Department of Computing and Information System (CIS)

TITLE OF THE PROJECT

Guest Rent Service Management (GRSM)

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Acknowledgment

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Finally, I would like to thank my parents and friends who supported me and bravery me a lot in finishing this project work. I am so grateful to all of them.

Dedication

I have dedicated my project work to my family and many friends. Special thanks to my loving parents, whose encouragement and determination I have heard. My sister Jarin Rafa was by my side and was very special. I have dedicated the work of this project to many of my friends and family who have supported me throughout the process. I will always praise them for what they have done. Junaid Miaje in particular helped me with my technical skills, many hours of proofreading and Taznin Abrity helped me master the leader points.

Abstract

Guest Rent Service Management (GRSM) is an academic project. The goal of managing a guest service is to provide a service based on location in the whole country, not just intercity, that can rent a house for a few hours or days. The management of this service is extremely conscious of human safety.

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Chapter 1 – Introduction

Introduction

Today's world is full of technology. So, people want to be more comfortable and save money. That is why they are always looking for better services. Guest rent service management is a service where people can get more comfort but less money. Hospitality is one of the best performing arts at both regional/domestic and international levels. Many hospitality businesses have a good chance of making huge profits thus incorporating information technology into their business. Before the advancement of technology, it was very difficult to market their services for the hospitality of the customers. It was very expensive because customers are always physically different, miles away. The benefits of information technology have increased the number of customers as well as facilitated business transactions. Marketing their services has become easier and cheaper as people from the different regions can't Communicate and communicate with each other. So, Guest rental service management is a service where people can easily search where they can stay at affordable prices including their nearest place.

1.2   Documents contents

This document will include the following chapters for documenting project work.

Chapter-1: Introduction

The proposed system and project details.

Chapter-2: Initial Phase

This duty initial study of the proposed system with its main goals and objectives, problem areas, alternative solutions and project, background.

Chapter-3: Methodology

In this discussion in detail the domain of the problem, solutions, evaluation of existing solutions, and final recommencommendations**pter-5: Planning**

This chapter is about various project plans such as project planning, test planning, risk and change management, etc.

Chapter-6: Feasibility

Here you will find the detailed feasibility study report as well as a cost-benefit analysis.

Chapter-7: Foundation

This chapter will detail the problem area identification, general needs, suggested technology, and justification.

Chapter-8: Exploration

It contains the necessary catalogs, including some old systems and basic UML diagrams and prototypes of the new system.

Chapter-9: Engineering

The proposed system's logical and behavioral modeling is presented in this chapter.

Chapter-10: Deployment

Coding samples and development issues, as well as priorities, are mentioned here.

Chapter-11: Testing

This chapter comprises a range of test strategies and results.

Chapter-12: Implementation

Implementation methods, training models, and related issues are discussed here.

Chapter-13: Critical Appraisal and Evaluation

Initial aims that were reached and those that were not, with specifics.

Chapter-14: Lessons Learned

The pre-project-closing paper evaluates experience gained and hard work during the project.

Chapter-15: Conclusion

Here will be kept a record of the project's objectives, accomplishments, and lessons gained.

Chapter 2 – Initial Study

2. 1 Project Proposal

Introduction

The goal of **Guest Rent Service Management** is to create a centralized internet-based rental management system hotel rent alter solution. It is a very common sight that many people come to the city Centre for their pork and most importantly during university admissions. Sometimes staying in a hotel is defecation and though it is very expensive. The project is going to be built on a system that will help people who want to be very cheap and hassle-free and the environment is like home.

2. 2   Background Study

Although there are many hotels in our country to stay well every l sometimes follows the same rules which career expensive troublesome. For example, Radisson Blu is the best five stats cartel in our country which we all know, but the minimum cost per night for this hotel is 13775BDT which is very expensive. On the other hand, there are local hotels in our country which cost 1000BDT-1500BDT per night. But there are many problems and the main problem is the very dangerous security problem, especially for women. So I create guest rental service management which is very useful for people because this cost is very low and secure because this system takes people's phone number and NID number which is verified. And I hope there will be high demand for this system in the market.

2. 3   problem areas

Description of the Proposed System

The Guest Rental Service Management (GRSM) system is a web-based application that helps people search safely, learned based, urgent hassle-free, and get better environment like the low budget but feel at home.

And foreigners can also join and easily adapt to our culture and get the benefit of easy travel without any boundaries of the travel agency.

Feasibility Study

- **Operational Feasibility**

  As there are questions about the proposed system's usability, simplicity of use, and functionality, it includes correct user input verification and verification, a very simple and smooth navigation system, location-based search choices, and simple requests. Make the alternative system far more user-friendly. Administrators and users can quickly access their portals with authentic certificates and complete their assignments.

- **Technical Feasibility**

  Users of Guest Rent Service Management (GRSM) can manage their operations more readily than they could with the prior manual method, according to the technical feasibility test. For development and documentation, we'll utilize XAMMP Web Server, MySQL Database Server, Laravel-7 Website Framework, and Microsoft Office. The system was built and developed employing the most basic and widely used web applications, making it compatible with any web browser and low-bandwidth internet connection. To ensure safe access to system data, the system employs an access control sequence. The web-based application is platform-agnostic, and the development platforms and resources used are both affordable and expensive, making it to the body of work.

- **Economic Feasibility**

  There are several options for developing the proposed system, including web-based applications, tab applications, desktop applications, and more.

- **Website-Based Application:** Complete apps and data are maintained on a faraway server and may be accessed through the Internet from any location, at any time.

Equipment	Cost per unit	Cost
With extranet network VPN	2,000 BDT only per month	2,000 BDT

Desktop computer (Intel Core i9 CPU, 3.6 GHz, 32 GB DDR4 RAM, 2 TB HDD)	1,00,000 BDT total	1,00,000 BDT
Website, Files and Email servers	10,000 BDT only per month	10,000 BDT
	Total cost =	1,12,000 BDT

Table 1: Cost Estimation of the Website-based solution

- **Tab Based Application:** Each tab containing the system can browse to stay on the device which shouldn't be a bit of a hassle

Equipment	Cost per unit	Cost
Website, E-mail, files Server.	10,000 BDT per month	10,000 BDT
Desktop computer (Intel Core i9 CPU, 3.6 GHz, 32 GB DDR4 RAM, 2 TB HDD)	1,00,000 BDT total	1,00,000 BDT
	Total cost =	1,10,000 BDT

Table 2: Cost Estimation of the Tab-based learned

Desktop-Based Application: Every desktop computer requires web browsing and the data is hosted on a remote server. No need to install.

Equipment	Cost per unit	Cost
Website, E-mail, files Server.	5,000 BDT per month	5,000 BDT
Desktop computer (Intel Core i9 CPU, 3.6 GHz, 32 GB DDR4 RAM, 2 TB HDD)	1,00,000 BDT total	1,00,000 BDT
	Total cost =	1,05,000 BDT

Table 3: Cost Estimation of the Desktop-based solution

To get the system up and running, you'll need a domain name and hosting service. Since the system needs to track locations by selecting areas to serve location-based house searches, I will create a website application for people coming to town and staying hassle-free like not booking a hotel.

2. 4   problem solution

This is sometimes a complex process and users get into a lot of trouble, especially if it is an urgent need. The solution should have the option of controlling the entire system by database for the controller, the user. Users should be able to search queries according to location and qualifications and should include separate sections for conducting voluntary organizations. Automatic user filtering, eligibility testing, requests should be verified. All of these can be offered via a web-based application, a server-based desktop application, or a web-based system.

Chapter 3 – – Literature Review

One type of evaluation article is called a literary review. The literary review refers to the term UI collection of an element on a specific topic that does not refer to the larger literary content of the world. The term literary review refers to reliable information about a particular criterion that is published in any famous journal after much research and analysis. (Writing center, 2017) The literary review provides an overall idea for understanding a specific topic f of system development. A literary review of the project helps to find problems and solutions in those problem areas this section helps to provide possible discussions about the research and to make a comparison between the same fields of work which paves the way for creating a successful project.

3.1 Discussion on the problem domain

Guest Rent Service Management (GRSM) refers to the management information system and the action technology sensors. There are many hotels in Bangladesh but there is no benefit in renting your own house in a short time process. Sometimes people need a quick stay policy where they can pay a small amount and live in an environment. If we search in other countries we will find that there is ARBNB. Where AIRBNB can stay for a short time. In the case of Bangladesh, we could not ensure security. But now we can do that because NID and phone number verification policy already exist in Bangladesh. Some of our problems are discussed below:

➢ Security issues are a big problem in this case
➢ User cannot find a quick stay home
➢ User cannot find his preference area wise room rent
➢ User cannot feel safe

3.2 Discussion on the problem Solution

Guest Rent Service Management is a service where the house owner a single room and users can rent this room for a certain time. Now a day's technology is everywhere. Everything is becoming increasingly computerized and information. There is some solution that I consider about the issue stated below:

♣ Security

Security is a big issue. But NID and phone number verification can solve this problem. This is because if a homeowner or user's NID and phone number do not match, he or she will not be able to register with the system.

♣ Trust

People need to trust other people. If we look at UBAR for example, people there trust other people because accidents can happen at any time. So for this scenario, we also need people of faith to stay in / her home.

♣ Privacy
Because the Bangladesh Guest Rent Services Management System hosts the Internet and many users access it over the Internet, access must be checked and safeguarded. That can provide secure remote access, leverage a network address server, an external firewall, and a VPN.

♣ User Identify Verifications
When a user registration in this system he needs Phone number verification. Without match matching the Phone number not, to this systems.

3.3 Comparison among the leading solutions

❖ The environment transforms across time, and new technologies emerge, updating and facilitating existence. Because of the internet, the globe has shrunk to the size of a town. There are thousands of alternative approaches to address the same problem. Although **Guest Rent Service Management (GRSM)** is a one-of-a-kind solution, other systems in the same sector exist. In this part, I'll compare two well-known and well-liked current websites. This also includes several strengths, limitations, and strengths.

❖ https://www.booking.com (Bangladesh)

Information
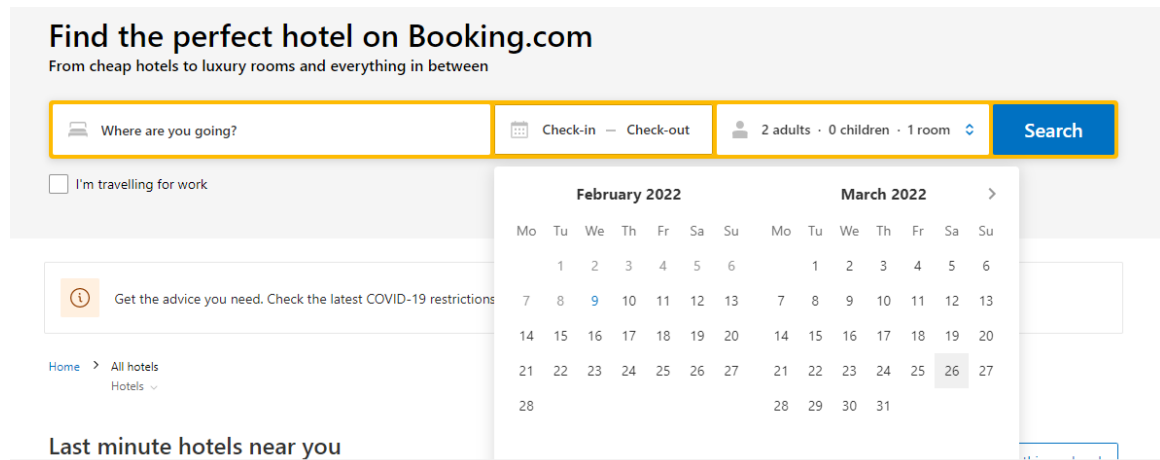
Figure 1: The overview of the site-1
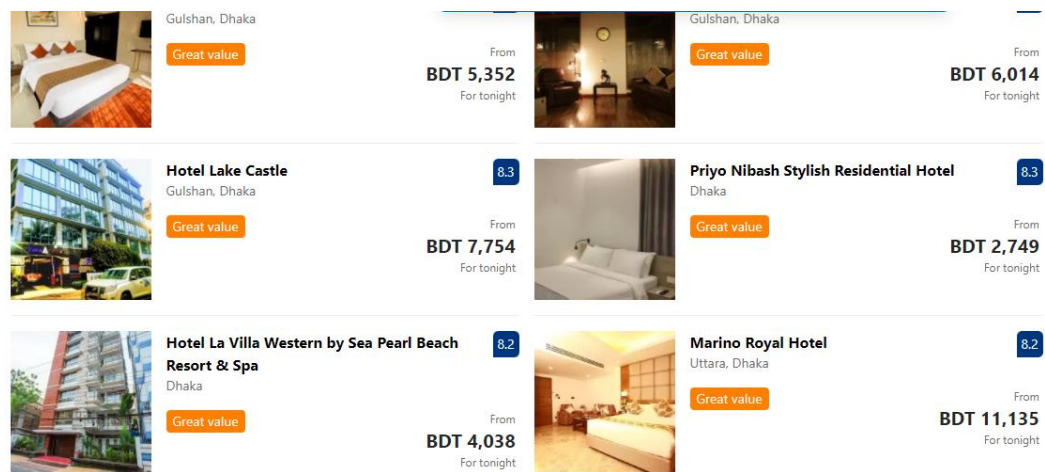
Figure 2: The overview of the site-2

Best Features

- ✓ Very well organized and wonderful design
- ✓ Pre-booking system
- ✓ Have an organized program gained to find a hotel

indentations

- ✓ No private request option
- ✓ Good environment but very costly

3.4 Recommended Approach

From the above discussion t, is clear that there is no need for existing website features it clarifies the functionality the and new system needs to be considered for consideration. The new system aspects listed here should be provided-

- ➢ The element of design that is user-friendly and appealing.
- ➢ Access to customer information is restricted.
- ➢ Notification system that is automated.
- ➢ Identity verification and approval process.

Chapter 4 – – Methodology

The software development team that is dedicated to the success of the project picks the finest software development approach for a successful project and effective project management. Every approach has its own set of flaws, and each method departs for its own set of reasons. The success rate of development is usually dictated by the approach used. With adequate study and knowledge, this chapter will go through the chosen approach in detail as well as the necessary arguments for adopting it.

4.1 What to use

Methods of software development are crucial in the software development process. Many software development methodologies exist, including the waterfall model, prototype model, agile software development, fast web development, dynamic system development model, spiral model, and simultaneous application development, among others. I'll outline three approaches, together with their upsides and downsides.

Dynamic System Development Method (DSDM)

The Dynamic Systems Development Technique (DSDM) is a Rapid Application Development Method-based method. This method prioritizes simultaneous active participation throughout the whole rapid application process. Always use the DSDM method to produce a high-quality project that receives high levels of customer satisfaction.
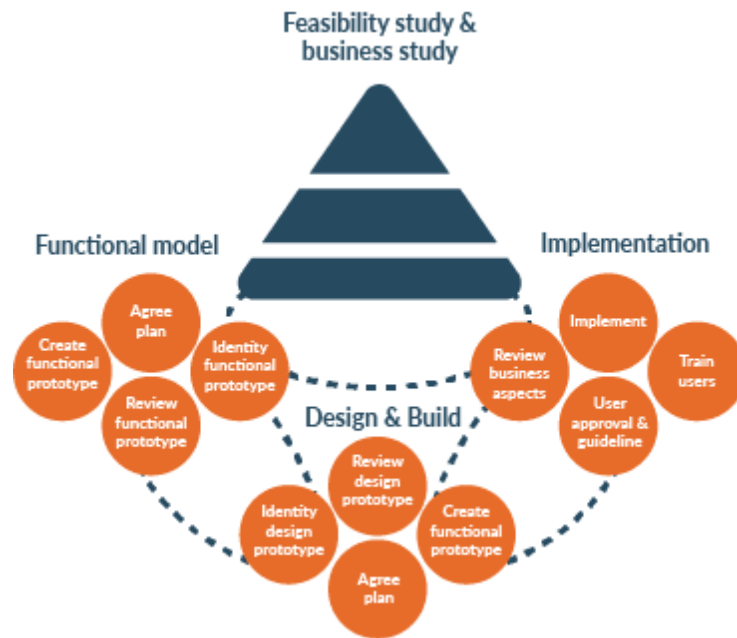
Figure 3: Dynamic Systems Development Method (DSDM)

Advantage of Dynamic System Development Method (DSDM)

- The DSDM model prioritizes business, ensuring that the business value of any project they deliver is important

- You can quickly deliver basic product functionality.

- Developers have easy access to the public.

- The project is easy to stands budget

- Development and progress happen fast

The disadvantage Systems Development Method (DSDM)

- Sometimes there are big management overheads

- Implementation can be costly as it may be impractical for a small company

- The DSDM does not promote developer innovation.

