the booking, admin can delete the user from manage students section also admin can monitor the registered students too. |
| Primary Actor | Admin |
| Secondary Actor | None |
| Brief explanation of flow of event | • Book new student to the hostel from add student navbar.<br>• Able to see full details of registered students.<br>• Authority to delete the student/s in case of cancellation of booking. |

Table 5.2: Description of some Use Case Diagram (UCD)

### 5.3.4 Entity Relationship Diagram (ERD)

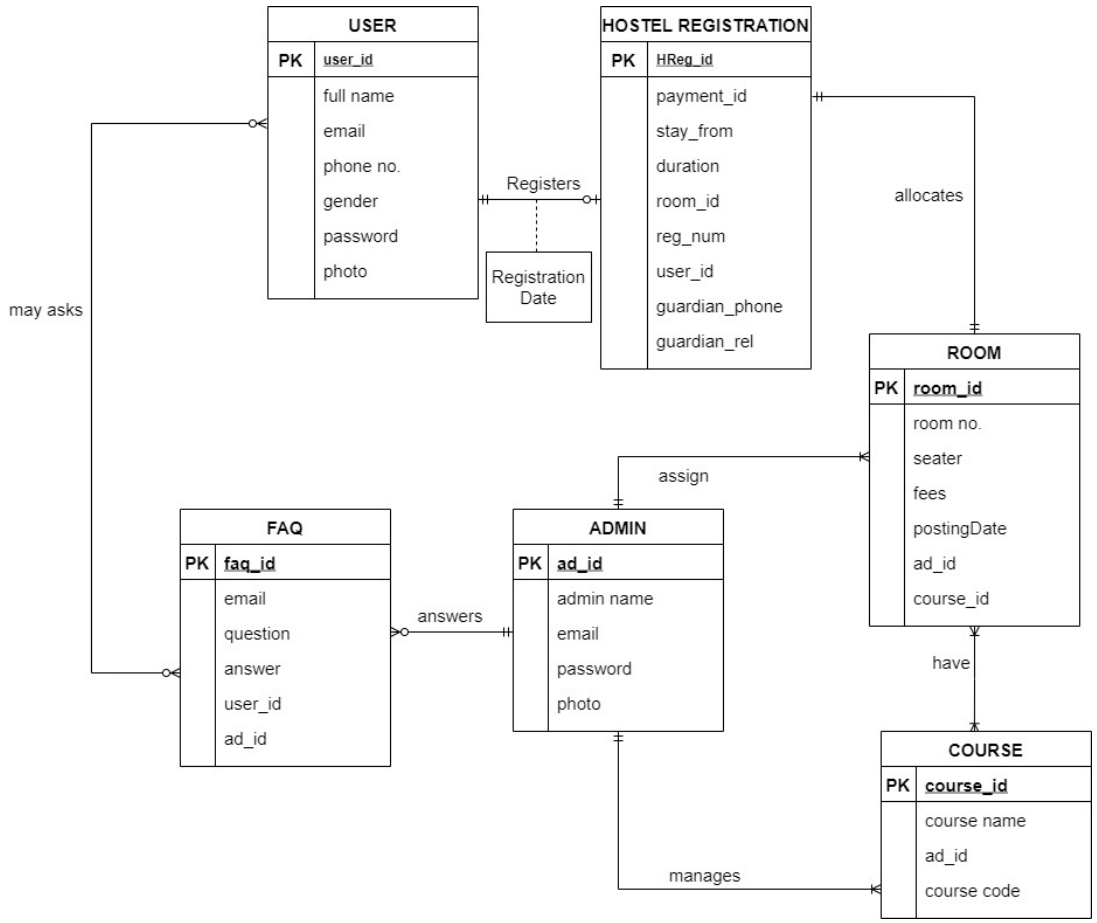



Figure 5.5: ERD of HMS

### 5.3.5 Functional and Non-Functional Requirements

**Functional Requirements:** The functional requirements are those which determines, the main functionality of the entire system and how it's going to respond based on what input provided.

- User Sign-up
- User Log-in
- **User can perform the following after completing the proper procedures:-**

∗ They can edit and update their profile info and upload the picture according to their own liking.

∗ Can change password if needed.

∗ Recover the password if forgotten.

* They can select room including room no., quantity of seat and the fees for per person.
* Can select check-in date & time of their stay(in month).
* They are eligible to check their information and booking details.
* Can contact with admin via contact input form if they have any query.
* They can check later whether their question was answered or not.

- **Admin can perform the following:-**

* Can edit his/her own profile information and change profile picture.
* Look into number of rooms, students and their courses.
* Can able to manage students i.e. create, update, delete the rooms and courses.
* Admin can also book the students if contacted.
* Able to monitor or delete all students.
* Give a reply to the query of the visitors and registered students too.
* Delete the irrelevant questions.

**Non-Functional Requirements:**

- Security:

  The system is accessed by the authorized personnel by entering email address and password.

- Performance:

  Admin will ensure the best possible output of the system.

- Efficiency:

  The users will find all in one place without facing any issues.

- Portability:

  The system can be installed or transferred from one computer to another.

- System accessibility:

  The system can be accessed from anywhere using internet.

- Maintainability:

  All information backup is available on database.

