ADDSPACE - Comprehensive Space Rental and Management Platform

A

Project Report

Submitted in partial fulfillment of the requirement for the award of degree of

Bachelor of Technology

In

Information Technology

Submitted to

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA,
BHOPAL (M.P.)

Guided By
Prof. Shahida Khan

Submitted By
Missy Dodia 0827IT211070
M. Kazim Sheikh 0827IT211071
Mohit Khatore 0827IT2211073
Raj Patidar 0827IT211094

DEPARTMENT OF INFORMATION TECHNOLOGY
ACROPOLIS INSTITUTE OF TECHNOLOGY & RESEARCH,
INDORE (M.P.) 452020
2024-2025

Declaration

I hereby declared that the work, which is being presented in the project entitled ADDSPACE - Comprehensive Space Rental and Management Platform partial fulfillment of the requirement for the award of the degree of **Bachelor of Technology**, submitted in the department of Information Technology **Acropolis Institute of Technology & Research, Indore** is an authentic record of my own work carried under the supervision of **Prof Shahida Khan**. I have not submitted the matter embodied in this report for the award of any other degree.

Missy Dodia 0827IT21107

M. Kazim Sheikh 0827IT211071

Mohit Khatore 0827IT211073

Raj Patidar 0827IT21107

Prof Shahida Khan

Project Approval Form

I hereby recommend that the project **AddSpace** prepared under my supervision **Missy Dodia (0827IT211070), M. Kazim Sheikh (0827IT211071), Mohit Khatore (0827IT2211073), Raj Patidar 0827IT211094)** be accepted in partial fulfillment of the requirement for the degree of Bachelor of Technology in Information Technology.

Prof .Shahida Khan

Supervisor

Recommendation concurred in 2024-2025

Prof .Shahida Khan

Project Incharge

Prof. Deepak Singh Chouhan

Project Coordinator

Acropolis Institute of Technology & Research

Department of Information Technology or Computer Science & Engineering (Data Science) or Computer Science & Engineering (Internet of Things)

Certificate

The project work entitled **Add Sapce** submitted by **Missy Dodia (0827IT211070), M. Kazim Sheikh (0827IT211071), Mohit Khatore (0827IT2211073), Raj Patidar 0827IT211094)** is approved as partial fulfillment for the award of the degree of Bachelor of Technology in Information Technology or Computer Science & Engineering (Data Science) or Computer Science & Engineering (Internet of Things) by Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P.).

Internal Examiner

Name:…….

Date: …./…/……..

External Examiner

Name: ……..

Date: …./…/……..

Acknowledgement

With boundless love and appreciation, we/I would like to extend our/my heartfelt gratitude and appreciation to the people who helped us/me to bring this work to reality. We/I would like to have some space of acknowledgement for them.

Foremost, our/I would like to express our/ my sincere gratitude to our/my supervisor, **Prof. Shahida Khan** whose expertise, consistent guidance, ample time spent and consistent advice that helped us/me to bring this study into success.

To the project in-charge **Prof. Shahida Khan** and project coordinator **Prof. Deepak Singh Chouhan** for their constructive comments, suggestions, and critiquing even in hardship.

To the honorable **Prof. (Dr.) Prashant Lakkadwala**, Head, Department of Information Technology or Computer Science & Engineering (Data Science) or Computer Science & Engineering (Internet of Things) for his favorable responses regarding the study and providing necessary facilities.

To the honorable **Dr. S.C. Sharma**, Director, AITR, Indore for his unending support, advice and effort to make it possible.

Finally, I/we would like to pay my/our thanks to faculty members and staff of the Department of Computer Science & Engineering for their timely help and support.

We/I also like to pay thanks to our/my **parents** for their eternal love, support and prayers without them it is not possible.

Missy Dodia 0827IT211070
M. Kazim Sheikh 0827IT211071
Mohit Khatore 0827IT211073
Raj Patidar 0827IT211094

Abstract

The **"Add Space"** project focuses on building a comprehensive web-based application that enables users, brokers, and administrators to efficiently manage, book, and oversee spaces for short-term rental purposes such as events, gatherings, and other needs. Unlike traditional space rental systems limited to monthly rentals, this project introduces a flexible booking solution allowing spaces to be reserved on an hourly or daily basis.