- Projects follow a certain standard, even if other more sophisticated options are available

Waterfall Model or Structured System Analysis and Design Method (SSADM)

Amongst some of the ways of software development is the most prevalent model for software development. This method is frequently seen to be in line with the traditional approach to software development. This model technique follows a linear sequence, which means that any step will only begin to operate if the previous phase has been finished. If any changes are necessary to satisfy the criteria, this development procedure does not return to the previous stage.
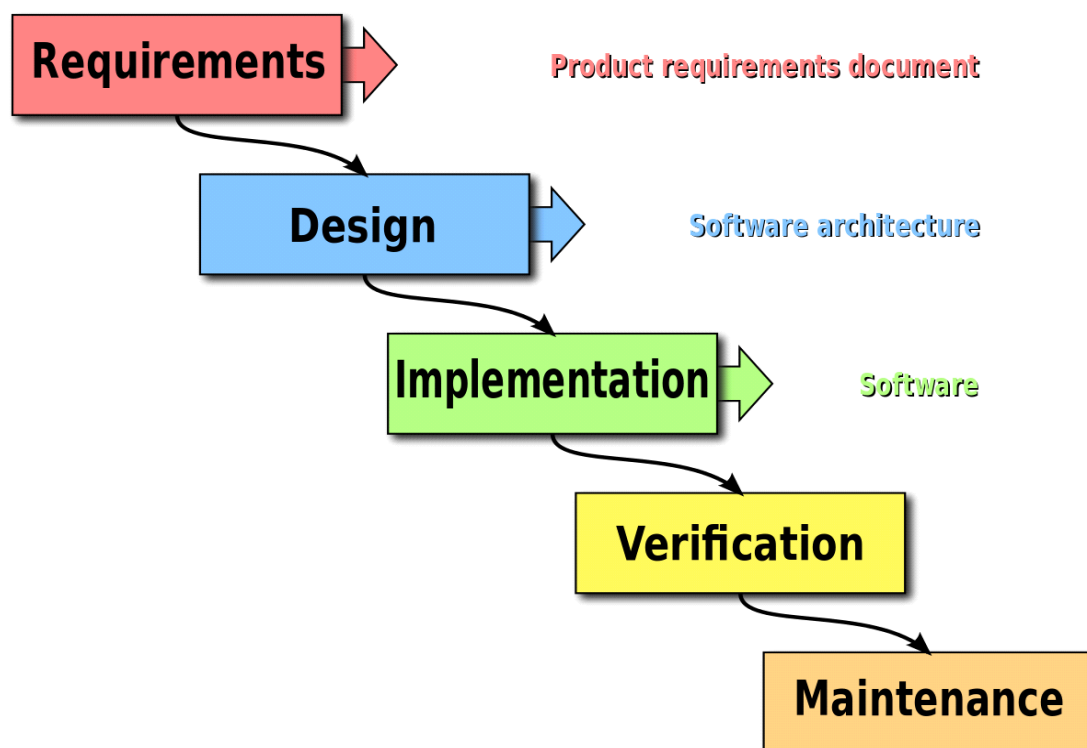
Figure 4: Structured System Analysis and Design Method (SSADM) or Waterfall Model

Advantage of Structured System Analysis and Design Method (SSADM) or Waterfall Model

- Before the next stage of development, each stage has to be completed

- Suitable for small projects where requirements are well defined

- Their defined assurance test (verification and validity) should be done before completing each stage

- Extensive documentation is done at each stage of the software development cycle

- The project is entirely dependent on the project team with minimal client intervention

- Any changes to the software are made during the process

The disadvantaged System Analysis and Design Method (SSADM) or Waterfall Model

- Errors can only be corrected during phase

- It is not recommended for complex projects where requirements change frequently

- In the developmental process, the duration of the test comes quite late

- Documentation takes a lot of time for developers and testers

- Valuable feedback from clients cannot be included in the ongoing development phase

- Small changes or bugs in the completed software can cause many problems

Rapid Application development

Rapid application development is a useful way for producing high-quality work faster than other software development methodologies. It has been constructed in such a manner that it easily credits the maximum advantages of software development. The key to this strategy is to speed up all of the programming's
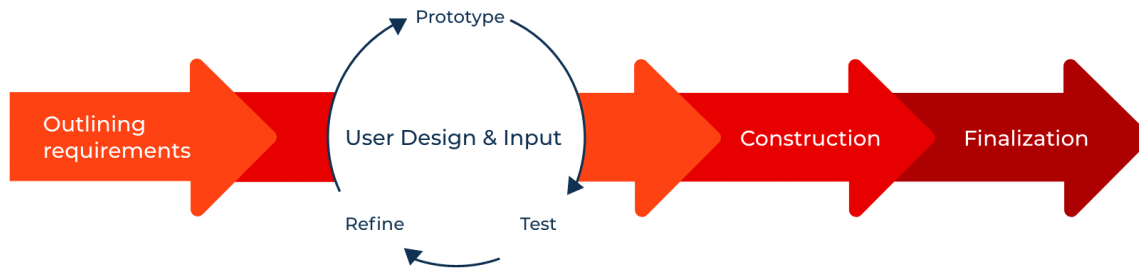
Figure 5: Rapid Application Development

Advantage of Rapid Application development

- Flexible and adaptable to change

- This is useful when you need to reduce the overall project risk

- It is adaptable and flexible to change

- Distributable transfers are easy as scripts, high-level abstraction and intermediate code are used

- Due to code generators and code reuse, manual coding has declined

- Due to the prototyping in nature, there is less chance of error

The disadvantage Application development

- It cannot be used for small projects

- Not all applications are compatible with RAD

- When the technical risk is high, it is not appropriate

- RAD projects can fail if developers are not committed to delivering software on time

- Features have been reduced due to time boxing, with features being pushed to the next version to finish a release in a shorter time.

Choosing Methodology

I have opted to use the DSDM technique for the Bangladesh Guest Rent Service Management System project because of the aforementioned requirements. For the Bangladesh Guest Rent Services Management (GRSM) project, DSDM will be the best and most appropriate alternative. This is because the DSDM technique consistently delivers high-quality products and projects on schedule, and it is adaptable enough to be used in any firm or organization. During the

development phase, clients or clients may adjust their requirements if they believe they are necessary for their project.

4.2 Why to Use for

To effectively satisfy the required period and financial constraints, the system must follow a method. By following its established preset processes, a technique aids in the achievement of the project's major objectives. Choosing the ideal one, on the other hand, is a difficult task. The approach used in such an academic assignment will go a long way toward finishing it and delivering results.

4.3 Sections of Methodology

There are some sections of the DSDM system that the development team needs to follow. There are:

Pre-project stage

In this section, the initial project concept includes terms, budget, and basic, requirements.

Feasibility study Stage

Numerous methods are used to identify both functional and non-functional project needs in this area.

Requirement Gathering Phase

Numerous methods are used to identify both functional and non-functional project needs in this area.

Requirement Analysis and Prioritization Phase

Using a prioritizing technique, the acquired needs are analyzed and ranked in this step. Moscow

Search and engineering stage

The method's primary iterative part was utilized to investigate the requirements and develop an iterative solution.

Review stage

The created deliverables are tested with users in this segment, and if a modification is required, the prior episode is returned to.

4. Implementation Plans

The project is nearing completion, with sophisticated applications being made available for usage. If there are any complications with the new system, it will be made publicly available for usage. The issue has been identified and remedied. This part determines the release criteria, configuration, and planning. The proposed regime is then released and everything is in order.

Chapter 5 – – Planning

5.1 Project Plan

This section explains how to plan for the project's completion. Is separated into numerous distinct portions, and assuming everything goes according to plan, all of the work will be done within the period outlined in this phase.

5.1.1 Work Breakdown Structure

This stage indicates that the project may be broken into smaller jobs, allowing the project to be completed in a more timely and efficient manner. His structure provides us with a time and effort estimate. Completing the project without this framework might be more difficult. As a result, a figure below in WBC divides the planned system into sections and sub-sections:

Serial	Task Name	Durations	Start Date	End Date
1	Introduction	4 Days	Fri 15/10/2021	Wed 20/10/2021
2	Initial Study	6 Days	Thu 21/10/2021	Wed 27/10/2021
3	Literature Review	5 Days	Thu 28/10/2021	Mon 1/11/2021
4	Methodology	6 Days	Tue 2/11/2021	Sat 7/11/2021
5	Planning	7 Days	Sun 8/11/2021	Sat 14/11/2021
6	Feasibility Study	5 Days	Sun 15/11/2021	Sat 20/11/2021
7	Foundation	3 Days	Sun 21/11/2021	Tue 23/11/2021

8	Exploring & Engineering	17 Days	Wed 24/11/2021	Fri 10/12/2021
9	Development	15 Days	Sat 11/12/021	Sat 25/12/2021
10	Testing	4 Days	Sun 26/12/2021	Wed 29/12/2021
11	Implementation	3 Days	Thu 30/12/2021	Sun 2/1/2022
12	Critical Appraisal & Evolution	1 Day	Mon 3/1/2022	Mon 3/1/2022
13	Lesson Learned	1 Day	Tue 4/1/2022	Tue 4/1/2022
14	Conclusion	1 Day	Wed 5/1/2022	Wed 5/1/2022
15	Totals	78 Days		

Table 4: Work Breakdown Structure of DSDM

5.1.2 Resource Allocation

All resources and resources are assigned and handled in an orderly way for the fulfillment of the intended project. One of the most crucial aspects of project planning is resource allocation. Because there is no team for this academic endeavor, I shall take on different duties at different periods. The following is the resource allocation for the BBSM project it accommodate the pre-determined job delivery deadline:

Timebox	Task	Resource
TB 1	Introduction	Analyst, User
TB 2	Initial Study	Analyst
TB 3	Literature Review	Analyst
TB 4	Methodology	Analyst, User
TB 5	Planning	Analyst, Team leader

TB 6	Feasibility Study	Analyst, User
TB 7	Foundations	Analyst, Designer, Developer
TB 8	Exploring & Engineering	Analyst, Designer, Developer
TB 9	Development	Designer, Developer
TB 10	Testing	Designer, Testing, User
TB 11	Implementation	Designer, Testing, User
TB 12	Critical Appraisal & Evolution	Analyst
TB 13	Lesson Learned	Analyst, Designer, Testing, User
TB 14	Conclusion	Analyst

Table 5: Resource Allocation list

5.1.3 Time Boxing

This is another important part of DSDM project planning, as DSDM divides tasks into time boxes to meet targets ahead of schedule. In this section, all tasks are divided into several time boxes with a duration. These tasks must be completed within the time allotted for the repetitive procedure.

SL	Task	Durations	Resources
1	Introduction	4	Analysts, Users
2	Initial Study	6	Analysts
3	Literature Review	5	Analysts
4	Methodology	6	Analysts, Users

5	Planning	7	Analyst, Team leader
6	Feasibility Study	5	Analyst, User
7	Foundations	3	Analyst, Designer, Developer
8	Exploring & Engineering	17	Analyst, Designer, Developer
9	Developments	15	Designer, Developer
10	Testing	4	Designer, Testing, User
11	Implementations	3	Designer, Testing, User
12	Critical Appraisal & Evolution	1	Analyst
13	Lesson Learned	1	Analyst, Designer, Testing, User
14	Conclusion	1	Analyst

Table 6: List of the time Boxes

5.1.4 Gantt Chart

The Gantt chart is a diagram that depicts the project's activity schedule. It displays the duration of a progress bar from the start to the finish date rather than the day. Below is a Gantt chart for the **Bangladesh Guest Rent Services Management System.**
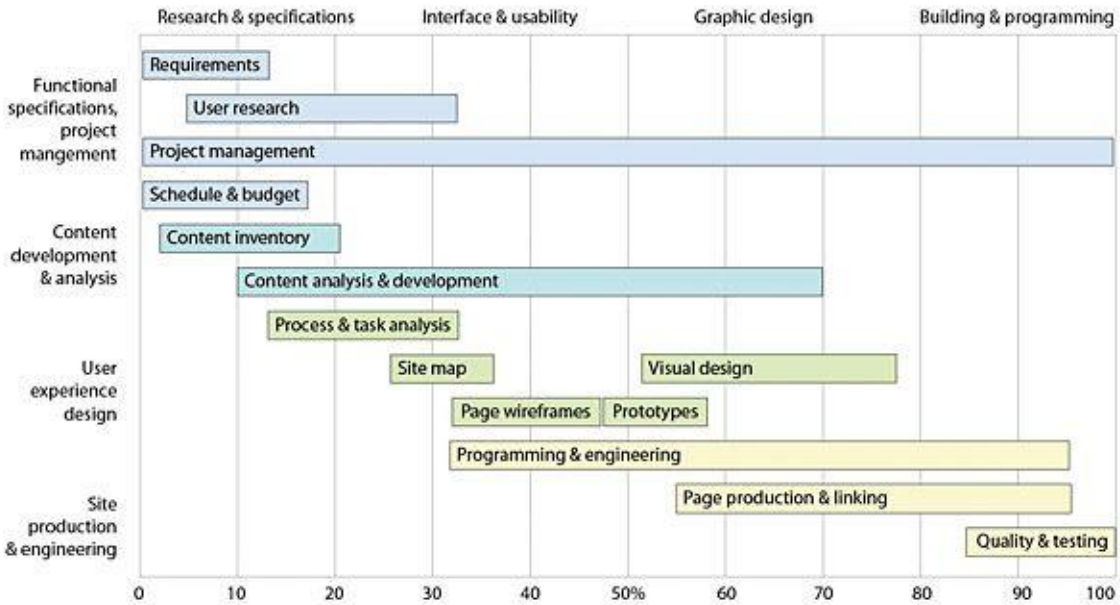
Figure 6: projects cycle file Gantt chart

5.2 Test Plan

The test is designed around the differential between the provided input and the system's expected output. During the verification and validation phase, software development had put to the test.

5.2.1 Testing against the timeboxing

The timebox process is based on estimating a specific and maximum single time for a particular department. Test against time box

User name	Example	Role	Timebox
Timebox			
Time box content			

Test Type	Tests step	Expected result	Actual Result	Comment

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Unit testing				
Integration Testing				
System Testing				
Acceptance Testing				
Security Testing				
Usability Testing				
Reliability testing				

Table 7: Sample of testing against the time box

5.2.2 Required Test

There are several testing modules available, however, the two most common forms of system tests are functional and non-functional tests:

Functional Testing:

❖ **Unit testing:** It only works on a limited portion of the program that models area, distinct pieces, and tests them separately or as a group. The developer engaged does this by using common input and watching the expectation.

❖ **Integration testing:** It only works on a limited portion of the program that models area, distinct pieces, and tests them separately or as a group. The developer engaged does this by using common input and watching the expectation.

❖ **System Testing:** It is compatible with a variety of operating systems, including Windows and Linux. It can only be used with the black box testing method. With internal work, receives the needed input and presents the preferred result.

❖ **Acceptance Testing:** This test allows users to interact with it directly. This is done once the previous test has been accomplished. It functions by user expectations and satisfaction, as well as corporate requirements.

Non-Functional Testing:

❖ **Security Testing:** External security testing is performed, and a web application is included in the security testing. It guards against external and internal threats, including SQL injection, by verifying unauthorized entry or access.

❖ **Usability Testing:** This guarantees that the system is user-friendly and that users can interact and access services without difficulty. In this usability test, this type of verification and validation took place.

❖ **Reliability testing:** This guarantees that the system is user-friendly and that users can interact and access services without difficulty. In this usability test, this type of verification and validation took place.

5.2.3 Test Case

The test case number, test type, test description, and test procedures were all contained in the test case.

Test case numbers			
Test types			
Test Descriptions			
Test Steps	Expected test Result	Actual test Result	Comment of test

Table 8: A sample Test case

5.2.4 Plan for User Acceptance Testing

The user acceptability test segment's last phase. It specifies and evaluates the test's efficacy by the user:

Test case number			
Test types			
Test Descriptions			
Preparation for testing			
user Name			
Act for			
Test Step	Expected test Result from	Actual test Result	Comment of test

Table 9: User Acceptance Test plan

5.3 Risks Management

Risk management is the process of recognizing, assessing, and responding to any risks that may arise during the project development life cycle. To keep track of the remaining projects and ensure that their objectives and expected outcomes are met. A project's risks may include the project's timeframe, money, and effectiveness. There are several sorts of risk management to consider.

➢ Risk identify
➢ Risk evaluate
➢ Risk precautionary
➢ Steps are taken for possible risks

5.3.1 Risk identification

One of the most significant portions and procedures of risk management planning is risk identification. The initial stage in risk identification is to identify and categorize the risks that may arise and have an impact on the project, as well as to categorize and elevate their features, as well as the document's features. Some risk identification criteria will be justified as a result of this effort, as follows:

❖ Risk identify with potential risk identification and documentation
❖ The identified risk details include the actual cause
❖ Implications including future outcomes and risk factors

Details of potential risk identification and track the risks of this project are given below:

Type of Risks	Causes	Impact and consequence
Scheduling	There are several types of reasons occur scheduling Risks are included-> ▪ Inadvertently postpone the source of the Corona Pandemic scenario ▪ Specific segments failure included data loss losses Users and admins.	▪ Project late submission
Database Error and Destroy	In this project, we panel here, admin and user. So sometimes it's tough to manage	The user could not find their expected place to stay
Unauthorized Access	A person trying to access this system without permission. This can make it difficult to include risks ▪ User may change location	Confidential information can hacked as well as change

Technical problem ❖ Hardware	▪ Lack of required speed ▪ Lack of required performance ▪ Lack of required configuration	▪ scheduling may failure
Project Backup	▪ Lacking of project backup on GitHub or Similar to this	▪ Effects on the costs ▪ Lose in the project
Network Failure	▪ Lacking of access to some integrated and Internet connection required for email management	

Table 10: Risk identification Table

5.3.3 Risk Precaution

Following the conclusion of risk identification and risk assessment, risk action is planned. There are several steps you can take to begin the process of preparation for mediation

❖ Occurred and to prevent potential risks
❖ Occur and reduce potential risks
❖ To address those that have occurred and potential risks

Types of risks	Action	Action Taken By	Action Required
routine	To make the exactly time estimation by using Gantt chart etc. Technology Use: Used recast, Hive etc.	Involved developer	Before starting project development

Database Error	▪ To make the necessary normalization. ▪ To create the perfect necessary relationship at the table	involved developer	on the time of Data add, update and delete
Unauthorized Access	▪ To be performed code while maintaining code smelling ▪ To be launched multi authentication system of this project.	involved developer	When setting the authentication segment
Technical problems ❖ Hardware's			
Project Backup	▪ Lacking of project back-up on GitHub or Similar to this	involved developer	Update frequently
Network Failure	▪ Lack of access to some integrated API and Internet connection required for email management	involved developer	On On-the time project development

Table 11: Risk Precaution

5.3.4 Step are Taken for Possible Risk

After identifying potential risks, the responsible person takes the necessary steps. These are below:

Type of risks	Descriptions	Likelihood	Impacts	Step is Taken
Scheduling	The likelihood of missing project timelines and deadlines is one of the most prevalent concerns.	Rare	High	During the project, Boxing and Gantt created charts and work breakdown structures.
Database Error	Duplicate entries are possible, as is an invalid relationship.	Likely	High	Normal form normalization entity-relationship images have been used and data dictionaries have been created.
Access	Access to the system that is not allow	Unlikely	High impacts	Implement proper authentication systems and access authorization.
Technical Problem ❖ Hardware	Hardware crashes can cause unresponsiveness.	Frequently	Medium impacts	Back-up and regular maintenance and monitoring have been ensured.
Network Failure	Internet failure or connection problem.	Frequently	Low impacts	The proxy server is configured and high-speed bandwidth is allocated.