## 5.4 Product Features

### 5.4.1 Input

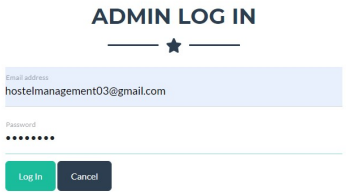



Figure 5.6: Admin Login

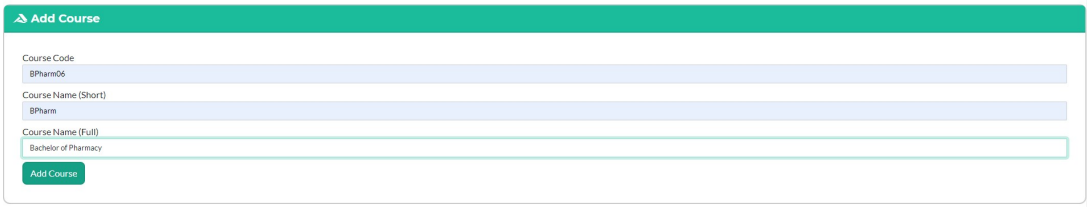



Figure 5.7: Add Courses

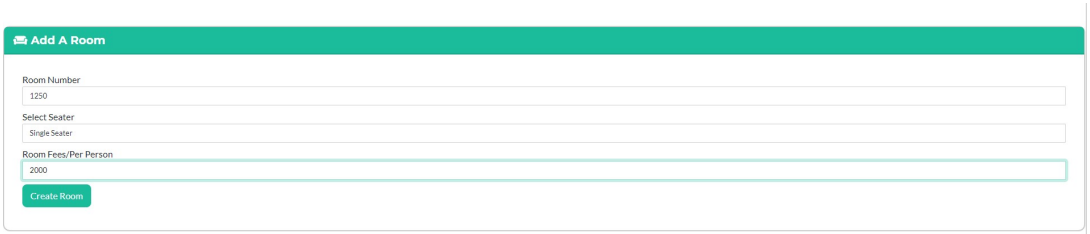



Figure 5.8: Add Room

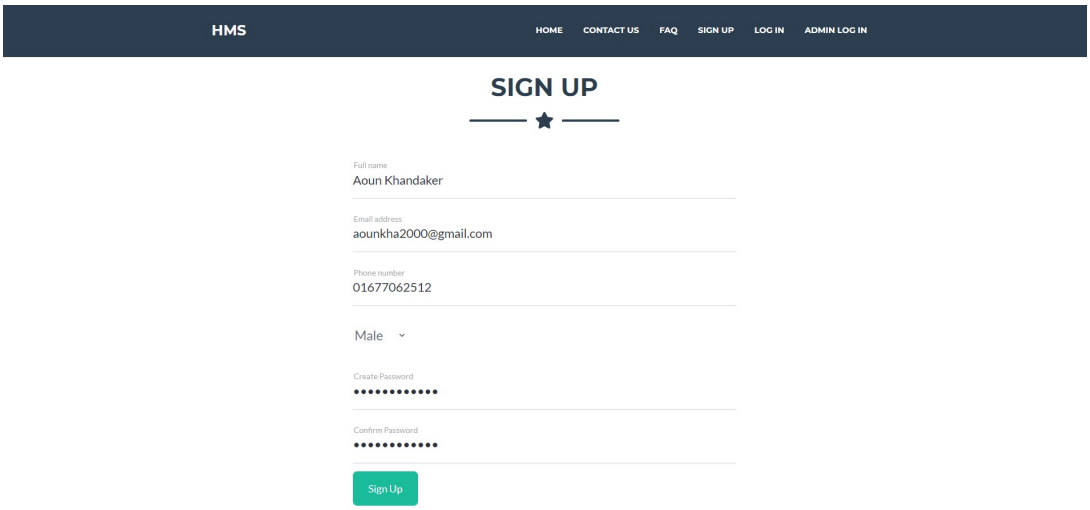



Figure 5.9: Student Sign up

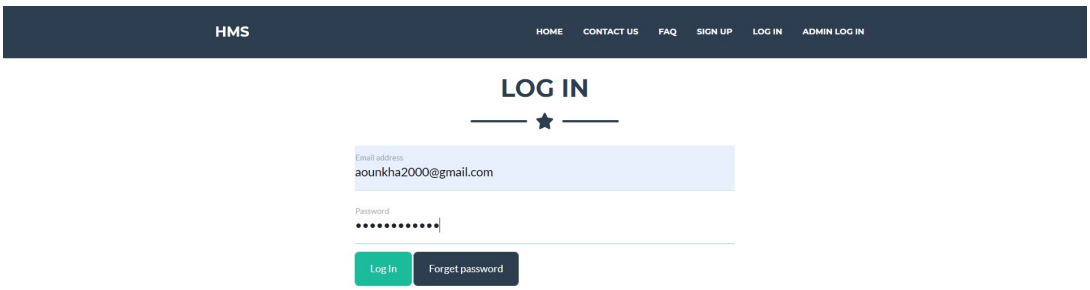



Figure 5.10: Student Login

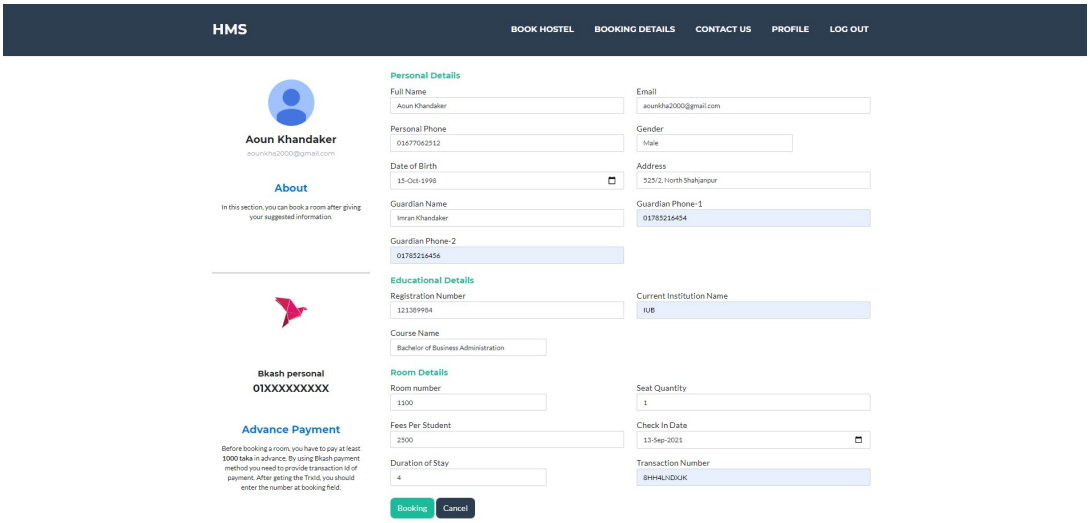



Figure 5.11: Student Booking Form

### 5.4.2 Output

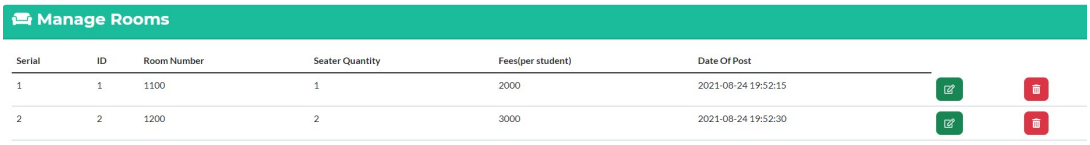



Figure 5.12: Added rooms by admin

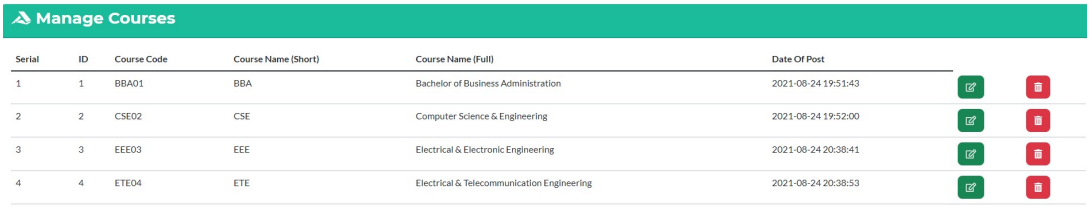



Figure 5.13: Added courses by admin

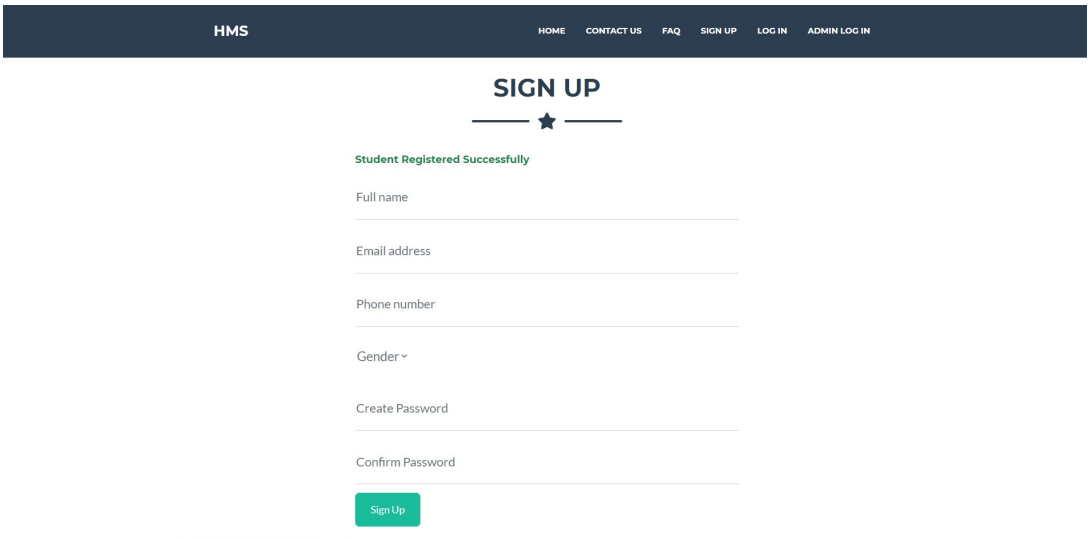



Figure 5.14: Student registration successful

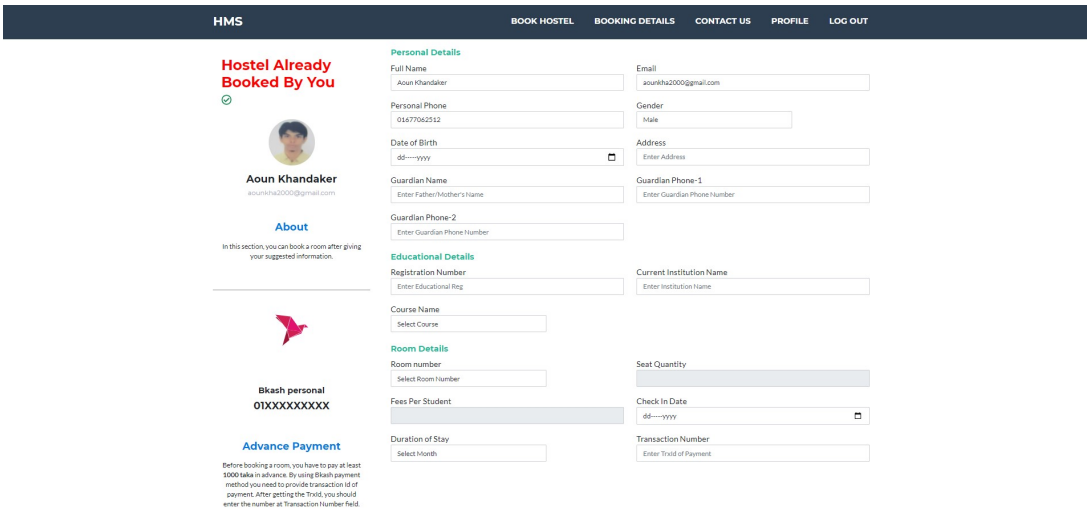



Figure 5.15: Student Booked

### 5.4.3 Architecture

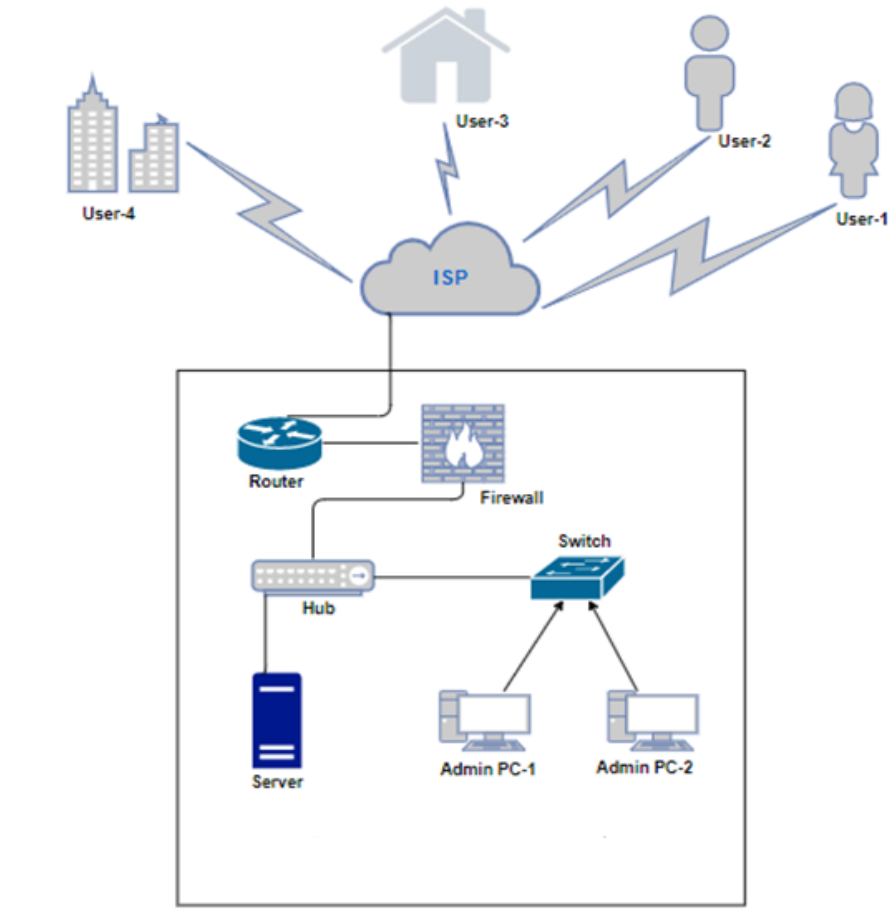



Figure 5.16: System Architecture of HMS

# Chapter 6

# Results & Analysis

The test results given below are all represented in a tabular format in which clearly shows the test subject along with what type of result is expected when the input is given:

| No. of test case | Testing subject | Input Info | Error Result | Original Result |
|---|---|---|---|---|