Why was it done? This project addresses a critical need for flexible, short-term space rentals, helping users find and book suitable venues quickly. It was designed to streamline the booking process and provide brokers and admins with tools to manage bookings, payments, and space details effectively, enhancing user satisfaction and maximizing space utilization.

How was it done? The project was developed using JSP, Servlets, and JDBC for a robust backend, with a MySQL database storing user, space, booking, and payment information. The system incorporates user authentication and authorization using roles (broker, admin, and user) and enables functionalities such as space addition, editing, booking confirmation, cancellation, and payment processing. Brokers and admins can modify space details, confirm or cancel bookings, and send payment-related notifications to users.

What was found? The system offers an intuitive interface for managing space bookings and an efficient backend to handle payments and booking statuses. Users benefit from a streamlined experience when searching for and booking spaces. Brokers and admins gain a centralized platform for managing multiple bookings, reducing operational overhead, and providing superior customer service. Payment processing and booking management are automated, enhancing user confidence in transactions.

What is the significance of the findings? This project demonstrates the potential for innovation in the space rental market by providing a dynamic, user-friendly solution for short-term bookings. The system's modular design allows for scalability and integration of additional features, such as advanced search filters, reports, and data analytics, making it a valuable contribution to space management technology. It can be tailored to various use cases, helping businesses optimize space usage while catering to customer preferences

Table of Content

List of Figures

List of Tables

Chapter 1: Introduction

1.1 Rationale

The demand for spaces for events, business meetings, social gatherings, and other functions has significantly increased over recent years. However, traditional rental systems often limit users to long-term contracts, making it difficult for individuals or organizations seeking short-term rental options. The "Add Space" project provides a flexible platform to simplify and optimize short-term space bookings, offering a streamlined experience for users, brokers, and administrators.

1.2 Existing System

Existing systems for space rental often require lengthy procedures and lack flexibility in booking durations, focusing primarily on monthly or yearly rentals. This rigidity creates inconvenience for users seeking spaces for short-term purposes. Furthermore, most traditional systems do not offer efficient management tools for brokers and administrators, leading to disorganized bookings, customer dissatisfaction, and poor utilization of rentable spaces.

1.3 Problem Formulation

There is a lack of effective digital solutions catering to short-term space rentals for events and gatherings. The existing market is fragmented, with limited tools for managing space availability, payments, and bookings efficiently. Users face difficulties finding suitable spaces promptly, while brokers and admins struggle with managing and monitoring bookings through traditional methods. Therefore, a platform that simplifies and centralizes this process is needed.

1.4 Proposed System

The "Add Space" project proposes a web-based platform to enable users, brokers, and administrators to easily add, view, book, and manage spaces for short-term rentals. The platform supports user authentication and role-based access control. Users can search and book spaces, while brokers and admins can manage bookings, payments, and space details. The system incorporates features such as booking status updates, payment processing, space management, and notifications.

1.5 Objectives

- To develop a user-friendly web application for short-term space rentals.
- To enable brokers and admins to efficiently manage space listings and bookings.
- To provide seamless booking and payment processing for users.
- To introduce flexibility in booking durations (hourly, daily) for users.
- To ensure role-based access control and secure data management.

1.6 Contribution of the Project

1.6.1 Market Potential

This project addresses a gap in the market for flexible short-term space rentals, providing businesses, event organizers, and individuals with an effective solution for locating and booking venues in real-time.

1.6.2 Innovativeness

The platform introduces an innovative approach to space rentals, allowing users to book spaces for specific durations without being locked into rigid monthly contracts. Its user-friendly interface and advanced management features for brokers and admins provide a competitive edge.

1.6.3 Usefulness

The project benefits users by simplifying the search and booking process while empowering brokers and admins to manage their spaces efficiently. It offers a centralized platform for booking management, reducing operational overhead, enhancing customer experience, and increasing space utilization.

Chapter 2: Requirement Engineering

2.1 Feasibility Study

A feasibility study assesses whether the proposed "Add Space" system can be successfully developed and implemented, focusing on technical, economic, and operational feasibility.

- **Technical Feasibility**
  The project utilizes established web technologies, such as Spring Boot for backend development and React or JSP for frontend development, to ensure a scalable and robust system. With secure authentication and role-based access control using Spring Security, the system guarantees data safety and reliable performance.
- **Economic Feasibility**
  The project development primarily involves open- source technologies , significantly reducing costs associated with software licenses. Given the market potential , the anticipated returns on investment outweigh initial development costs , offering a sustainable economic model.
- **Operational Feasibility**
  The "Add Space" system simplifies booking and space management, offering value for brokers, admins, and users. The user -friendly interface and flexible booking features ensure acceptance and usage by the target audience.