Table 12: Risk dealing steps

5.4 Changes Management

5.4.1 Factors that might be cause for change

There are many types of change needed for this system which is including:

❖ Changes in the routing segments
❖ Modifications to the functional specifications
❖ Changes to various user interface modules
❖ Changes to the parts that handle security

5.4.2 DSDM Welcome to be changed

Sometimes the life cycle of a project development should be changed based on the needs of the project. As a result, we need follow particular methods that take on various sorts of obstacles depending on the system. As a result, DSDM is one of the approaches that is adaptable, dependable, and accurate. This technique is followed in this system to maintain and make adjustments throughout development.

It works in several approaches ->

❖ It can be developed a system for tracking any module updates Method
❖ It can take reviews from user users changing categories, such as customer details, email automation changes.
❖ It performs after completion of changes
❖ It can be ensured the security purposes
❖ It can be ensured the reliability as well as scalability

5.4.3 Considering Business Priority

The changes are considered to meet the expected goals and objectives with the business objectives. That's why we need to prioritize the effectiveness of the change as well as the requirements that will result in the strong benefits expected from the users involved.

Priorities included

Area of topic	Priority Levels
Scheduling segment	6
Functional requirements are	7
User interfaces	5
Rating and review in segment	4
Security handling segment	7

5.4.4 Change Workshops are

As well as identifying, the profiles of the team member, the user interaction will be firmly established. Developers may be involved in making necessary changes and additions do a workshop by creating questionnaires on what will be needed to make changes and additions to this system.

5.4.5 Changes that are allowed

Changes need to be adapted based on the priority level of the change Changes need to be made based on different resources, costs, schedules, quality, a risk During the development of a certain part of this system, we need to allow changes according to our priorities.

5.4.6 Key Decision Taker of Change

The decision-makers of the change will be taken by various experts in their area. This project is individual for change here.

- ❖ Requirement Analysts
- ❖ Developers
- ❖ Testers

The functional requirements may be changed as needed by the analyst, and the corresponding code can be changed by the developer as well.

5.5 Quality Managements

During the project's inception, quality management maintains the standard that users are willing to accept. Several factors influence quality management, including:

- Communication between members of the team and users
- Continual adjustments to the need

5.5.1 Rules are applied to Maintain Quality

The rules for maintaining standards are applied from system to system and from user to user. Some rules do be followed while maintaining quality including quality control and quality assurance.

5.5.2 DSDM Standard Quality Measures

Solution quality: By tracking users' requirements, solution quality has been assured based on predicted business needs and user expectations. Two forms of prioritizing were employed to finish this procedure.

- ❖ Time Boxing
- ❖ Moscow

These two techniques have been accomplished, and the timetable has been maintained. Process quality has been guaranteed by the target organization. To ensure the quality of these processes, two approaches have been established.

- ❖ CMMI
- ❖ DSDM

5.5.3 Quality Plan and Measuring Meter

The many types of quality plans that have been maintained in this stage include

- ❖ The scheduling and resource allocation has been completed correctly.
- ❖ Following the conclusion of each module, an evaluation was carried out in each section.
- ❖ When all of the modifications have been completed, it is necessary to monitor and record all of the changes to proceed with the execution.

Chapter 6 – Feasibility

6.1 All possible types of Feasibility are

Operational Feasibility:

The proposed GRSM has reasonable validity due to concerns regarding the proposed system's usability, ease of use, and practicality. And user input verification, a very simple and seamless navigation system, and a location-based system, as well as a simple request option, will make the system simple and easy to use. Administrators and users may log in to their portals with authentic credentials and complete their jobs quickly.

Technical Feasibility:

Technical feasibility studies show that GRSM users are unable to handle their activities as readily as they could with earlier manual methods. The system has been designed and is being

upgraded. Uses advanced and widely used web technologies to ensure that the system works with any web browser, including those with low-bandwidth connections. To ensure safe access to system data, the system employs an access control sequence. Because the web-based application is platform agnostic and its development platforms and resources are cost-effective, it will be technically feasible.

So, clearly in this project perspective, the technical aspects are given below:

Hardware:

- ❖ DCL Laptop (Configuration)
- ❖ Wi-Fi Router

Software:

- ❖ VS Code
- ❖ Microsoft office
- ❖ Google chrome
- ❖ Windows 10
- ❖ XAMMP

  Database:

  - ❖ MySQL

Technology:

- ❖ **HTML**
- ❖ **CSS**
- ❖ **JavaScript**
- ❖ **JQuery**
- ❖ **Bootstrap**

Server Sides:

- ❖ **PHP**
- ❖ **Laravel**

Economic Feasibility:

There are various alternatives to develop the proposed system including, web-based Applications, desktop applications, etc.

- ▪ Web-based application cost is given below:

Equipment	Cost per unit	Cost
Extranet network with VPN	2000 BDT per month	2000 BDT
Desktop personnel computer(core i7, 3.6 GHz processor, 32 GB DDR4 RAM, 2 TB HDD)	100000 BDT	100000 BDT
Website, Files, and E-mail server	10000 BDT per month	10000 BDT
Total:		112000 BDT

- Desktop Application cost:

Types of equipment	Cost per unit	Cost
Website, e-mail, files Server.	5000 BDT per month	5000
Desktop pc (core i7, 3.6 GHz processor, 16 GB DDR4 RAM, 1 TB HDD)	100000 BDT	100000 BDT
Total		105000

To put the system online, you'll need a domain name and a hosting service.

Market Research Analysis Based on the Feasibility Factors:

Market and user demand are included in this area. A country's tourist attraction depends on its history, natural beauty, and archeology. In terms of resources, Bangladesh has attractive natural beauty, heroic historical background, and archeological resources. In the tourism industry, accommodation plays an important role. Travel inspiration is usually driven by the desire to experience a wide range of travel products. Accommodation as a tourism product should reflect important elements of any business product. Accommodation means a place where tourists can find food and shelter if they are in a position to pay for it. There are a variety of accommodations, from five-star deluxe hotels to modest budget-class hotels. There have been many changes in housing recently. This study sheds light on the current situation in Bangladesh and the prospects for future housing. Due to some limitations, Bangladesh's tourism sector cannot properly explore its beauty in front of the world. Moreover, research in

this sector is very bad. There are almost no web pages or links with detailed information about accommodation; therefore, tourists have limited knowledge about it. Through this study, we have considered Dhaka, Cox's Bazar, Rang Amati, Chittagong city, and Fe's Lake as tourist destinations. We have tried to present a clear picture of the habitat of Bangladesh based on both primary and secondary information. The study identified the potential of the tourism industry in Bangladesh, conducted a SWOT analysis, and suggested remedial measures for the problems in the tourism sector.

6.2 Cost-Benefit Analysis

Cost-Benefit Analysis focuses mainly on estimating earnings and expenses. The total cost and income are compared to get the benefit. The cost-benefit analysis for this project is given below:

Total Cost:

SL no	Equipment	Year-1	Year-2	Year-3	Year-4	Year-5	Total
1	Web-based application cost	115000 BDT	-	-	-	-	115000 BDT
2	Desktop Application cost	115000 BDT	-	-	-	-	115000 BDT
3	Domain and hosting Cost	20000 BDT	20000 BDT	20000 BDT	20000 BDT	20000 BDT	100000BDT
4	Employee Expenses	40000 BDT	40000 BDT	40000 BDT	40000 BDT	40000 BDT	200000BDT

| 5 | other cost | 20000 BDT | 20000 BDT | 20000 BDT | 20000 BDT | 20000 BDT | 100000BDT |
| 6 | Total Cost | 310000 BDT | 80000 BDT | 80000 BDT | 80000 BDT | 80000 BDT | 630000 BDT |

Table 13: total cost Estimation for the project

Total Earn:

SL No	Earn Sector	Year-1	Year-2	Year-3	Year-4	Year-5	Total
1	Govt. tax-1	150000 BDT	180000 BDT	210000 BDT	240000 BDT	270000 BDT	1050000 BDT
2	Govt. Tax-2	200000 BDT	10000 BDT	240000 BDT	260000 BDT	300000 BDT	1210000 BDT
	Total	350000 BDT	390000 BDT	450000 BDT	500000 BDT	570000 BDT	2260000 BDT

Table 14: earning estimation for the project

Total Revenue:

SL No	Sectors	Year-1	Year-2	Year-3	Year-4	Year-5	Total
1	total Earning	350000 BDT	390000 BDT	450000 BDT	500000 BDT	570000 BDT	2260000 BDT
2	Total Equipment Cost	402000 BDT	80000 BDT	80000 BDT	80000 BDT	80000 BDT	7220000 BDT
	Total Revenue	52000 BDT	310000 BDT	370000 BDT	420000 BDT	490000 BDT	1538000 BDT

Table 15: Estimation Revenue on a five-year scale

So, it is clear that the promotion of this system, the government. By collecting VAT and taxes for different purposes, a huge amount of money will be earned in a year. Revenue will increase year by year. So, this project will be beneficial for the government and also for the people.

6.3 Is DSDM Good or Bad for this Project

This is an academic assignment that must be completed in a short amount of time and include all essential functions. It is possible that the project will have to accept modifications during development, hence it should be developed iteratively. The iterative development process is ensured by GRSM, which imposes stringent rules and constraints. It guarantees that the task is completed in a timely manner. It also guarantees that users are involved throughout the duration of the project. As a result, it is apparent that the optimal approach for Bangladesh Guest Rent Management System is DSDM.

Chapter: 7 – Foundation

7.1 The problems area identification

Identifying the issue is a huge step forward for any endeavor. And the user can handle that aspect because they will be the ones who will be using the system the most. As a result, below are some of the difficulties raised by the user:

7.1.1 Interviews

1. This interview is the greatest alternative for gathering information, determining the true problem, or determining the true purpose. By identifying the problem, the true solution may be implemented. As a result, for the proposed system, the following questions from the user will be interviewed:

For User:

- Can get notification
- Can get house confirmation

2. **For Admin**

- See the user information
- Fix any kind of problem of user

7.1.2 Observations

Observations are also very helpful in collecting user requirements and knowing the real problem. Mainly observation techniques are used to get to the workplace and find solutions for the users to accept. Thus, the main points of observation are:

- User phone and NID verification
- User can select the location
- Admin can see the user data

7.1.3 Questionnaires

Questionnaires are the best strategy for effectively gathering knowledge and asking questions to users and other actors. Some queries are set for the user and can be MCQ or short queries. Thus, the question is given below:

	Question for problem identification
Question - 1	Why do people need budget-free stay?
Answer	
Question - 2	Tell us your thought about the Guest Rent Service management system
Answer	
Question -3	How do you feel to share your house rent temporary?
Question -4	What should be the emergency Stay processing system?
Answer	

7.2 Rich Picture

The Rick picture depicts a top-down or bird's-eye perspective of the system's user activity. It also considers concerns of contention, communication, and corporate procedures.
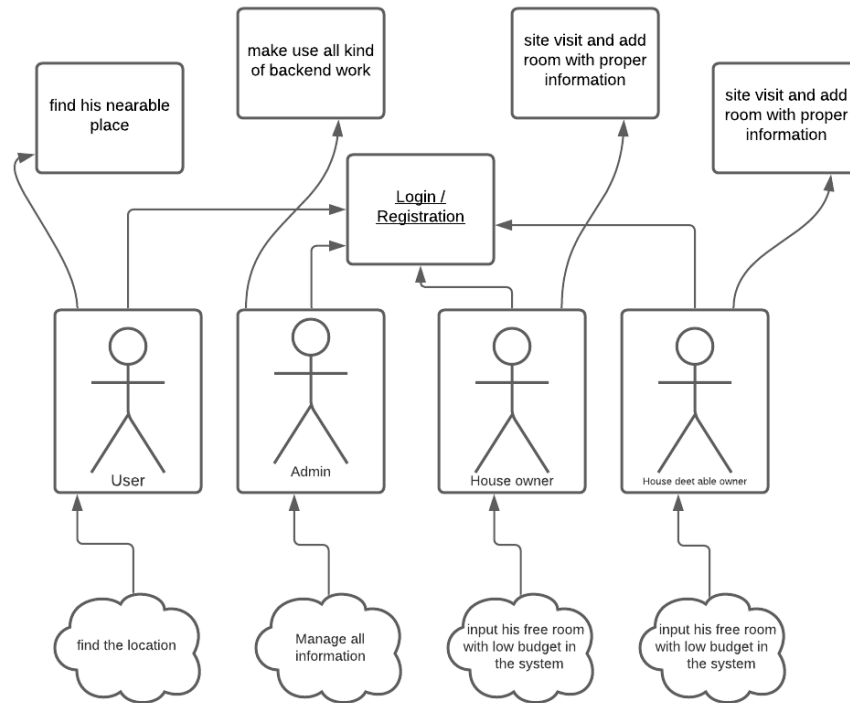
Figure 7: rich picture

The Rich Picture Legends
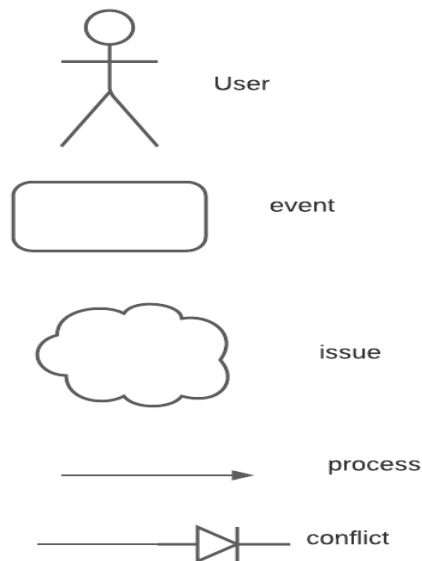
Figure 8: the legends of rich picture

Key Actors are

There are many actors in GRSM. The most important actors are

- Admin
- Customer/ User
- Renter
- House owner

Short descriptions of rich picture:

The image depicts the administrator's ability to monitor and control each process as well as resolve issues. It demonstrates the client-administrator dilemma. It also demonstrates that a variety of issues might arise.

7.3 Specific Problems Area Identification

Using data collecting approaches, several problems are uncovered in the problem area identification portion. Furthermore, detailed graphics depict the whole GRSM system's processes. By examining these, I was able to identify several particular issues, including:

- ➢ There is no way to identify and verify the users.
- ➢ location-based searching
- ➢ security issue
- ➢ ensure user information
- ➢ house owner paper number or deet number ensure

7.4 Possible solutions

The proposed solution to the identified problem is

- ➢ A new centralized system can be developed means GRSMS.
- ➢ Security and privacy concerns should resolve.
- ➢ Real-time location tracking and notification system should develop.

7.5 overview Requirement list

The final overall requirement list is given below-

The Functional requirements:

➢ House owner multiple systems
➢ User management facility
➢ User can search location of his nearby
➢ Email, message and notification sending facilities

The Non-functional requirements

➢ Data security and privacy
➢ Data and resources User-friendly interface design.
➢ Authentication and authorization to restrict access.
➢ Implement accessibility issues as defined by law.
➢ Validity and verifications

7.6 Technologies to be implemented

The suggested system can be implemented using a variety of technological alternatives. It is critical to select the appropriate technology for success. The possibilities are as follows:

Client-server Application Technology is:

This technology is a computer-based system, where applications are required to be installed on client devices and data stored on remote servers. Request application to the remote server for client request data and server response
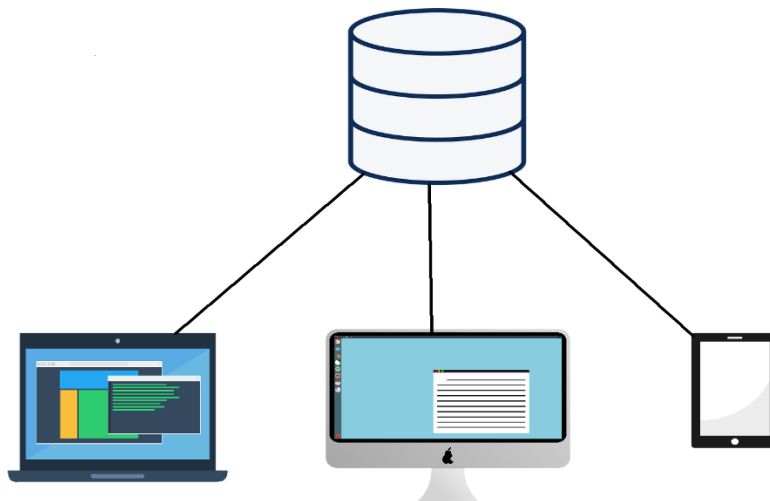
Figure 9: Client-server model

The basic feature of the client-server applications are listed below:

- The application needs to be physically installed
- Need server and client applications need to be maintained
- Expensive for users to buy apps.
- Not portable and always accessible.

Web application

No need to install anything on the user device because web apps are hosted on remote servers. The program is accessed over the Internet and requires both forms of scripting to be installed in a web browser. Client-side and server-side are the two types. The following are the major characteristics of Scripting (Kohan, 2019), a web-based application:

- No need to install.
- Accessed via internet and web browser on the cloud.
- Relatively cost is very low.
- It's possible to access it from anywhere at any time.

7.7 Recommendation and justification

The planned Bangladesh Guest Rent Service Management System must be accessible at all times from anywhere in the country. Any internet-enabled device, such as cellphones, laptops, desktops, and tablets, should be able to access the system. It should be able to handle a big number of users at once. Because client-server application technology does not allow for this, the web application is recommended for the proposed system.