| 1 | Validation check for User Sign up Form. | Username: Pritom Khan Email: pritom123@gmail.com Phone: 01556095196 Gender : Male Password :XXXXXXX Re-password: XXXXXXX | If the given password did not match with the previous one display an error message also if the email address is already in use show the error accordingly. | The system will show successful registration after checking all the input data and display the message after all the requirements are met. |
| 2 | Editing of Student Profile information & password | Profile picture, full name, email, phone, gender & change password | No error detected | Student can edit or update their profile information and photo of their account, upon successfully editing all the info a message will be displayed also user can change their current password too. |

| No. of test case | Testing subject | Input Info | Error Result | Original Result |
|---|---|---|---|---|
| 3 | FAQ posting on a page working or not | Posting a question on FAQ section after clicking the send button which ask to confirm question for user | User can't send the question without writing anything in the message field. | If the user is sure submit the question by clicking yes otherwise no. |

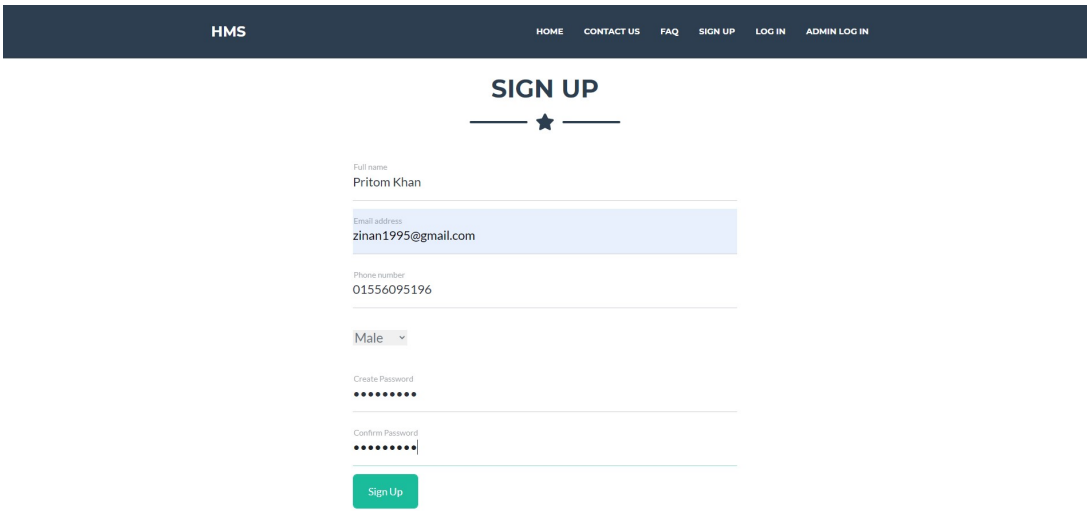
Table 6.1: Testing of user input to the system