.2 Requirement Collection

2.2.1 Discussion

Discussions were held with stakeholders, including potential users, brokers, and administrators, to understand their pain points and expectations for the "Add Space" system. Key areas of interest included booking flexibility, role-based access control, streamlined payments, and efficient space management.

2.2.2 Requirement Analysis

Collected requirements were analyzed to identify core functionalities and ensure they align with stakeholder needs and project goals.

2.3 Requirements

2.3.1 Functional Requirements

The functional requirements describe the specific behaviors or functions of the system. Key functional requirements include:

- **User Authentication and Authorization**
  - Users, brokers, and admins must have role-based access control.
  - Registration and login features for users and brokers.
- **Space Management**
  - Brokers and admins can add, view, edit, and delete spaces.
  - Display details of available spaces (e.g., hall, flat, room).
- **Booking Management**
  - Users can book spaces for specific durations (hours/days).
  - Brokers can confirm, cancel, or mark bookings as pending.
- **Payment Processing**
  - Integration with payment gateways for user transactions.
  - Automated messaging for payment confirmations.
- **Reports and Notifications**
  - Generation of booking and payment reports for brokers and admins.
  - Real-time notifications for users regarding bookings and payments.

2.3.1.1 Statement of Functionality

The system provides role-based access and ensures users can book and manage spaces efficiently. Brokers and admins can manage spaces and bookings, ensuring operational oversight.

2.3.2 Nonfunctional Requirements

Nonfunctional requirements describe system attributes like performance, usability, and reliability.

- **Performance**
    - The system should support concurrent user activity with minimal downtime.
- **Usability**
    - The user interface must be intuitive and visually appealing for seamless navigation.
- **Reliability and Availability**
    - The system must ensure data consistency and high availability for users.

2.3.2.1 Statement of Functionality

The system focuses on delivering a secure, responsive, and user-friendly experience to enhance operational efficiency and user satisfaction.

2.4 Hardware & Software Requirements

2.4.1 Hardware Requirement (Developer & End User)

- **Developer Requirements**
    - Processor: Intel i5 or higher
    - RAM: 8 GB or higher
    - Storage: 256 GB SSD or higher
    - Operating System: Windows, macOS, or Linux
- **End User Requirements**
    - Device with internet access (PC, tablet, smartphone)
    - Modern web browser (Chrome, Firefox, Safari)

2.4.2 Software Requirement (Developer & End User)

- **Developer Requirements**
    - IDE: Eclipse/IntelliJ IDEA for backend development
    - Tools: Postman for API testing, Node.js for frontend tools
    - Technologies: Spring Boot, React/JSP, MySQL, Spring Security
- **End User Requirements**
    - Web browser with JavaScript enabled

- Internet connection

2.5 Use-case Diagrams

2.5.1 Use-case Descriptions

- **User Registration and Login**

  Description: Users can register and log in to access system functionalities.
- **Space Management**

  Description: Brokers and admins manage spaces by adding, editing, or deleting space details.
- **Booking Management**

  Description: Users book spaces, and brokers/admins handle booking statuses.
- **Payment Processing**

  Description: Users make payments , and the system handles confirmations and notifications.

Chapter 3: Analysis & Conceptual Design & Technical Architecture

3.1 Technical Architecture

The "Add Space" system follows a multi-tiered architecture to separate concerns, enhance scalability, and improve maintainability.