Chapter: 8 – Exploration

8.1 Old system Use Case

Use case diagrams depict the flow of a system's business performance. I'm going to utilize the old system usage scenario as an example.
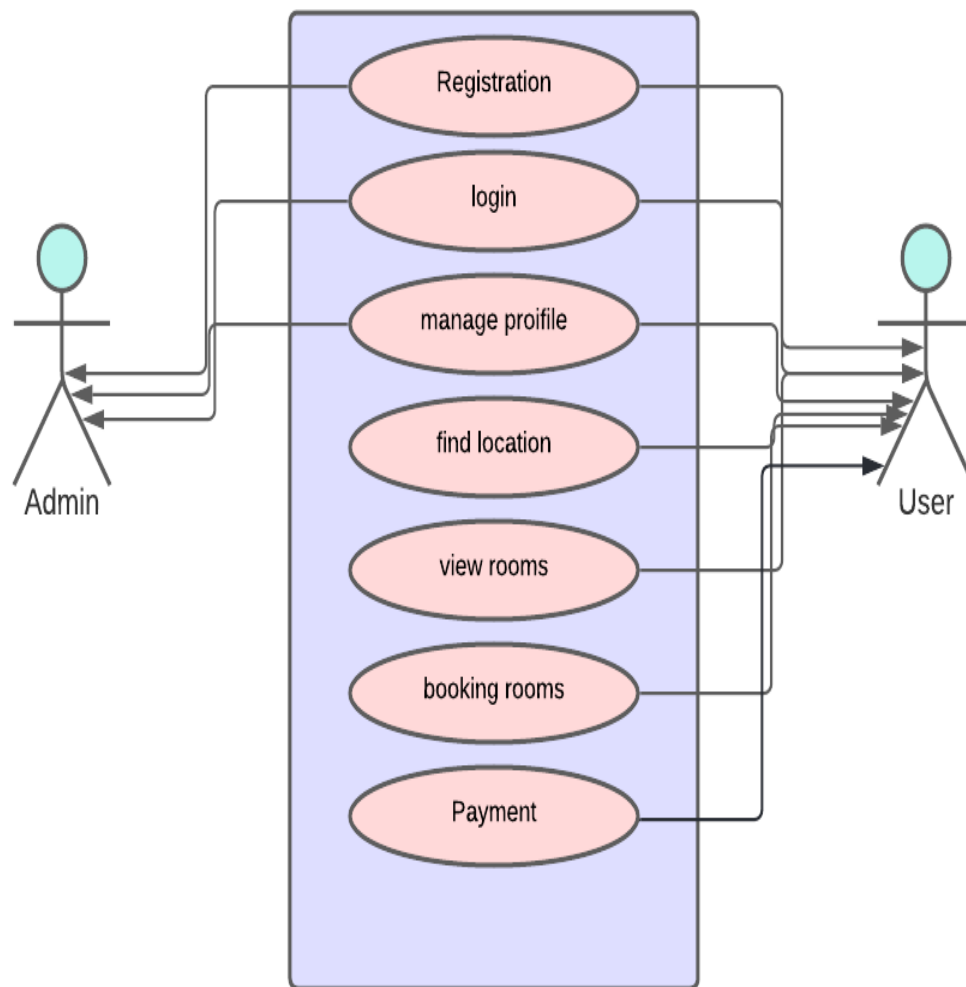
Figure 10: Use case diagram

8.2 Activity Diagrams is
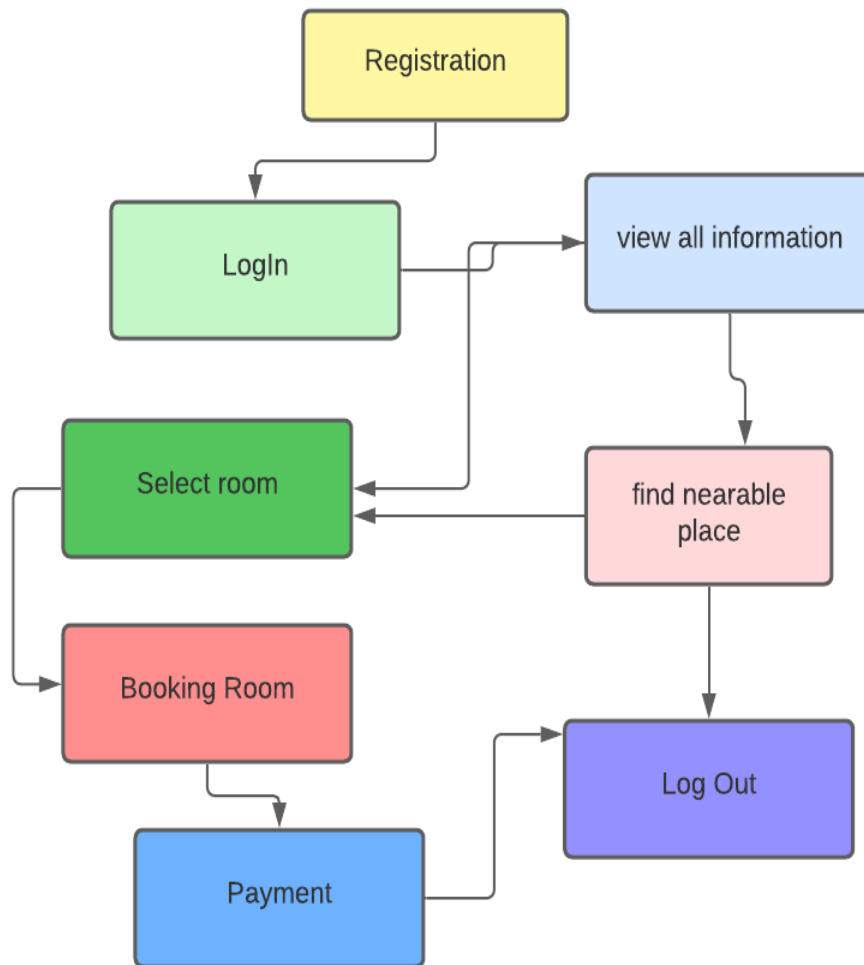
Figure 11: User activity diagram of GRSM

8.3 Full Systems Use case Diagram
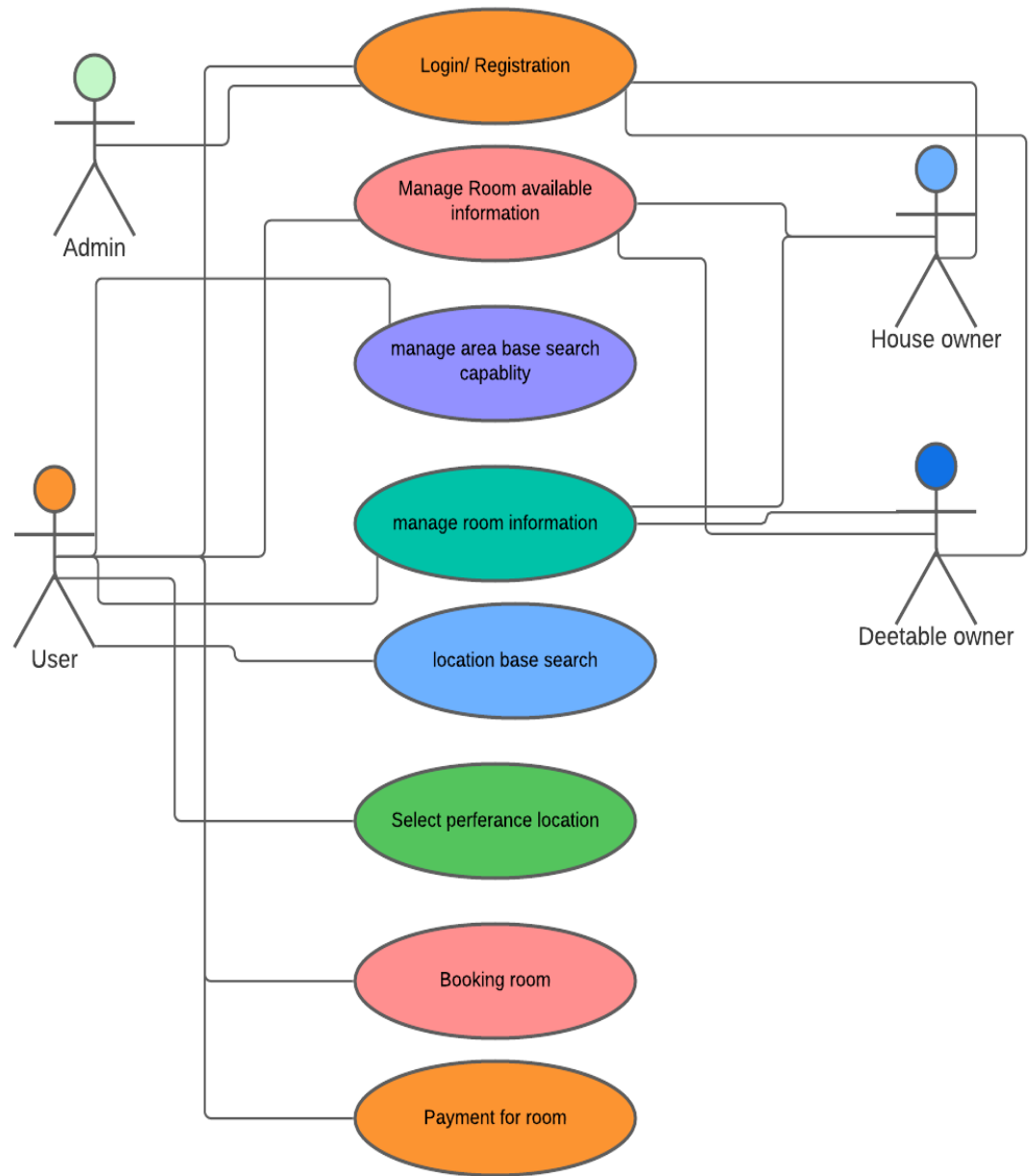
Figure 12: Use case of the purpose of GRSM

8.4 Fully System activity diagram

The proposed GRSM system has various types of users with different workflows. The activity diagrams for these workflows are given below
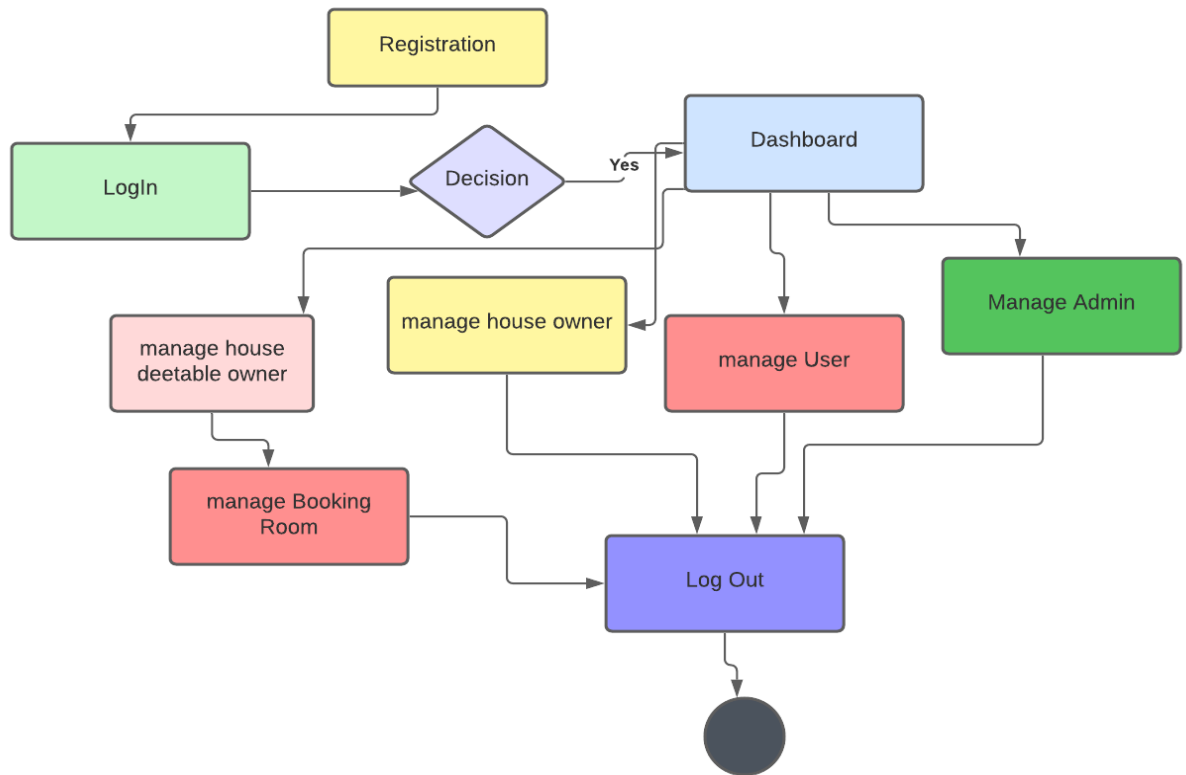
Figure 13: Admin activity diagram

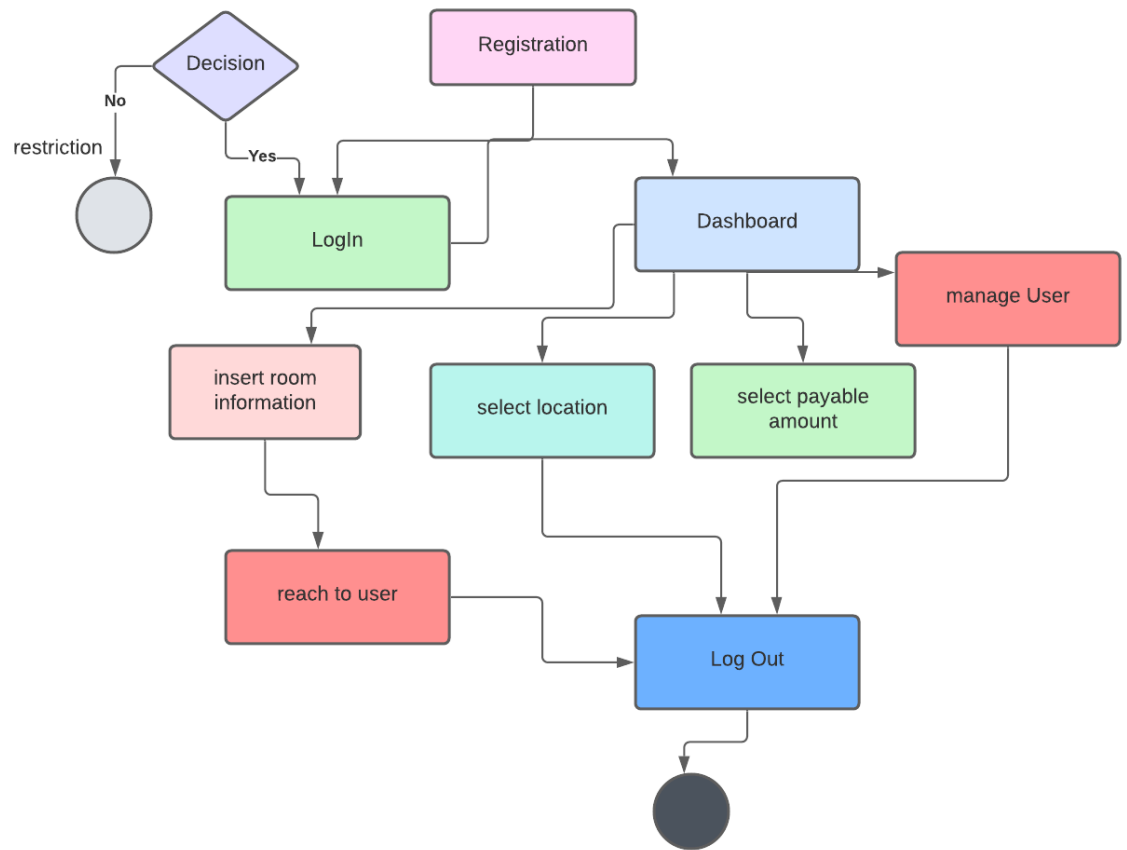**house 0wner / deet able owner full activity is given below:**

Figure 14: house owner/ deet able house owner activity diagram
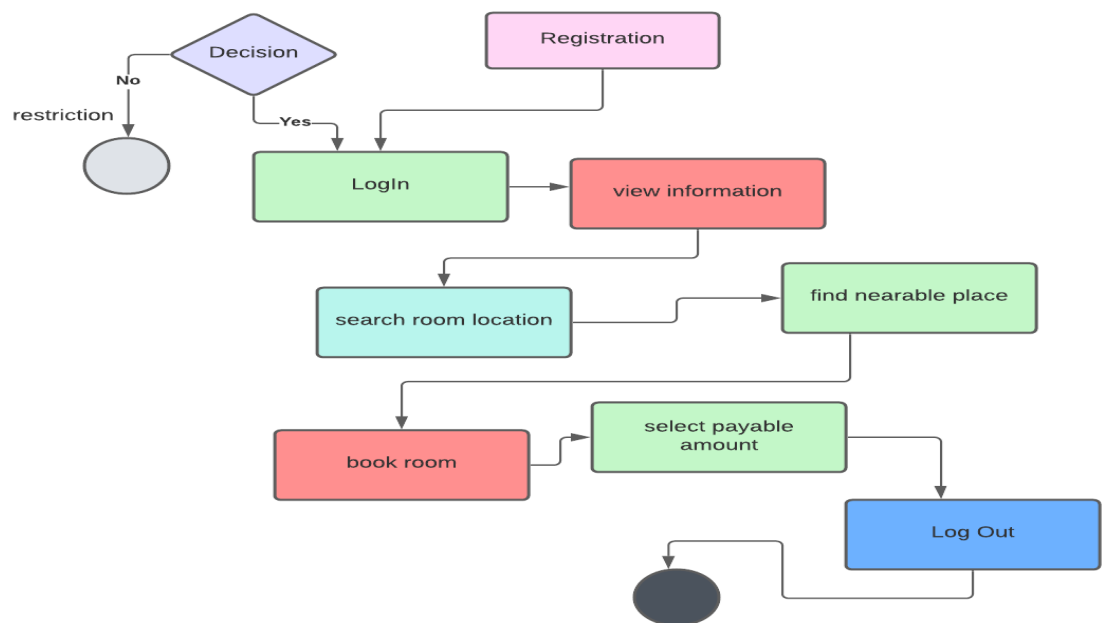
Figure 15: user activity diagram for GRSM

8.5 Requirement catalog

A needed catalog is a list of all a project's recognized needs. In this section, I'll list the requirements found in the necessary catalog in the usual manner.