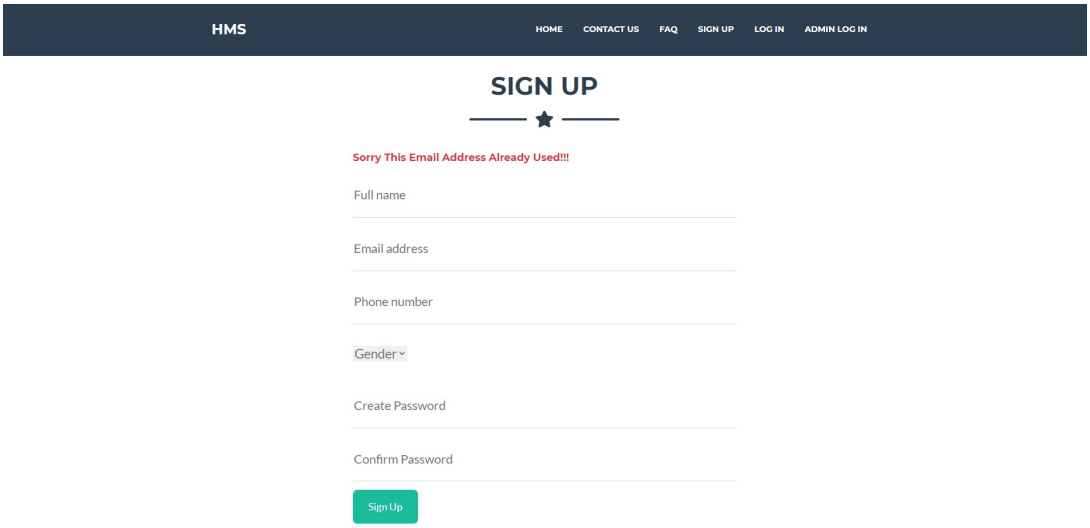
| No. of test case | Testing subject | Input Info | Error Result | Original Result |
|---|---|---|---|---|
| 4 | Adding room and course to the system by admin | Admin can give input to the add room section by providing<br>Room No.- 1100<br>Seat quantity-1<br>Room Fees for per person-2000 | If the field was blank necessary message is displayed for the input from the admin. | Upon filling all the fields and clicking the the create room button the successful creation of room message is displayed. |
| 5 | Editing, updating or deleting the allotted rooms and courses | Admin can edit by clicking edit button and update the require fields and if the room need to be deleted a press of a button can perform it. | Necessary info need to be inputted otherwise the system cannot complete the process. | After following the correct procedures the system will show the output accordingly prior to input successfully. |
| 6 | Admin can manage registered students | Can view registration details of all registered students and delete students based on situation | No errors | By clicking the certain button admin can able to complete required action with a message in some cases. |
| 7 | Answering the query of all users | Able to answer the user questions in a proper section. If the admin feel the question is not relevant it can be deleted by pressing delete button. | No errors | After giving answer to the users query a message will be displayed along with the name of user, also if any questions are deleted it will do the same. |

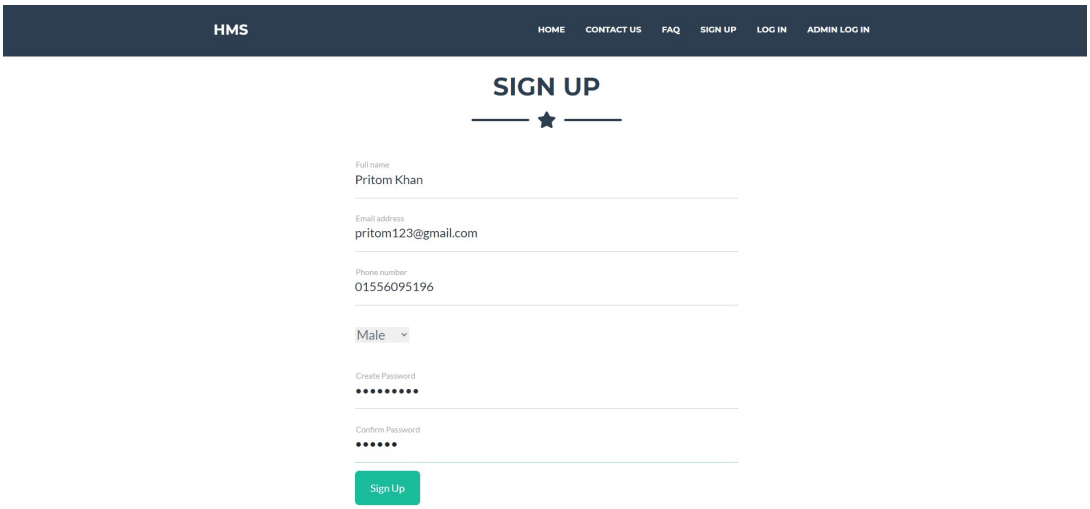
Table 6.2: Testing the Admin part

All the testing result analysed thoroughly for the error in the system and corrected accordingly to run the system better according to the input. Some of the screenshots are given below:

### Testing phase-1

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HOME
CONTACT US
FAQ
SIGN UP
LOG IN
ADMIN LOG IN
SIGN UP
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pritom123@gmail.com
Phone number
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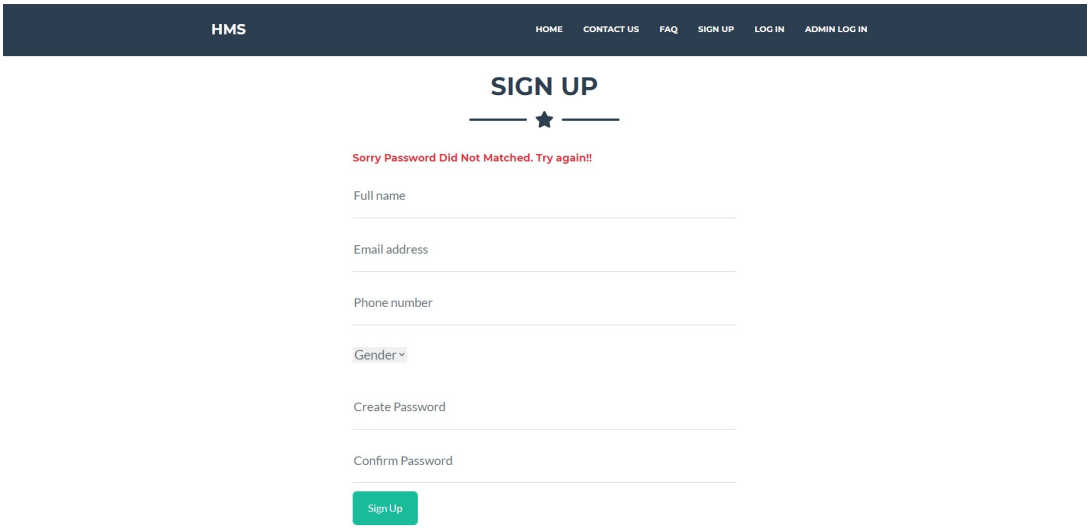
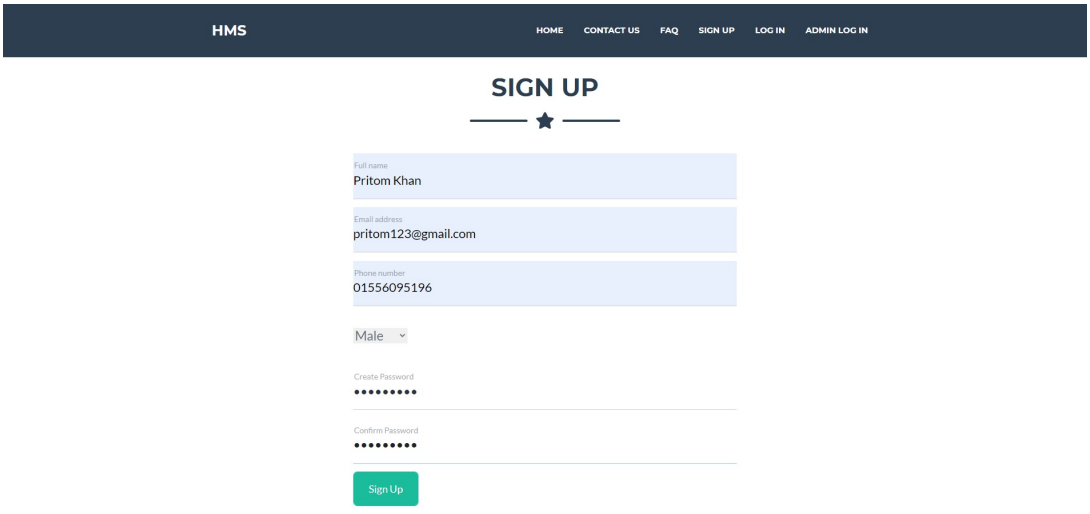
Male
Create Password
Confirm Password
Sign Up