- **Presentation Layer**

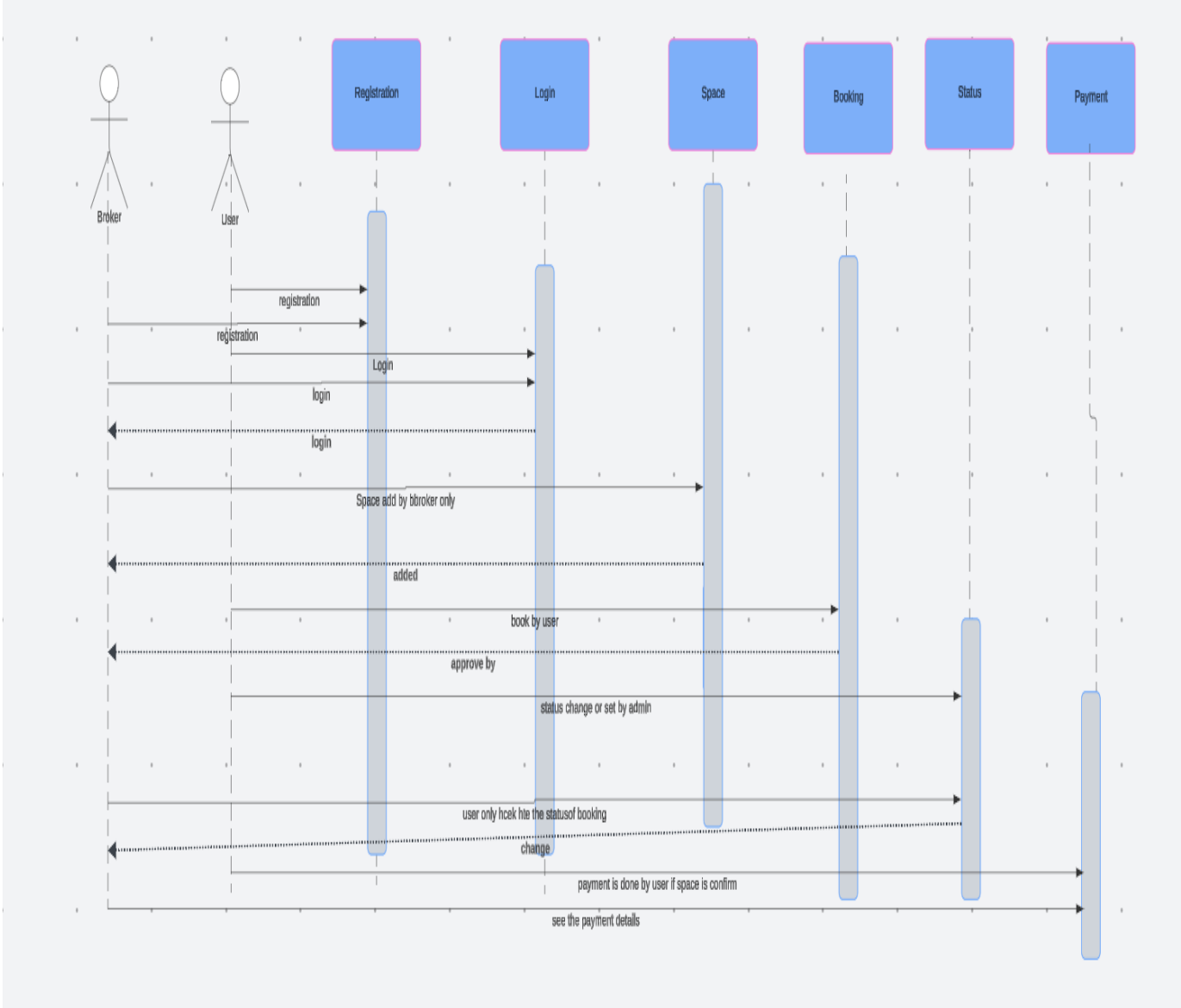
  This layer comprises the user interface and handles interactions between users (brokers, admins, and customers) and the system. It is built using React or JSP for responsive design, facilitating a seamless user experience.
- **Application Layer (Service Layer)**

  The application layer contains the business logic, implemented using Spring Boot. It provides services for user authentication, authorization, space management, booking, and payment processing, ensuring that operations are executed according to defined rules and security policies.
- **Data Layer**