Login registration requirement catalog

source	Sign in	priority	Requirements
admin	All user	Must	M-001
Functional Requirements are			
Registration and Login for of user	All types of system users need to be registered and then log in to the system. No one can perform a task without proper authentication and validation.		
Nonfunctional Requirements			
Descriptions	Target value	acceptance value	comment
Login registration per day	500	300	

Table 16: requirement catalog for login registration

Location catalog requirement catalog

source	Sign in	priority	Requirements
admin	All user	Must	M-002
Functional Requirement			
Location searching	Location searching needy for people. So that easily find the nearest place room. Also can see the availability of room.		

Nonfunctional Requirements			
Description	Target value	acceptance value	comment
Location searching per day	400	200	

Table 17: requirement catalog for location search

Room booking requirement catalog

source	Sign in	priority	Requirements
admin	All user	Must	M-003
Functional Requirement			
Booking room	When people go for the booking room, they will see all information about the room		
Nonfunctional Requirements			
Description	Target value	acceptance value	comment
Booking room per day	300	250	

Table 18: requirement catalog for Room booking

8.6 Prioritized Requirements List (PRL)

I have the user MoSCoW priority strategy to create a priority list of identified requirements. The list of priority requirements for the Guest Rent Service management system is given below:

Must-have requirements -

SL	Requirements	Priority
1	Registration login for user	Must have
2	NID and phone number match verification for registration	Must have
3	Manage room information	Must have
4	House owner and deet able owner papers number verification	Must have

Should have requirements -

SL	Requirements	Priority
1	Admin manipulation	Should have
2	Room booking	Should have

Could have requirements -

SL	Requirements	Priority
1	Manage booking history	Could have

8.7 Prototype of the new system

Guest Rent service management system some of the prototype given below:

Admin panel prototype

Figure 16: Admin panel prototype

Bkash Payment prototype
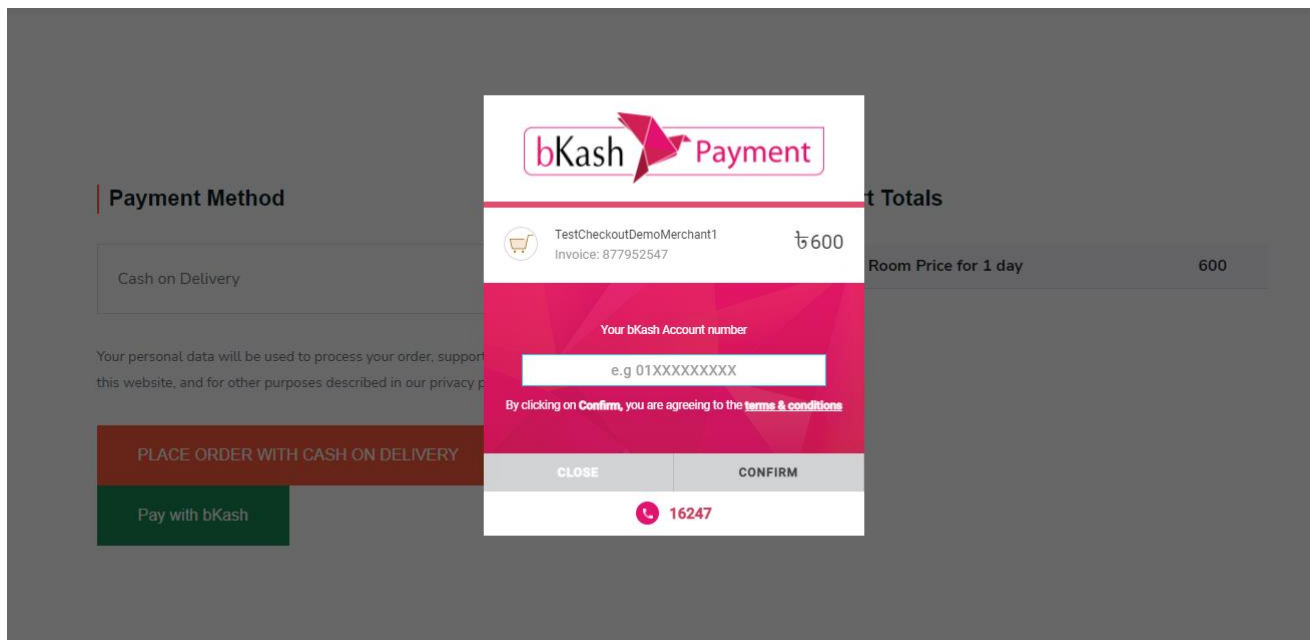
Figure 17: Bkash Payment prototype

House owner prototype
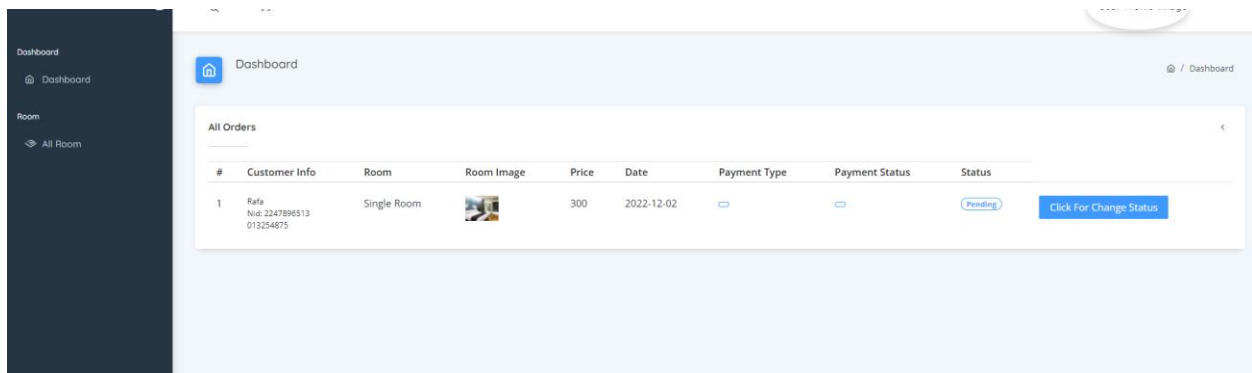
Figure 18: House owner prototype

Boom booking prototype
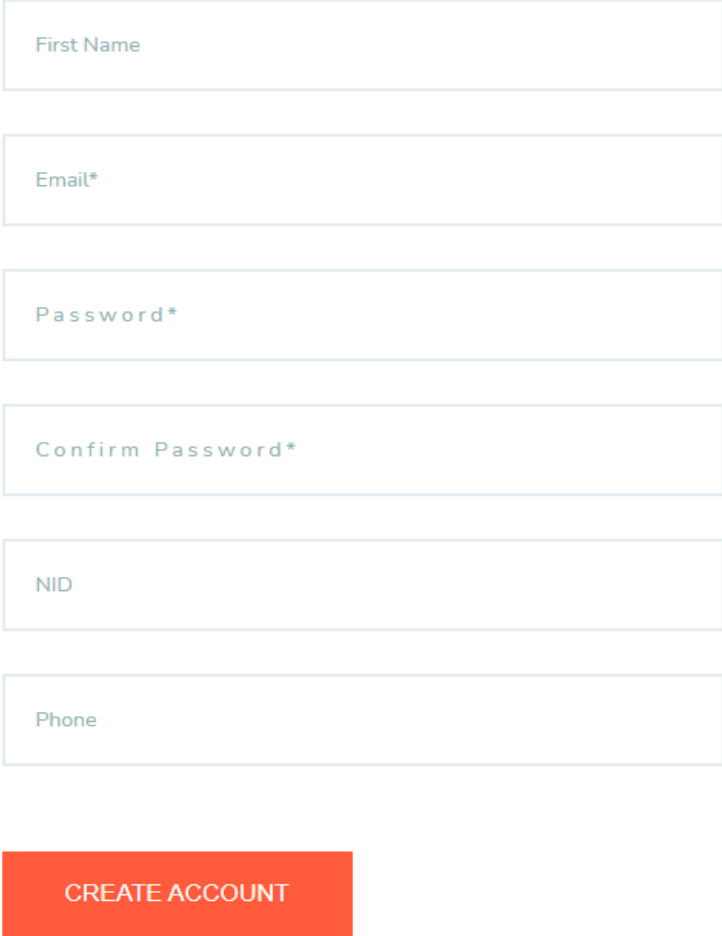

Figure 19: Boom booking prototype

User account prototype

First Name

Email*

Password*

Confirm Password*

NID

Phone

CREATE ACCOUNT

Figure 20: User account prototype

User dashboard prototype
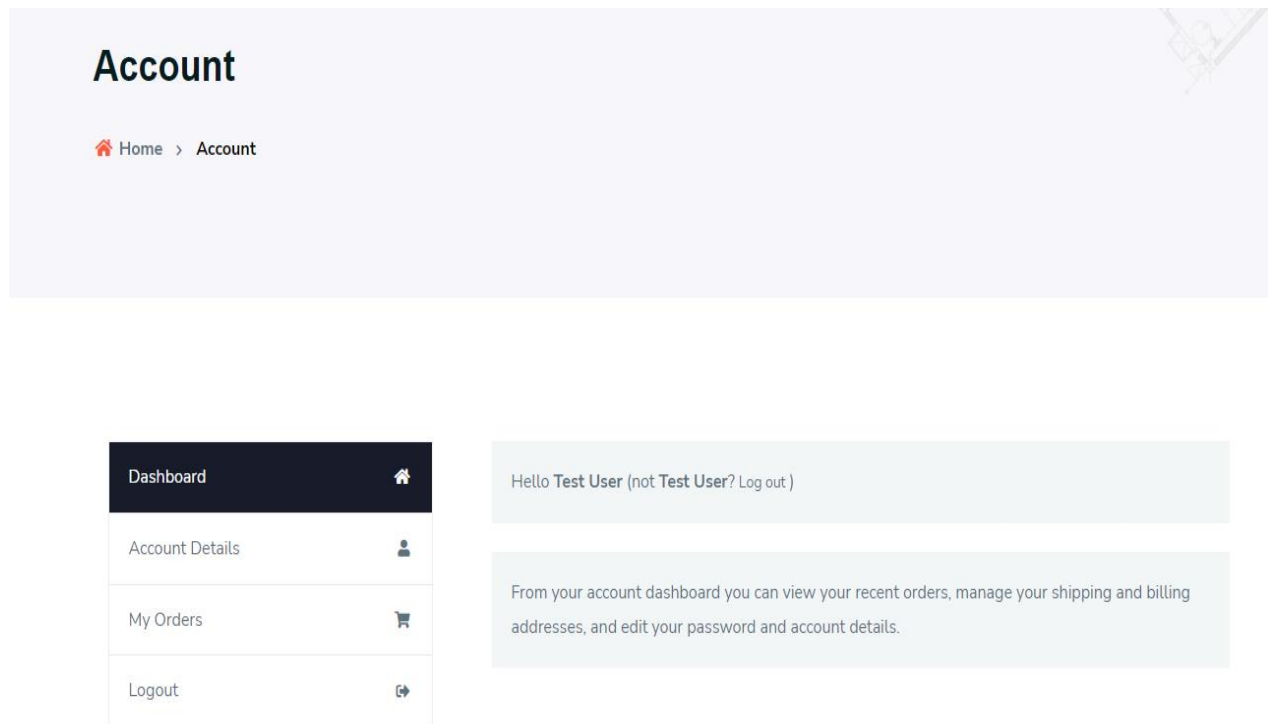

Figure 21: User dashboard prototype

Chapter 9 – Engineering

9.1 New system modules

The new GRSM system has a number of modules. But some of the key modules are listed below along with the working process.

Login module

SL	Users Action	SL	System action
1	Admin click on the log in link	1	Users will be shown a login form

2	Admin will provide login credentials	2	User validates all of the data
3	Admin can click login button	3	Authenticates the system admin. And if authenticated will be redirected to the admin dashboard otherwise return the login page with an error message

Table 19: login module

House owner module

SL	House owner Action	SL	System action
1	House owner click on the login link	1	will show a login form
2	The House owner will provide registration credentials	2	NID and phone number will be matched and others data then be validated.
3	House owner click on the login button	3	Authenticates the system admin. And if authenticated will be redirected to the admin dashboard otherwise return to the login page with an error message

Table 20: house owner module

Room booking module

SL	User action	SL	System action
1	Login first for booking room	The system	The system will provide a login form
2	Click booking button	2	The system will send the payment area

Table 21: room booking module

Location wise room search module

SL	User action	SL	System action
1	Log in and go home	1	The system will see the locations
	Search button click		System will see the available room location