HMS
HOME
CONTACT US
FAQ
SIGN UP
LOG IN
ADMIN LOG IN
SIGN UP
Sorry Password Did Not Matched. Try again!!
Full name
Email address
Phone number
Gender
Create Password
Confirm Password
Sign Up


HMS
HOME
CONTACT US
FAQ
SIGN UP
LOG IN
ADMIN LOG IN
SIGN UP
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Phone number
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Male
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Confirm Password
Sign Up

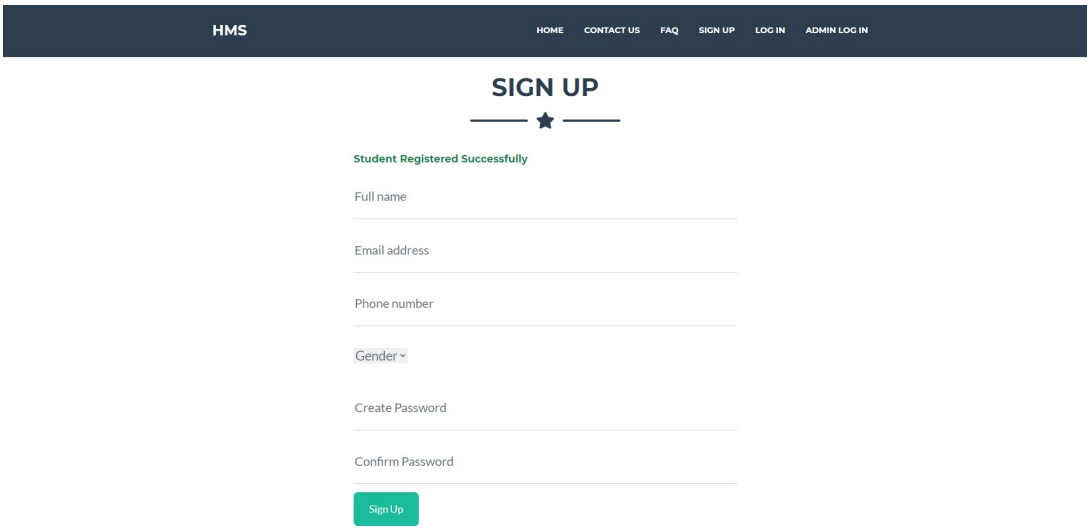
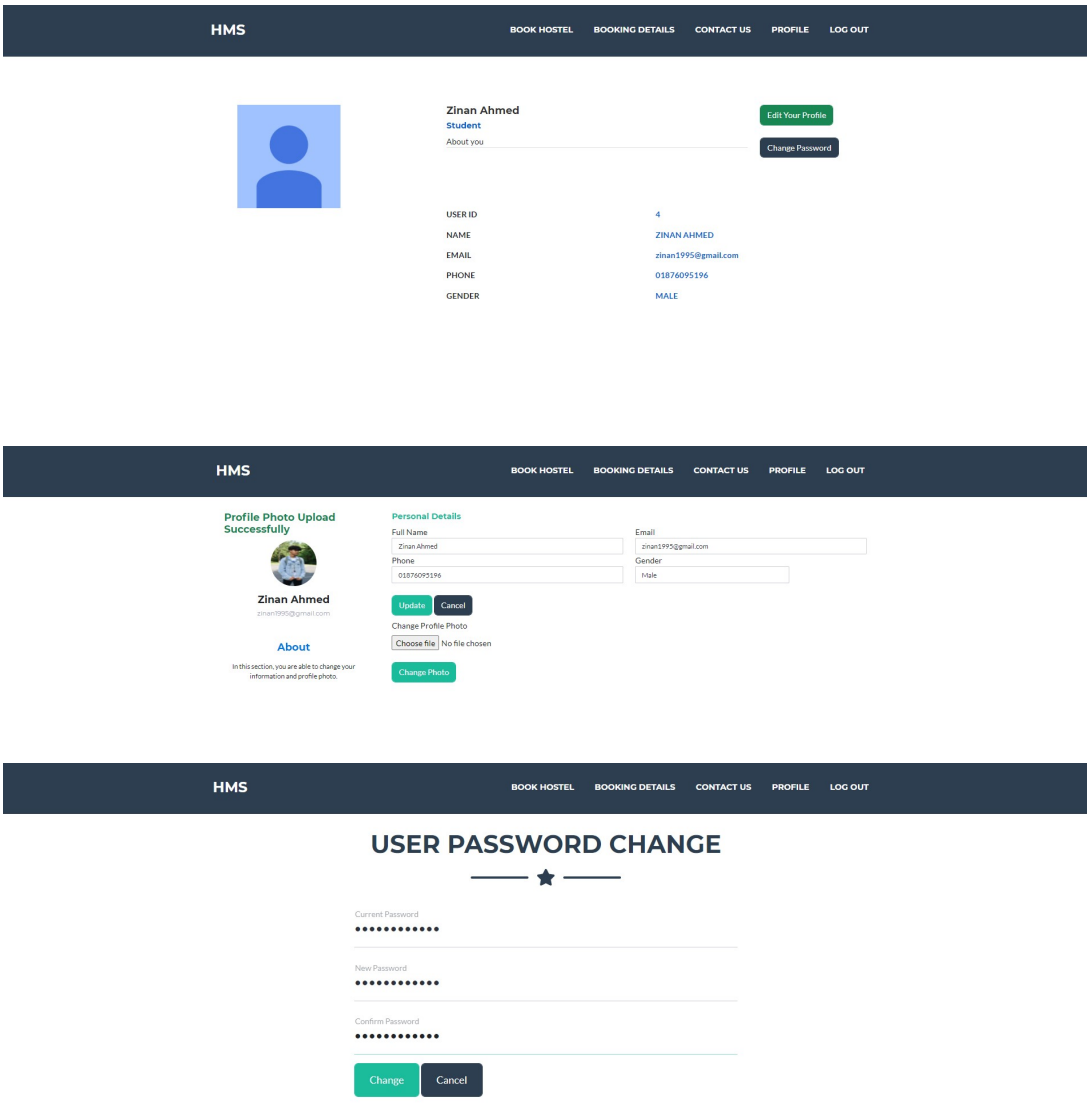