Table 22: location-wise room search module

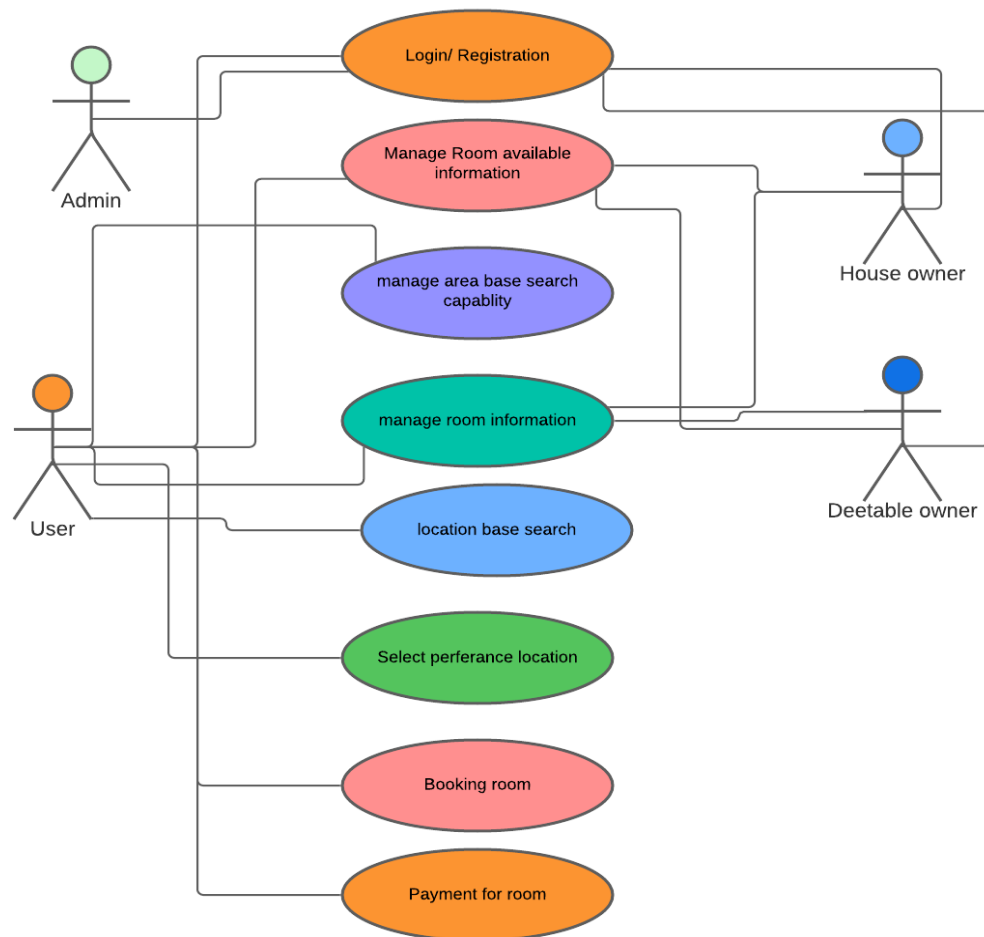## 9.2 Use case diagram for GRSM

Figure 22: use case diagram for GRSM

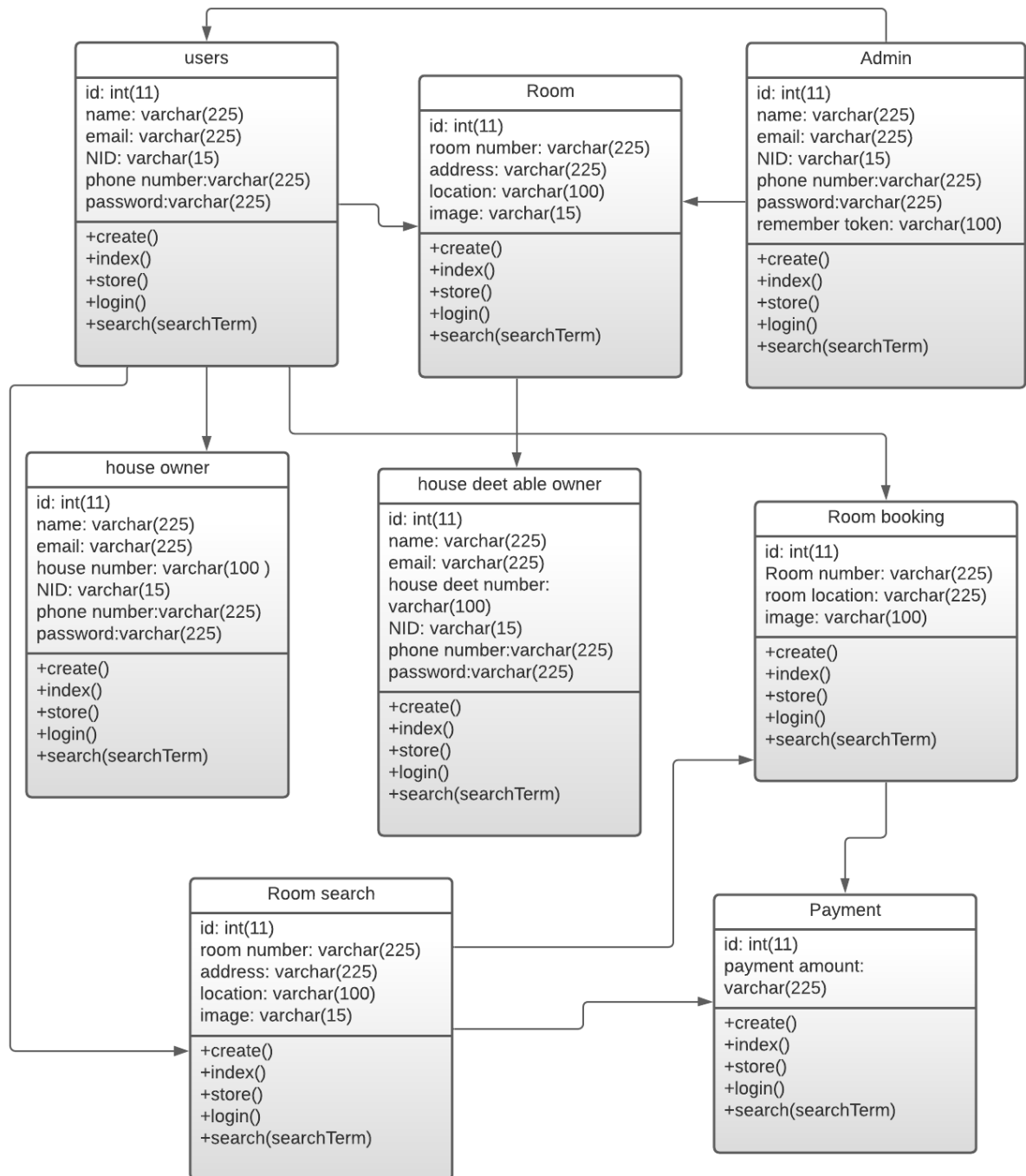**9.3 Class diagram of GRSM**

Figure 23: class diagram of GRSM
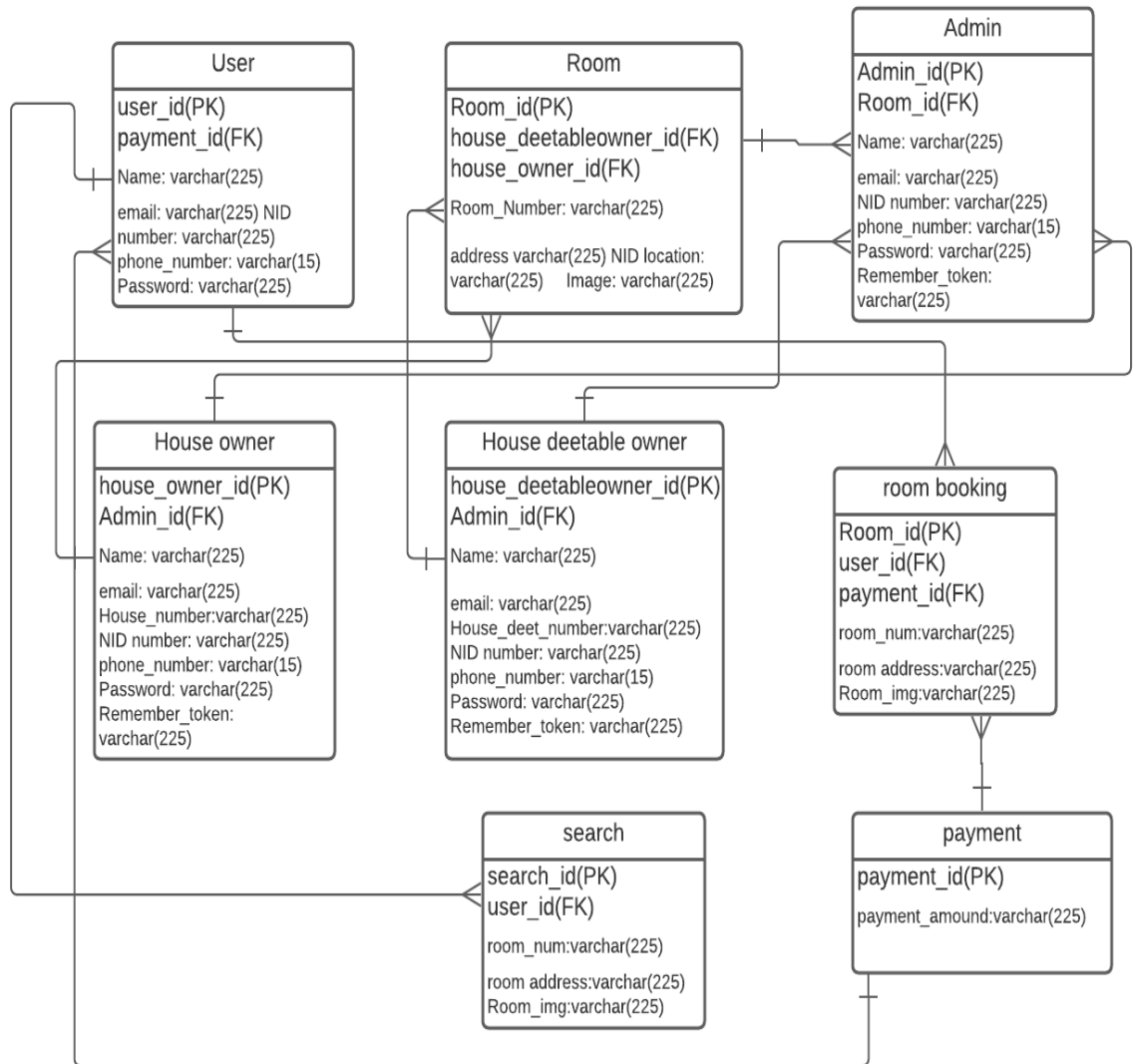
9.4 Entity Relationship diagram

Figure 24: Entity Diagram of GRSM

9.5 Sequence Diagram
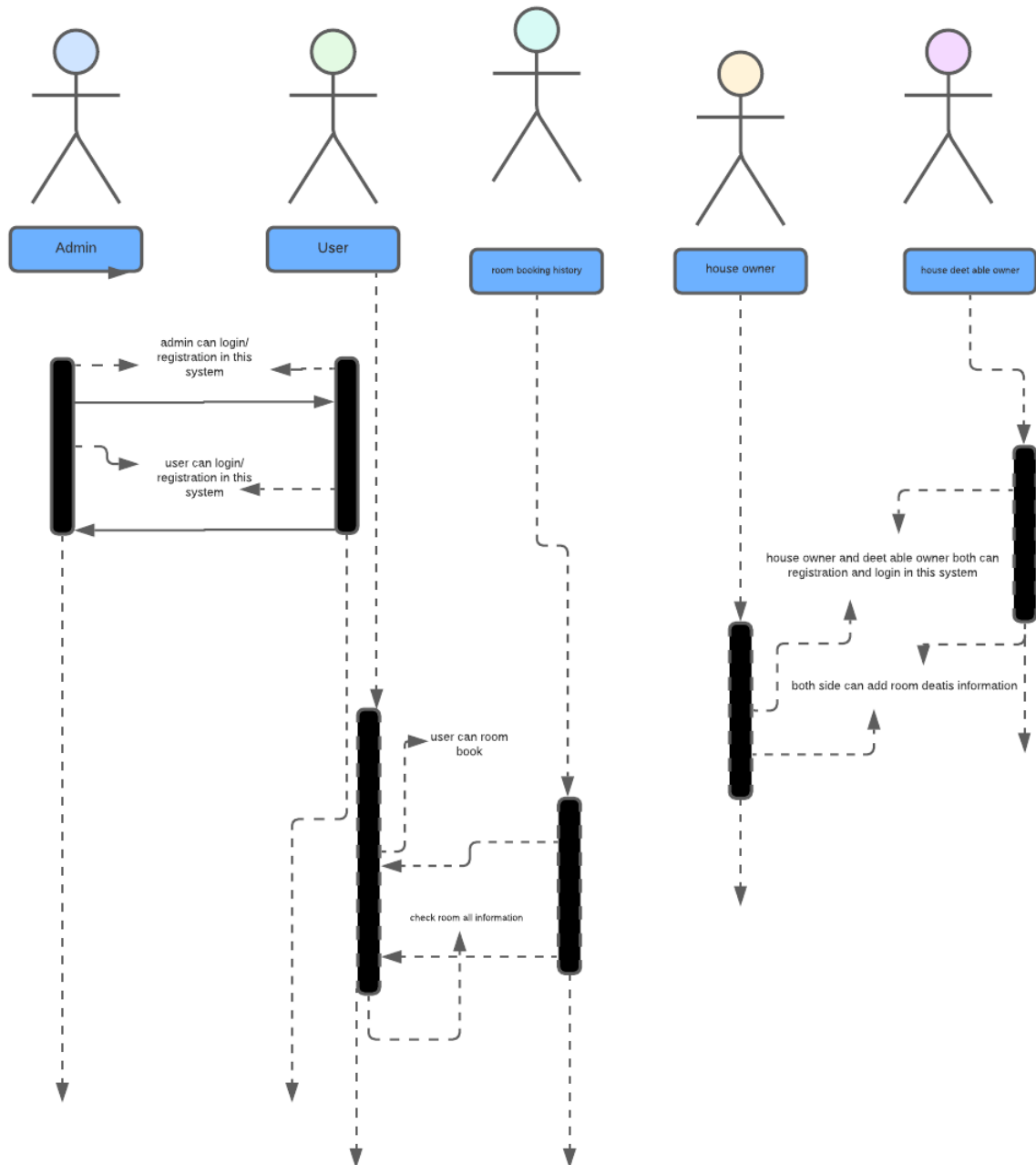
Figure 25: Sequence Diagram of GRSM

9.6 Component diagram of the GRSM
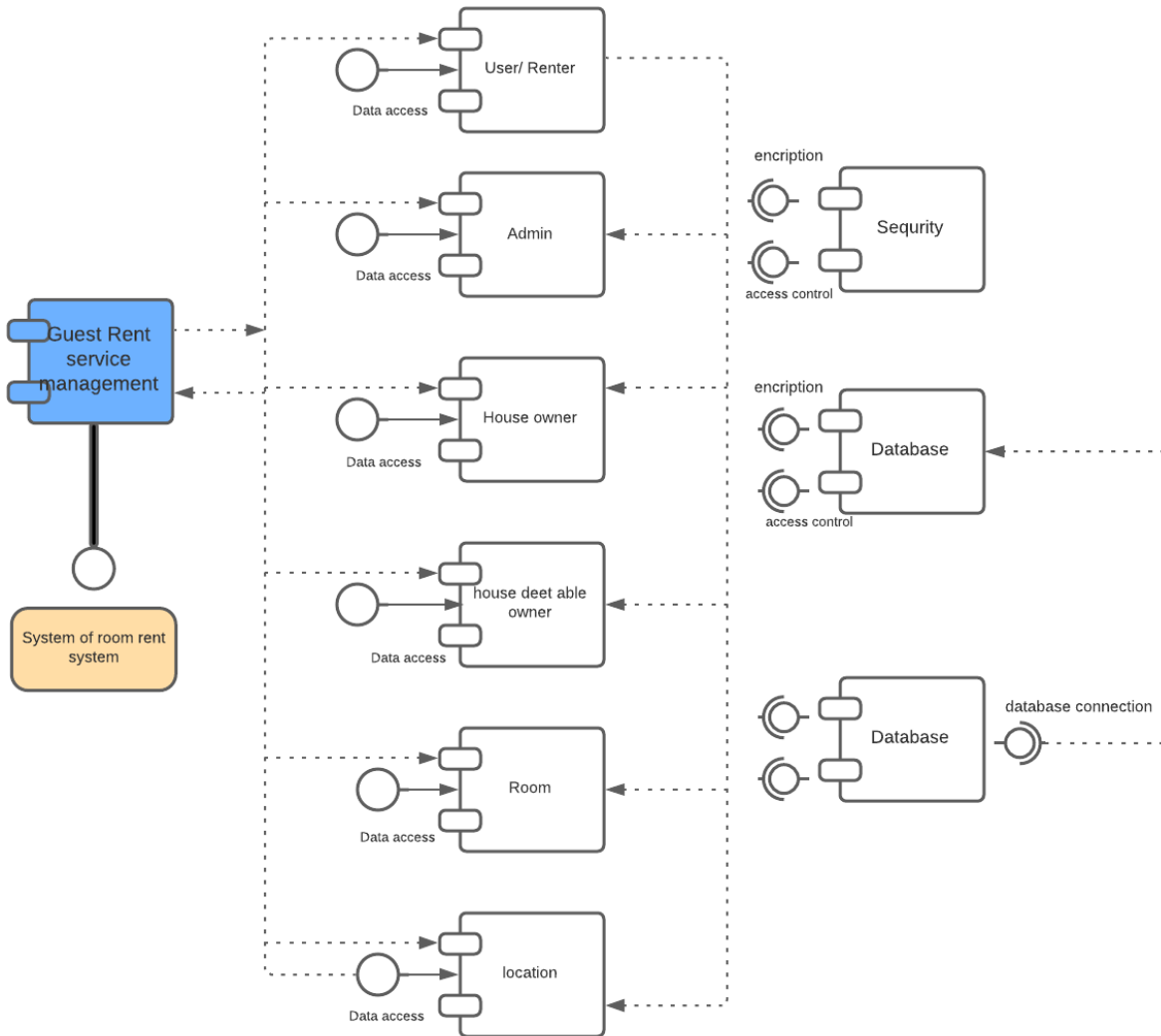
Figure 26: Component diagram of the GRSM

9.7 Deployment Diagram
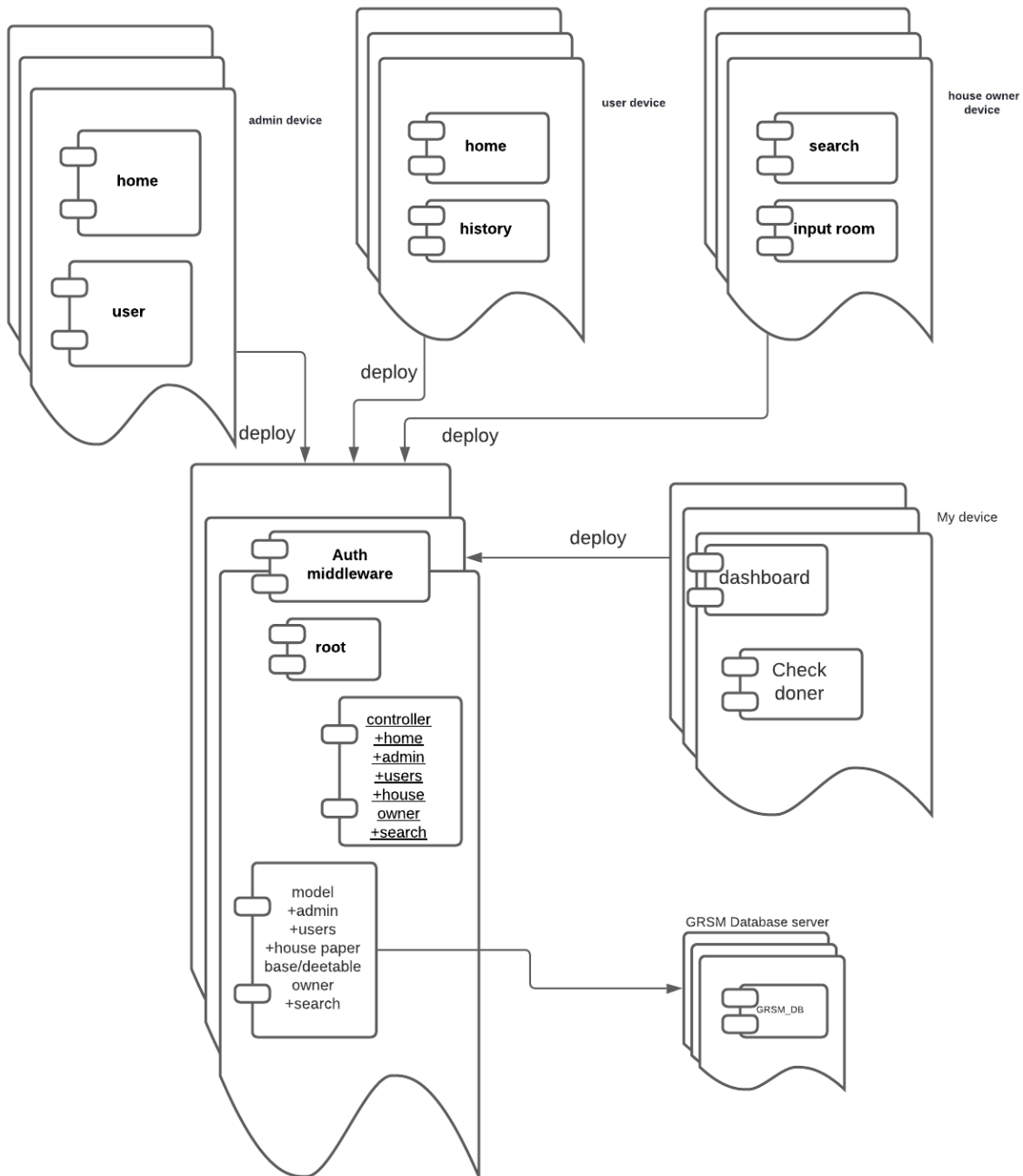
Figure 27: Deployment Diagram

9.8 System interface design

Home page interface

Figure 28: home page interface

Room booing interface

Figure 29: room booking interface

Admin panel interface

Figure 30: admin panel interface

Add room from by admin interface
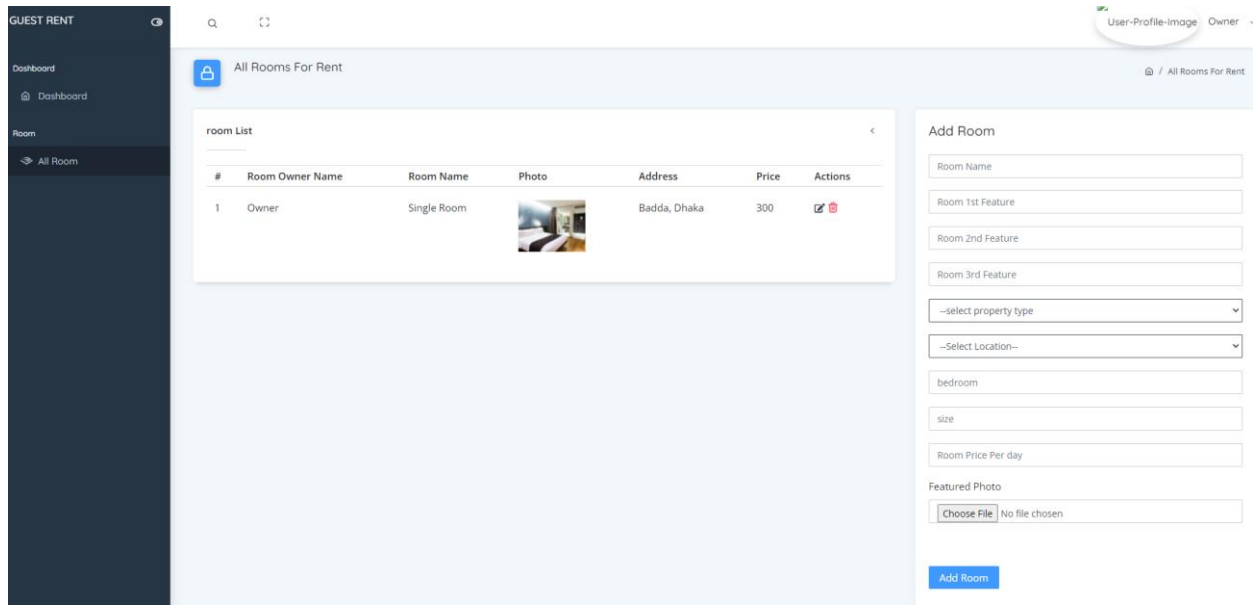
Figure 31: room add interface

Admin profile interface
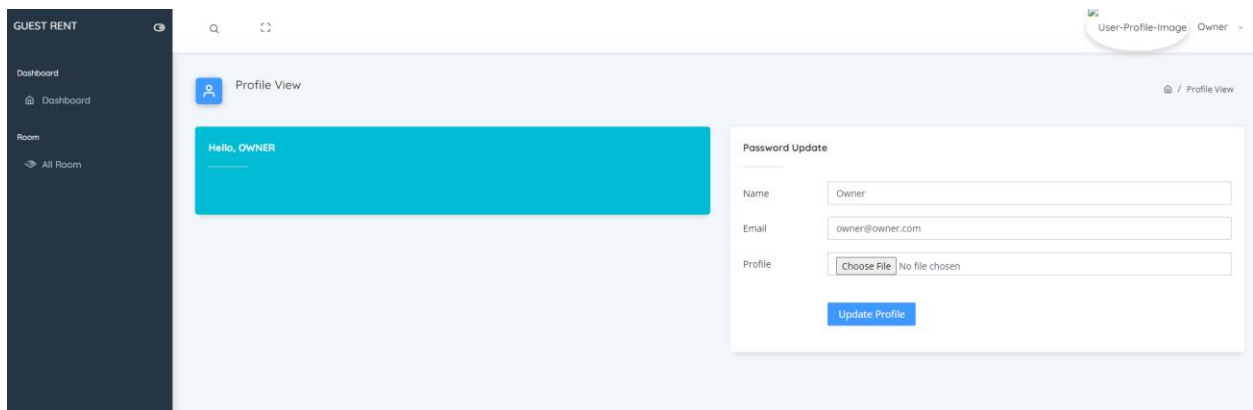
Figure 32: Admin profile interface

Chapter 10 – Deployment

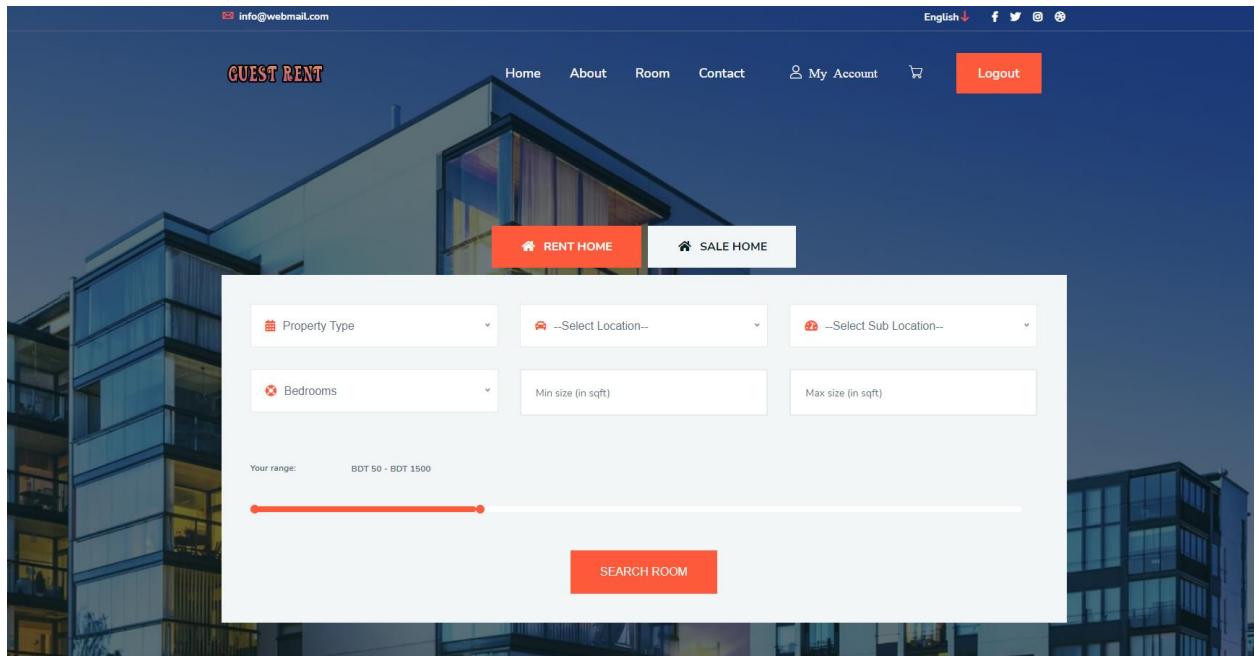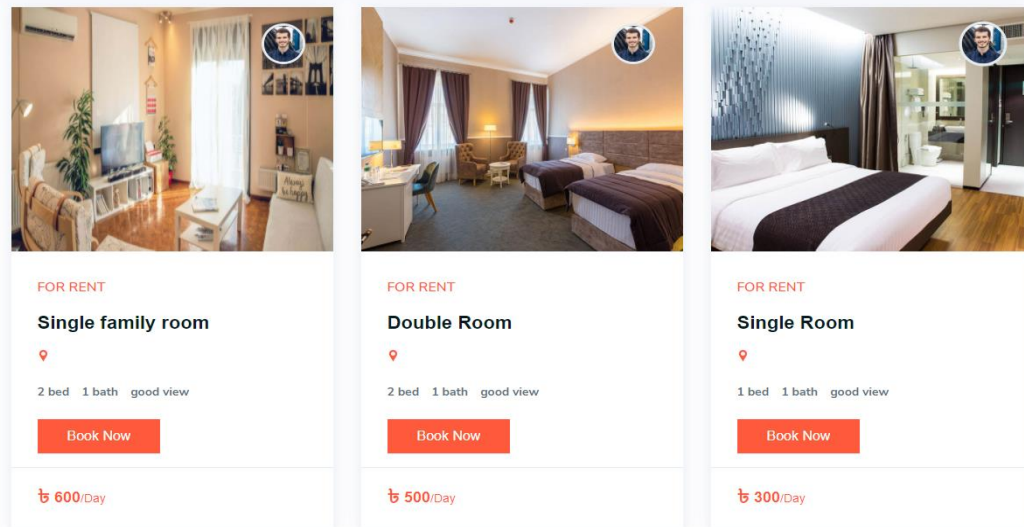## 10.1 Core module coding sample is

For the front-end development of BBSMS, I utilized HTML5, CSS, Bootstrap, JavaScript, and jQuery. And PHP Laravel 8.1 for back-end development, with MySQL as the database management system. Here are some of the most crucial component coding samples:

Login sample for the users

```
1   @extends('backend.auth.app')
2
3   @section('content')
4
5   <form class="md-float-material form-material" method="post" action="{{ route('admin.login') }}">
6       @csrf
7       <div class="text-center mb-5">
8           <img src="{{ asset('storage/backend/site/'.@$general -> logo) }}" alt="logo.png">
9       </div>
10      <div class="auth-box card">
11
12  <div class="card-block">
13      <div class="row m-b-20 justify-content-center">
14          <div class="col-md-12">
15              <h3 class="text-center txt-primary">Sign In</h3>
16          </div>
17      </div>
18
19      <p class="text-muted text-center p-b-5">Sign in with your regular account</p>
20
21
22
23      <div class="form-group form-primary">
24          <input type="text" name="email" class="form-control">
25          <span class="form-bar"></span>
26
27          <label class="float-label">Email</label>
28
29      </div>
30      <div class="form-group form-primary">
31          <input type="password" name="password" class="form-control" >
```

Figure 33: log in page

```
        use AuthenticatesUsers;

        /**
         * Where to redirect users after login.
         *
         * @var string
         */
        protected $redirectTo = RouteServiceProvider::HOME;

        /**
         * Create a new controller instance.
         *
         * @return void
         */
        public function __construct()
        {
            $this->middleware('guest:web')->except('logout');
        }
    }
```

Figure 34: logout sample

Room booking system

```
        </thead>
        <tbody>
            @php
                $orders = App\Models\Order::latest()->with('room')->get();
            @endphp
            @forelse ($orders as $order )
            <tr>
                <td>{{ $loop -> iteration }}</td>
                <td style="font-size: 12px;">{{ @$order -> name }} <br> Nid: {{ @$order -> nid }} <br> {{ @$order -> phone }}</td>
                <td>
                    {{ @$order -> room -> name }}
                </td>
                <td>
                    <img src="{{ asset('storage/backend/site/'.@$order -> room -> photo) }}" style="width:50px;" alt="">
                </td>
                <td colspan="1">
                    {{ @$order -> room -> price }}
                </td>
                <td>{{@$order -> created_at -> diffForHumans()}}</td>



                <td>
                    <span class="badge badge-inverse-primary">{{ @$order -> status }}</span>
                </td>


            </tr>
```

Figure 35: room booing system

```php
class LoginController extends Controller
{
    public function registerForm()
    {
        return view('house_owner.auth.register');
    }

    public function registerPost(Request $request)
    {
        $phone = Nid::where('phone', $request->phone)->first();

        if (!$phone) {

            return redirect()->route('house_owner.register')->with('error', 'Your phone number is invalid');
        }

        $nid = Nid::where('nid_number', $request['nid'])->first();
        if (!$nid) {

            return redirect()->route('house_owner.register')->with('error', 'Your NID number is invalid');
        }
//        dd($request->all());
        $validator = Validator::make($request->all(), [
            'house_id_number' => 'required|max:15|min:10',
            'password' => 'required|min:6',
            'name' => 'required',
            'email' => 'unique:house_owners|required',
            'phone' => 'required',
            'nid' => 'required',
```

Figure 36: House owner registration requirements

```
// You can import it from your Database
$bkash_app_key = '5tunt4masn6pv2hnvte1sb5n3j'; // bKash Merchant API APP KEY
$bkash_app_secret = '1vggbqd4hqk9g96o9rrrp2jftvek578v7d2bnerim12a87dbrrka'; // bKash Merchant API A
$bkash_username = 'sandboxTestUser'; // bKash Merchant API USERNAME
$bkash_password = 'hWD@8vtzw0'; // bKash Merchant API PASSWORD
$bkash_base_url = 'https://checkout.sandbox.bka.sh/v1.2.0-beta'; // For Live Production URL: https:

$this->app_key = $bkash_app_key;
$this->app_secret = $bkash_app_secret;
$this->username = $bkash_username;
$this->password = $bkash_password;
$this->base_url = $bkash_base_url;
}

public function getToken()
{
    session()->forget('bkash_token');

    $post_token = array(
        'app_key' => $this->app_key,
        'app_secret' => $this->app_secret
    );

    $url = curl_init("$this->base_url/checkout/token/grant");
    $post_token = json_encode($post_token);
    $header = array(
        'Content-Type:application/json',
        "password:$this->password",
        "username:$this->username"
    );
```

Figure 37: Bkash payment gateway

10.2 possible problems breakdown

To make system development easier and more efficient, the whole project needs to be divided into smaller tasks. The potential breakdowns of the proposed project are as follows-

- ✓ Analysis and database design
- ✓ Admin panel management development
- ✓ users panel management
- ✓ House owner panel development

Analysis and database design

- ✓ Identify and finalize requirements
- ✓ Gather information to deal with
- ✓ Normalize the information collected
- ✓ Create ERD and data dictionary
- ✓ Create schemas following the data dictionary

Admin panel development

- ✓ Design the necessary pages.
- ✓ Develop admin manipulation system
- ✓ Develop user manipulation systems

User panel development

- ✓ Frontend design
- ✓ Registration and login system

House owner panel development

- ✓ Frontend design
- ✓ Registration and login system
- ✓ Room created with proper valid data

Chapter 11 – Testing

11.1 Test plan acceptance

Plays an essential function in the development of a successful software test. During the analysis phase, tests should be prepared. Both the user and the developer must agree to this arrangement. The project's test strategy will verify that essential and user acceptance criteria are met. There are two categories of tests: diagnostic and non-diagnostic.

- ▪ The Functional test

Functional tests are divided into three types of tests. Those are:

- ♣ Unit test
  - ➢ Form field validation for the input fields
  - ➢ Admin approval filtering
  - ➢ Approved, pending, and rejected from the admin

- ♣ Module testing
  - ➢ Submitted the registration and login form without data
  - ➢ Registration with the invalid data.
  - ➢ Submitting form with proper data.

- ♣ Integration Testing

> ➢ Login system with the valid credentials
> ➢ Successful Booking placement

- ▪ Nonfunctional testing
  In this project, I am going to implement four types of non-functional testing which are-

- **Acceptance testing**
  > ➢ Personal information updating

- Security Testing
  > ➢ Role wise dashboard and page access
  > ➢ Login attempt with the invalid credential

- Accessibility Testing
  > ➢ User-friendliness testing
  > ➢ Color and contrast testing by a color-blind user

- Usability test requirement
  > ➢ Admin panel testing
  > ➢ Testing with house renter

11.2 Test case

Test acceptance plans need to be prepared for the exam after finalization. These are the test cases the f GRSM system

Unit test –test case:

Test case name	Unit test		
Test class			
Test description			
Data source	Test setup	expectation result	Actual results

Module test case:

Test case name	Unit test		
Test classes			
Test descriptions			
Data sources	Test setup	expected result	Actual result

Integration test –test case:

Test case name	Unit test		
Test class			
Test description			
Data source	Test setup	expected result	Actual result

11.3 Unit testing

<u>Unit test-1</u>

Test case

Test case name	Unit test		
Test class	User registration		
Test description	User NID and phone number verification		
Data source	Test setup	expected results	Actual result
User entry	Submit the form	An error message	need validation

Table 23: unit test case-1
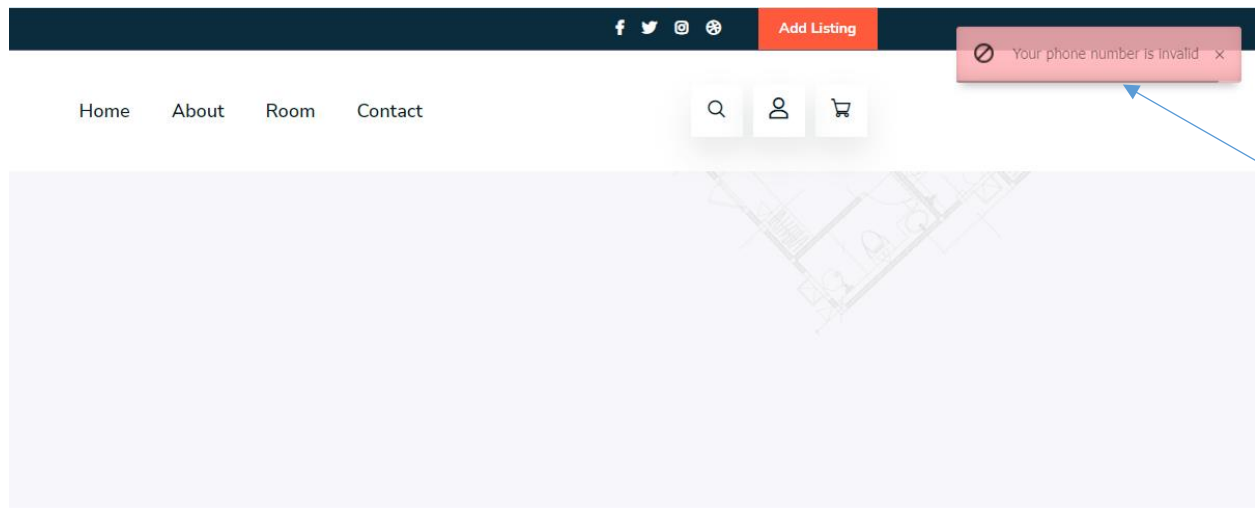
Figure 38: unit test case-1 results