Figure 6.1: Sign Up Validation

## Testing phase-2



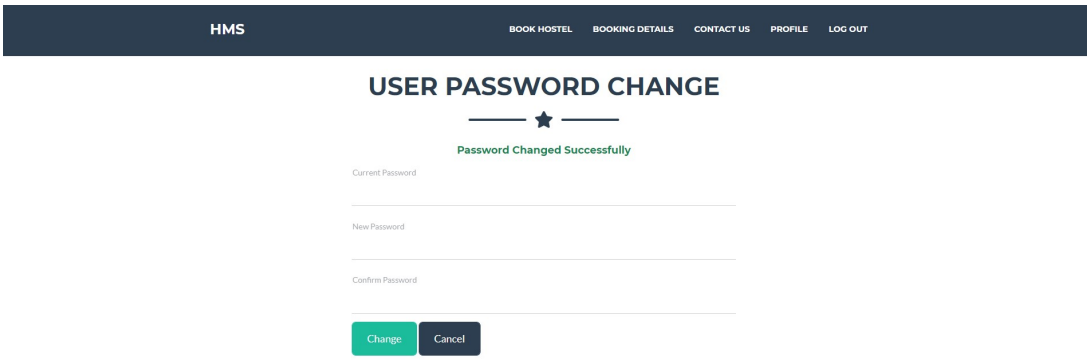
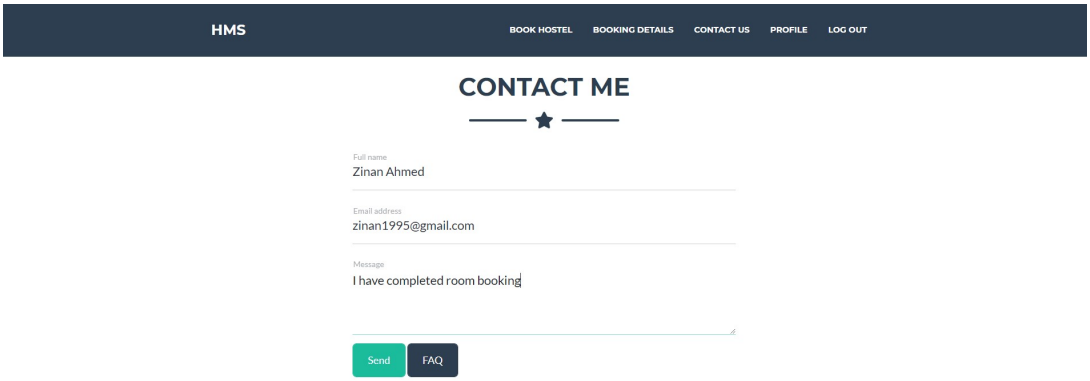
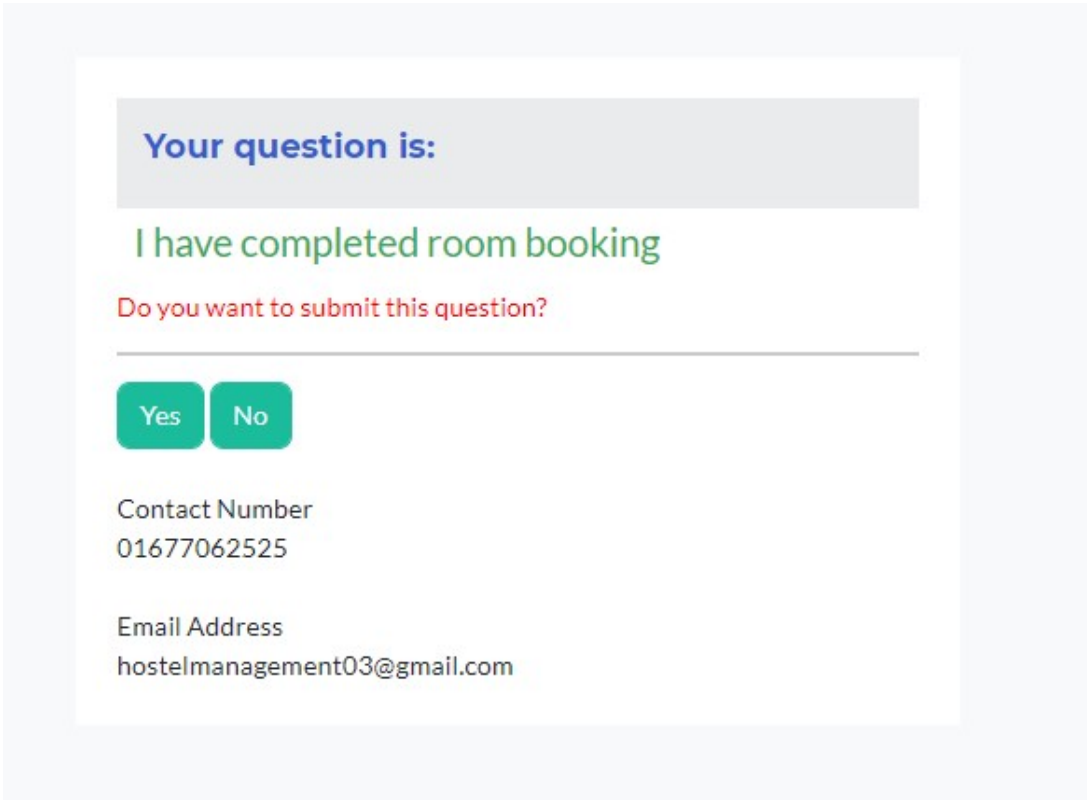
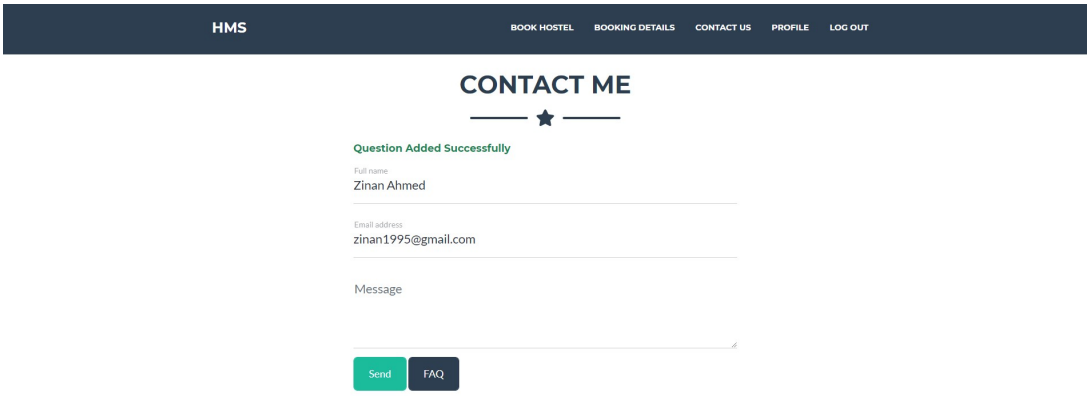



Figure 6.2: Editing profile info and changing password

### Testing phase-3



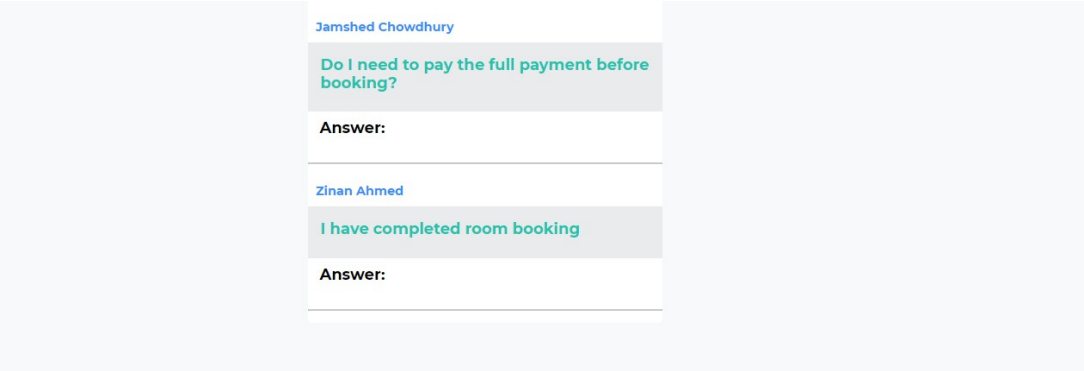
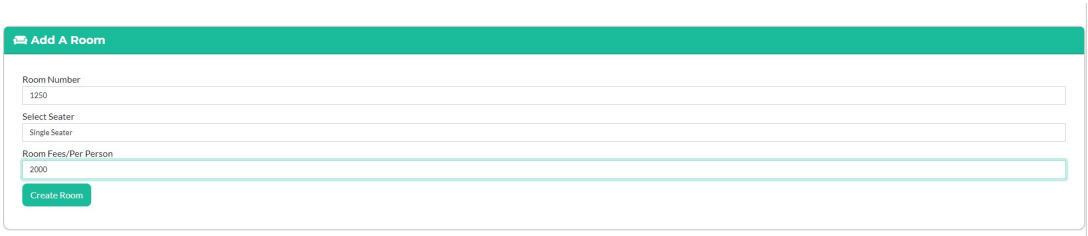
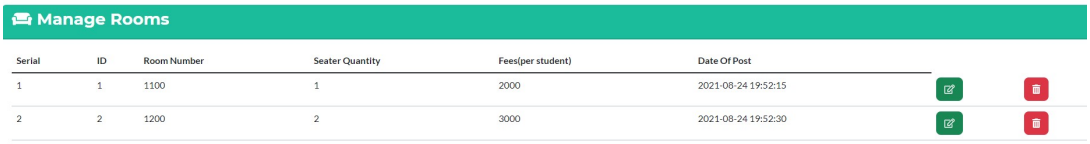
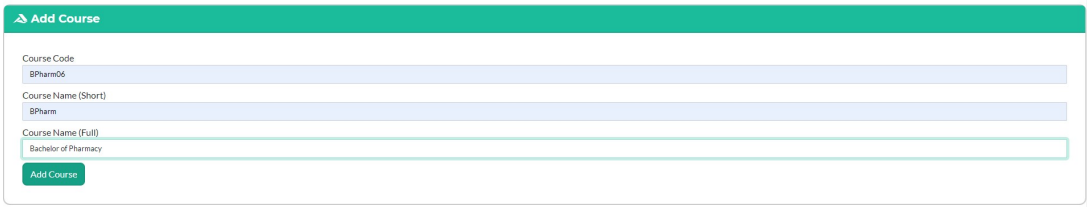