Unit test-2

House owner registration

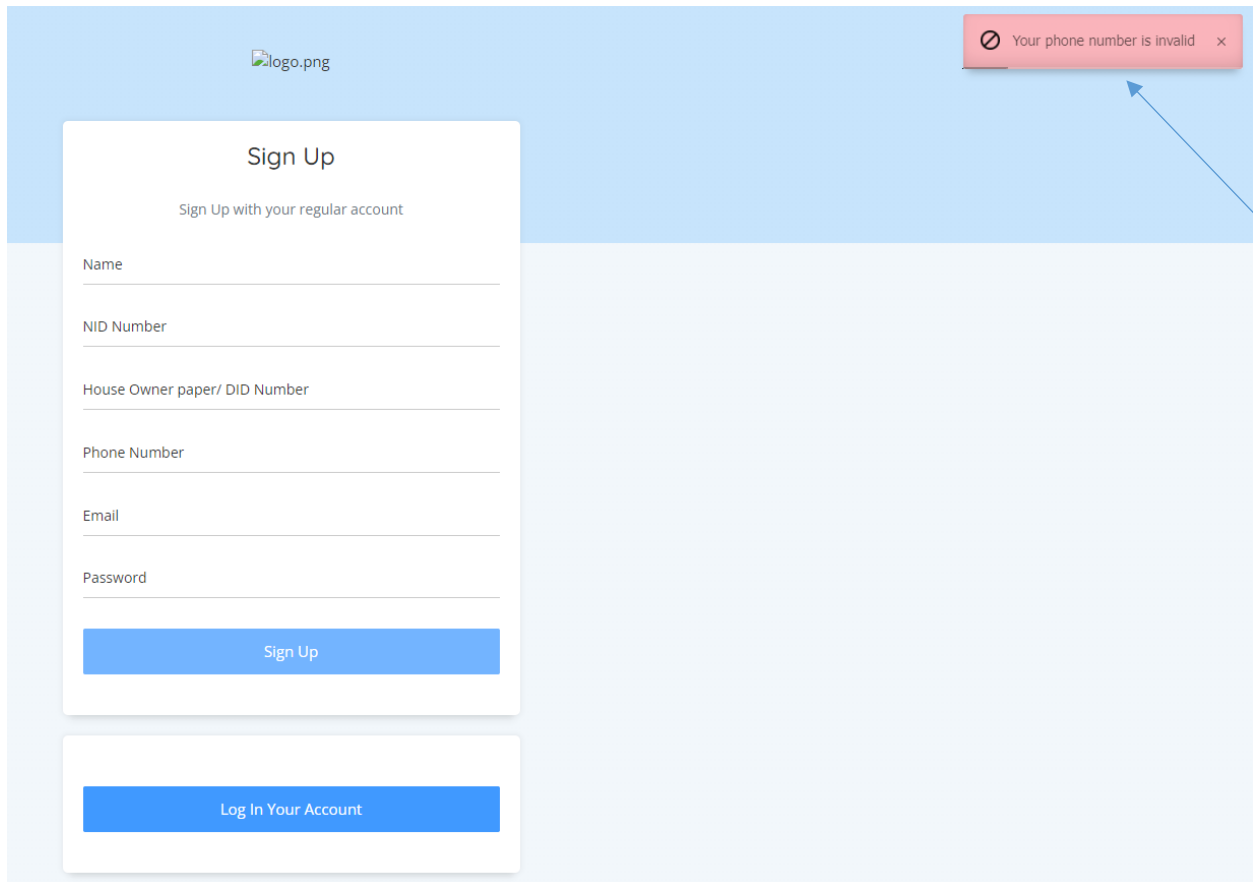| Test case name	Unit test		
Test class	House owner registration		
Test description	User NID and phone number and valid house paper verification		
Data source	Test setup	expected result	Actual result
User entry	Input all data and submit the form	Got an error message	Need valid information which is matched in database

Table 24: unit test case-2

Figure 39: unit test case-2 results

Use case-3

User login

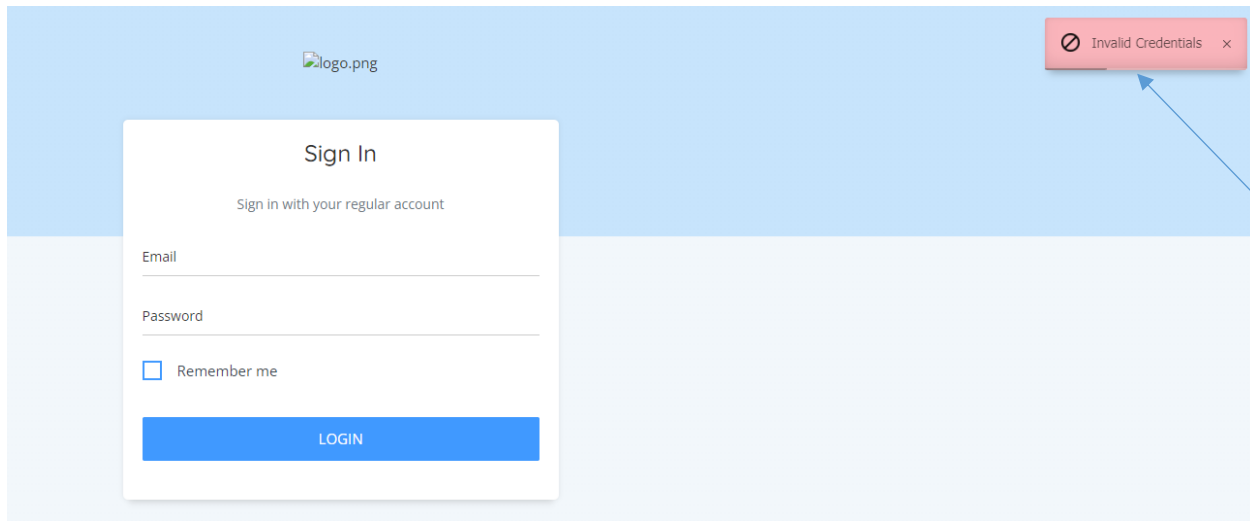| Test case name	Unit test		
Test class	User login		
Test description	User registered email and password		
Data source	Test setup	expected result	Actual result
User entry	Wrong registered data and submit the form	Got invalid data message	Need valid registered data

Table 25: unit test case-3

Figure 40: unit test case-3 results

11.4 Modular test

Modular test-1

Test case name	Unit test		
Test class	User booking room		
Test description	Users need to fill-up the form		
Data source	Test setup	expected result	Actual result
User entry	Invalid information not acceptable	Got invalid or blank field message	Need valid data

Table 26: modular test-1

Figure 41: modular test-1 result

Modular test-2

Test case name	Unit test		
Test class	House owner		
Test description	need fill-up the form as a house owner and input proper data		
Data source	Test setup	expected result	Actual result
User entry	Invalid NID and Phone number not acceptable	Got invalid message	Need valid data

Figure 27: modular test-2

Figure 42: modular test-2 result

11.5 Integration testing

Test case name	Unit test		
Test class	House owner		
Test description	1. Auth\Login Controller 2. Redirect If Authenticated Middleware Test Description Auth Login 3. Controller The login attempt was successful, and the dashboard was redirected.		
Data source	Test setup	expected result	Actual result

User entry	1. go to the login page 2. provide validly credentials 3. press on login	The user should be authenticated	It shows that email The address is invalid.

Table 28: integration testing

User login integrate test

Figure 43: User login integrate test
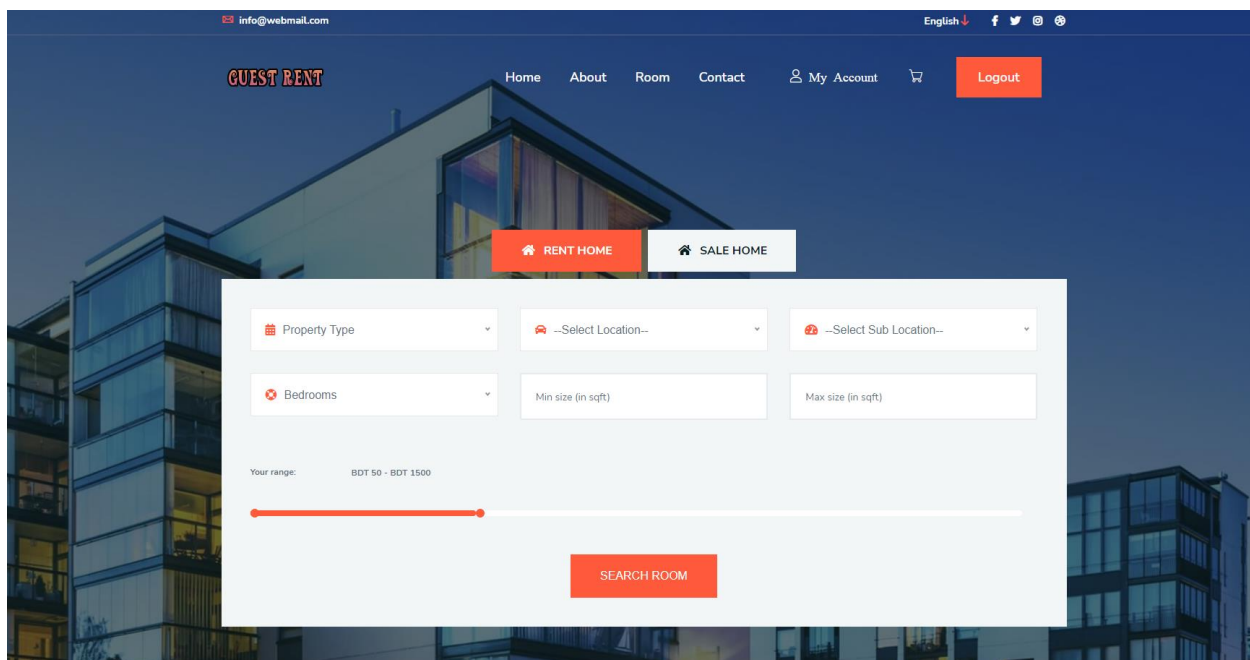
Figure 44: User login integrate test results

11.6 Security testing

Test case name	Unit test		
Test classes	House owner		
Test description	1. Auth\Login Controller		
Data source	Test setup	expected result	Actual result
User entry	Invalid login attempt security testing	Should not log in and a message Should show.	The result is as Expected.

Table 29: User security test
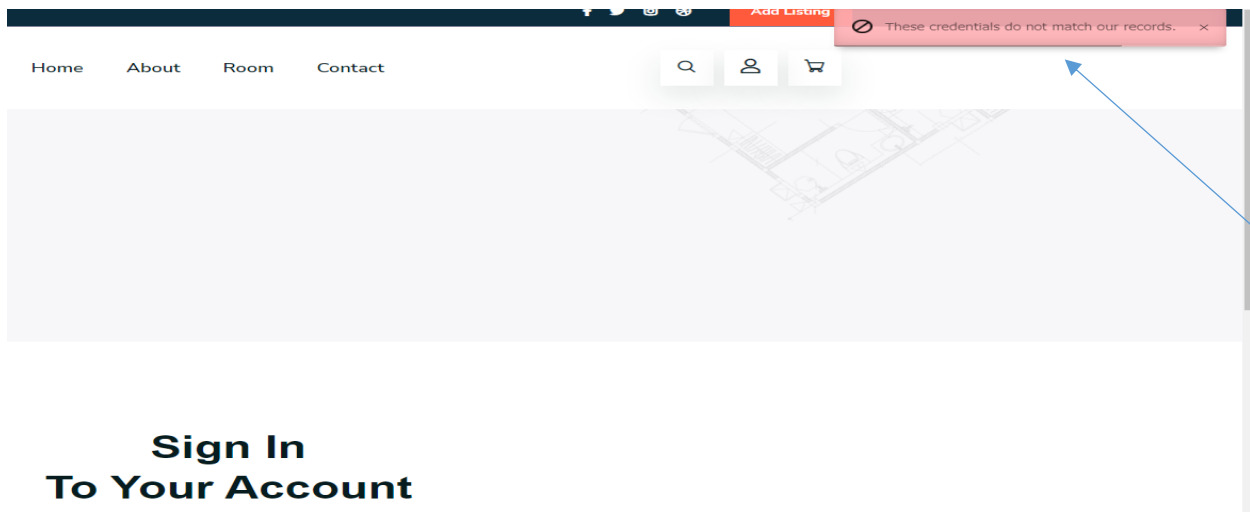
Figure 45: User security test results

11.7 Accessibility testing

Accessibility testing case-1

Test case name	Unit test

Test class	House owner		
Test description	House owner Controller		
Data source	Test setup	expected result	Actual result
User entry	House Owner use the system	No problem occurs During the use.	The owner did not Face any difficulties.

Table 30: house owner accessibility test

Accessibility testing case-2

Test case name	Unit test		
Test class	Admin Controller		
Test description	User-friendliness testing		
Data source	Test setup	expected result	Actual result
User entry	Giving an admin to use the system	The system is user-friendly.	The result is Expected.

Figure 31: admin controller accessibility test-2

Chapter 12 – Implementation

12.1 Tanning

Users must receive training to become comfortable with sophisticated systems. Once the system is up and running, the team must ensure that the users or operators are capable of managing the activities. The following is a diagram that depicts the training method:

SL	User	Training Scope	Time period	Comment

1	User	Registration as user	One hour	Users are perceiving the methods accordingly.
2	Admin	Add database of external user	Two hours	Admin can easily understand the operation.

Table 32: user tanning

12.2 implementation Scheme

Big Bang

The Big Bang brings an old system to a halt and allows a new system to take its place. This method is significantly faster than the others since it employs the new system immediately once the test is completed. Data loss and instability can result from the loss of the old system, since data might be lost and new systems can crash. It has been considered as part of a single site's human resource considerations.

12.3 Scaling

There is no plans have been made to consider application scaling because it is an academic project.

12.4 Load Balancing

The term "load balancing" refers to the optimization of a system against the effect of users. The number of users utilizing the system at the same time and the duration of the system are both indicated by user hits. Load balance and load equalization are terms used to describe this. It distributes the burden among

several servers, allowing the system to run more quickly. Since there are six types of users and lots of hits per day, a perfect load balancing strategy should be created.

Chapter 13 – Critical Appraisal and evaluation

13.1 objectives might be met

The objectives that were initially announced are listed below

- ➢ Registration for all user
- ➢ User and admin management
- ➢ Select location for rent

Objective -1

Achievement rate and others

The registration and login system is successfully implemented for all types of users. User can select the location where they can stay. I have used the Laravel Official Authentication System for authentication and authentication on users' systems. Success rate 100 percent.

13.2 objective that totally doesn't meet or touched

Contact is made for virtually the entire activity of the article. It may be, the only Website application for a selected location that the targets are not fully communicated.

The reasons why it could be touch

The primary reason for not communicating with the target is the short time to complete the activity. This will be very troublesome due to the short time and another reason is that it requires a constantly convenient server which is also very difficult to work with. Since the application cannot work without a live server, it cannot develop.

What could have been done

To communicate with the highlights, it is necessary to reset the time box, which requires additional opportunities to finish the material. Similarly, you have to learn hybrid application development.

Chapter 14 – Lessons Learned

14.1 pre-project-Review-closing

Bangladesh Guest Rent Service Management (GRSM), from the very beginning to create a web-based application I have to follow a predefined structure such as project proposal submission, project title defense, development, and documentation. The main concern of this project is to stay at home quickly without going to the hotel.

14.2 What I have learned

I have adapted many important things to create a structure. I figured out how to deal with a structure in different sections like structure, layout, and database area. I have additionally improved my enterprise management skills and testing ability (black and white boxes, units and acceptability, usability, and accessibility) which will help me in my future career. It additionally improves my programming skills, for example, creating an application programmable interface (API) with proper authentication and security measures. Haversian distance calculation algorithm, multi-level authentication, and validity. I learned PHP's Laravel Framework. This

initiative allows me to gather a lot of basic information that is needed to improve the quality of life.

14.3 The problem I face

Throughout the project's life cycle, I met several obstacles and hurdles. I have to face and conquer reoccurring challenges since I adopted the brilliant DSDM strategy that assures recurrent development. This indicates that an issue arises in one time box, is solved in another time box, and is functional. Finding the geographical coordinates and calculating the distance between them was one of the most difficult tasks. Another issue was the Corona outbreak, which sickened my entire family and resulted in the death of my grandfather. In Laravel, I also struggled with multi-level authentication and API development. After all, keeping time boxes was the most difficult challenge.

14.4 What solution Occurred

When I'm faced with an issue, I try to come up with a solution. I utilized an API that has to send and receive requests in JSON format to address the coordinate extraction challenge. To match the NID and the phone number, I utilized the Haversian formula. To implement Multi-Authentication, I employed proprietary authentication systems, including controllers and middleware. To stay on schedule, I worked really hard and closely adhered to the deadline.

Chapter: 15 – Conclusion

15.1 Summary of the project

The **Guest Rent Service Management System** is an online platform that allows you to rent a room safely and on time without any hassles, leaving you feel at home. All aspects of the user are met by the homeowner's advanced system. This system enables all adults who carry the initial and valid NID of Bangladesh. The system is built with the support of HTML, CSS, JavaScript, jQuery, and PHP Laravel Framework. All related diagrams and charts are provided in the document.

15.2 Goals of the project

The ultimate goals of the project were to rent a room at a low cost for safe, security, and time-consuming. The main objective of the project is-

- ➢ Way of income source.
- ➢ Location-based emergency and hassle-free stay searching.
- ➢ Low budget but get a good environment like home.
- ➢ Easily tour facility without any boundaries of tourist agency.
- ➢ Ensure safe room rent

15.3 Success of the project

The development goals of the project are achieved as the targets are met against the targets. Users can find rooms in a good environment to find the hassle of the hotel. Find nearby places where he can choose to stay. You can rent a room for just a few days. This is a new thing for the vision of Bangladesh, therefore, the program meets all the initial criteria and is thus a successful project.

15.4 What I have done in the documentation

I have accepted all the work required for documentation from the beginning of documentation. I have managed time boxing, countless images, analysis, etc. The paper also has a variety of goals and they have been properly addressed. All the information required to complete a project is included in this report.

15.5 value of the project

Manual work and manual procedures will always lose out to technology. This room rental system will improve the experience of staying correctly in a house with security at the appropriate time without the need for additional work or transit to choose a hotel. Depending on how it will be used, this project has a distinct market value. The experience I got throughout the creation of this project will help me in my professional career.

15.6 My Experience

Throughout this endeavor, I have gained a great deal of experience. I dealt with a lot of issues and gained a lot of experience as a result of them. I learned how to manage a comprehensive project and achieve all of the project's objectives in a short amount of time, which was a fantastic experience.

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