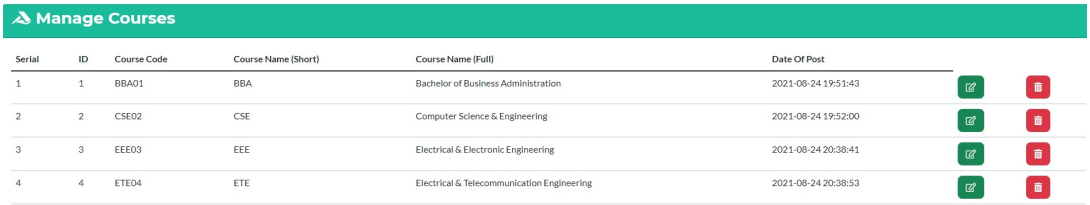

Figure 6.3: Posting the FAQ

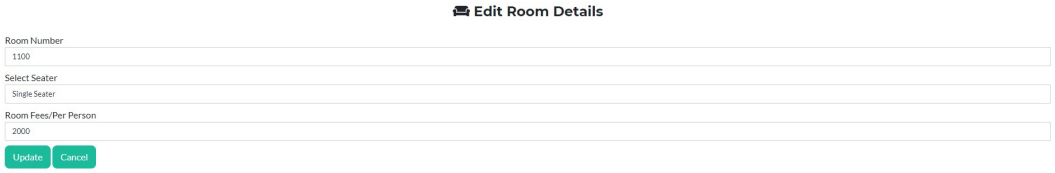
## Testing phase-4

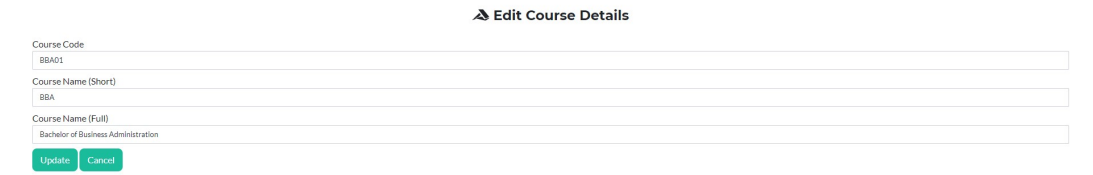
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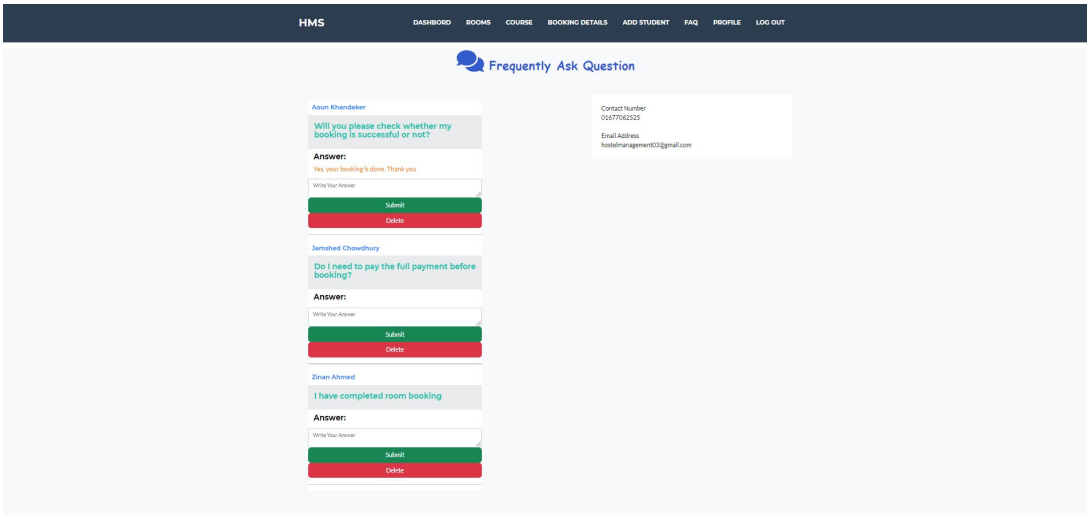
Course Name (Short)
BBA
Course Name (Full)
Bachelor of Business Administration
Update
Cancel


HMS
DASHBORD
ROOMS
COURSE
BOOKING DETAILS
ADD STUDENT
FAQ
PROFILE
LOG OUT
Frequently Ask Question
Aoun Khandaker
Will you please check whether my booking is successful or not?
Answer:
Yes, your booking is done. Thank you
Write Your Answer
Submit
Delete
Jamshed Chowdhury
Do I need to pay the full payment before booking?
Answer:
Write Your Answer
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Delete
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I have completed room booking
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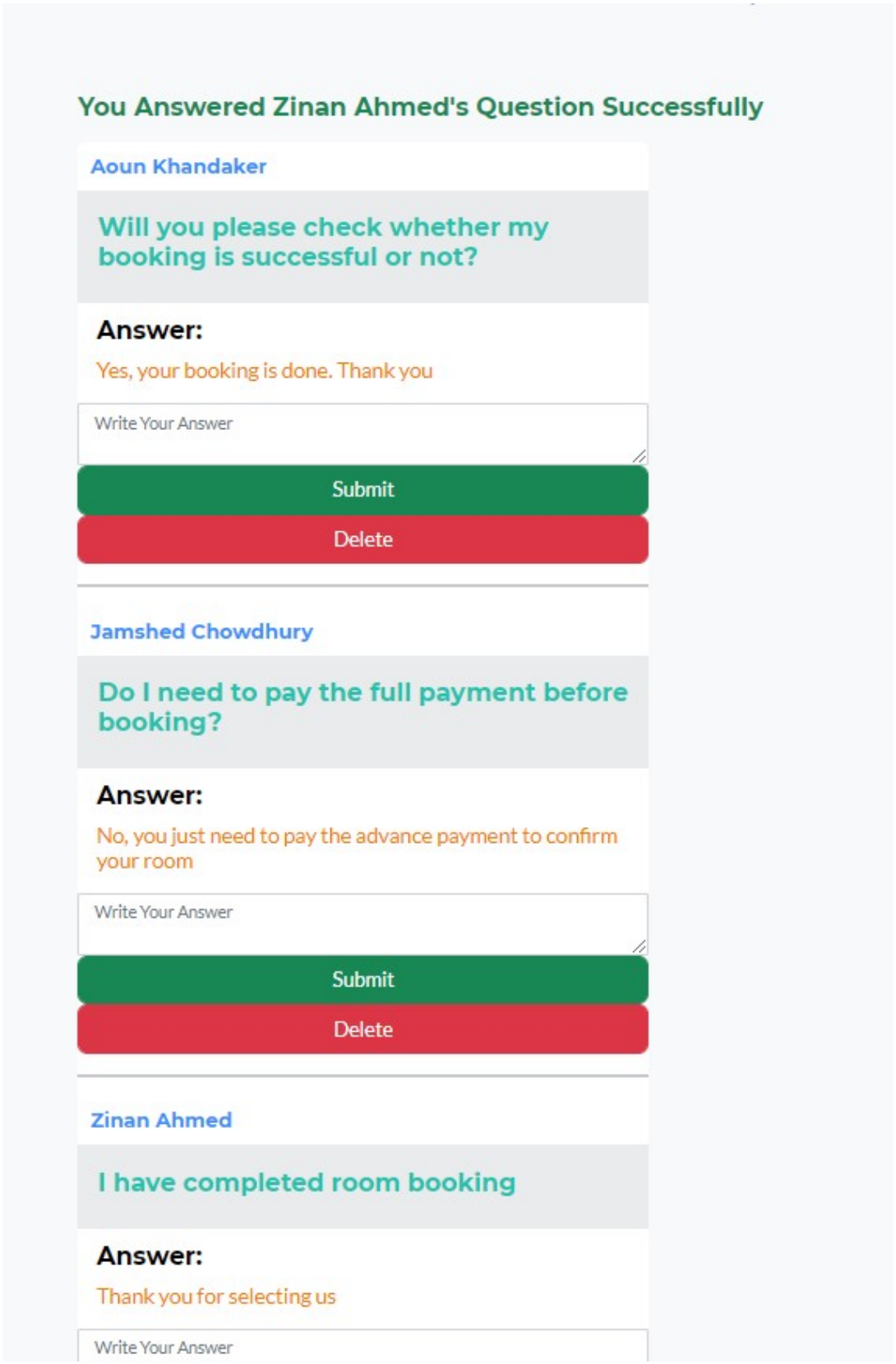


Figure 6.4: Admin modules test

## Analysis:

From the above we can conclude that without proper authentication or authorization no one can enter into the system, after providing valid info the system can be accessed. If anyone enter false or invalid data the system will show the error message and request to put the valid info once again. Once the user gets signed in they have the full access to their part on the system, like editing profile, booking for room, view the status of their booking, contact with the administrator if they face any issues etc. The admin will look after the whole system to make sure it is operational and to give the users or visitors the best service possible.

# Chapter 7

# Project as Engineering Problem Analysis

## 7.1 Sustainability of the Project/Work

Onetime payment is provided for the development of the whole infrastructure of the project and other services are also included as per contract basis. The hostel management system is developed for identifying the problems that were faced by the hostel management previously. Hence the system manages those problems faced by the hostel when they were carried manually and increases efficiency. The system is developed in such a manner that anyone with a minimal knowledge of using a computer can use it for which this web-based project is more user friendly. Since, there are no paperwork involved there is a high probability of less error to be caused and repeated data to be entered. This feature of the software reduces data redundancy. Also, as the system is digital and an online based project, manual labor is reduced and can be operated from anywhere with a decent internet connection [8].

## 7.2 Social and Environmental Effects and Analysis

Due to the development of this online based system the use of paperwork and register book used for keeping student log have decreased. This change affected the society and environment. As a result of this online based system people who were in paper business has incurred a loss. Their supply of paper has decreased which has affected their income. Also hostels which were using paper registers for many years were storing the yearly registers, and when they were too old for reference, they were either sold or burned which harmed the environment. Also, these registers acted as databases, so when there was a need for a student reference, they were not available. This system is helping the environment from pollution as no more papers are being burned which reduces carbon emission. Also, the system can store users data and can be referred or looked into when needed.

## 7.3 Addressing Ethics and Ethical Issues

While developing a software or a system there are some ethical conducts and professionalism that needs to be followed by the developer. There are a certain set of rules that cannot be breached otherwise it can hamper the privacy of the user. A system is developed for user to interact with the system easily. In this project of hostel management system hashing was used to secure the users password so that no one else except the user can open their respective account. The system was developed to be user friendly as a result it prioritizes accessibility. As a developer no malicious coding or hidden code was used in the project which will hamper the operation of the system or will rise the cost of maintenance. With more research and development the system can be improved in the future if any issues arises.

# Chapter 8

# Lesson Learned

## 8.1 Problems Faced During this Period

In a real world we all get hands on experience apart from what we learn from our courses, but I am fortunate that some courses help me in this internship period. We need to adapt in a new environment getting out from our comfort zone, similarly I too came across some difficult situations like collecting the requirements, analyzing, and doing online meetings is taken toll on me. The information that was given related to my project to me was vague and not organized and hence I have to do long meetings tried to figure out relevant information from the team meetings, also I was able to learn the importance of team participation where everyone can share their problems and solution too. Hence, I can also share my feedback with them in order to get their opinions.

### Self-Learning Skills:

We had a meeting held once in a week to provide update about our assigned tasks. It forced me to work at my own pace, to gather the information needed to finish a task, and to learn the skills and implement it within a short period of time. Being a novice to this web application development platform, it was a bit difficult for me to grasp the concepts that were introduced in the numerous documentation and forums. To overcome the situation, I had to do some online research on my own based on the topic or the problem I am facing and come up with the solution that I can implement later on. In case, if I further face any problems I reached out to my supervisor and seek guidance, which helps me to the right direction and make my learning process more effective.

### Transfer of Knowledge:

In working environment, sharing knowledge, discussion and collaborating is vital to successfully completing any milestone in a more efficient way possible, which helps to reach certain goal in a given time-frame .Hence communicating, sharing ideas and learning skills from senior developers helped me to grasp the knowledge and find my mistakes easily.

So, working with different sets of people and continuously gaining knowledge from seniors and other sources benefits to develop certain skills on the web development sector which will help me to grow my work experience in this field.

I was able to understand how to test run my ongoing work and in case of any error how to troubleshoot it. At first, doing testing was tough for me since I don't have any prior knowledge how to handle it, but as the time progresses I was able to get the hang of it and by doing multiple tests for myself, I was able to fix my errors and get on track. There are still a lot to learn to improve my skills in web development industry as it keep on changing day by day, hence I need to keep myself updated to get along with the competitive market.

## 8.2 Solution of those Problems

While working with the project, the weekly task assigned to me was whole lot to do, hence I divided the assigned task into many sub-tasks and set a milestones to my preferences and adjust them accordingly to deliver those task on time. From my experience, what I have learned was that in case of large task, I need to split those task into sub-tasks and categorized them accordingly with priority base so that I can deliver the complete output within the assigned time-frame.

During my entire journey as an intern I learned a lot and acquired new knowledge which I did not have before, now I know how to work with an organization and communicate in a proper way to convince any personnel what to do and what not in a project, also I learned some moral and ethics which I need to maintain that will help me to become successful in the web development industry in the future.

# Chapter 9

# Future Work & Conclusion

## 9.1 Future Works

Due to time constraint I was unable to add some features which I am planning to add on the future like adding suitable framework which will make the website more pleasing and more interactive. User can able to renew the time of their stay also after the registration the bill can be calculated dynamically, and the payment can be done via online payment solution. In case of admin there will be add/manage section for employees where an admin have the full control over all employee information including their payroll too.

## 9.2 Conclusion

My project on "Hostel Management System" is my first attempt outside theoretical knowledge, for completing this project, for which I had to learn HTML, CSS, PHP and Bootstrap. I learned about these programming languages from my senior colleagues where I did my intern. There were a lot of things about coding that I did not understand but with some help from my colleagues and online research and going through various video tutorials I understood my shortcomings, due to which I was able to complete this project. Since this was my first project in an organization, I learned a lot. Also I am not an expert so I do not know what kind of errors are still there in my project, but I do know from the experience I gained, that I have room for improvement in the future.

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