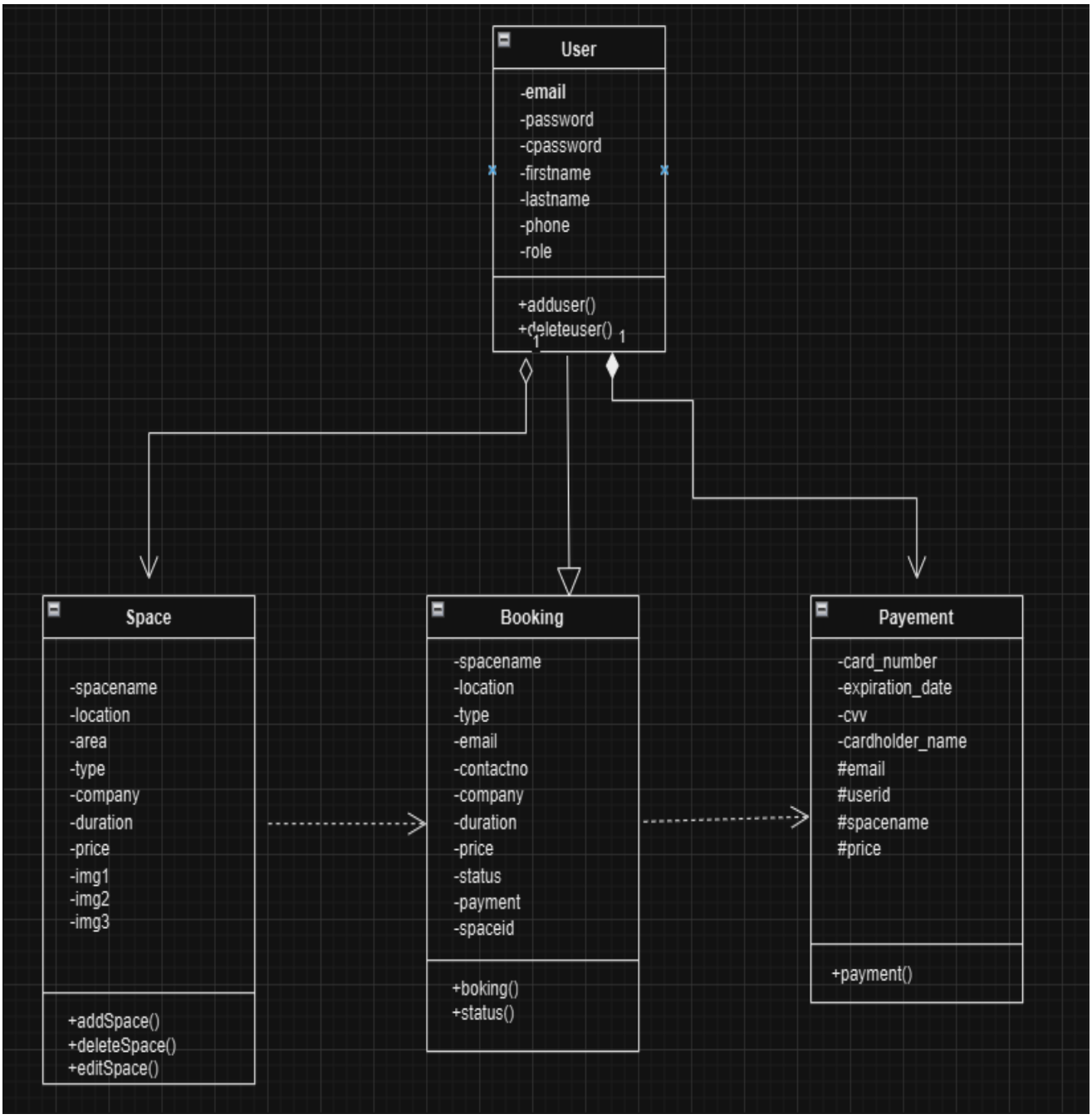
  This layer is responsible for persisting and retrieving data using MySQL. It involves repositories that communicate with the database, leveraging JPA and custom queries for CRUD operations and complex data retrieval needs.
- **Security Layer**

  Spring Security is utilized to implement authentication and authorization, including role-based access control, account locking, and password security features.

3.2 Sequence Diagrams

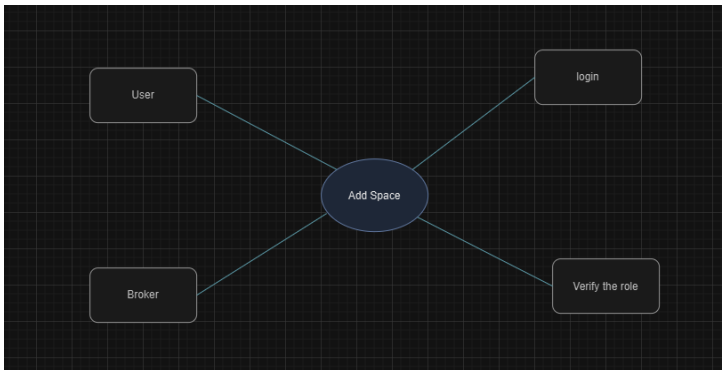


3.3 Class Diagrams

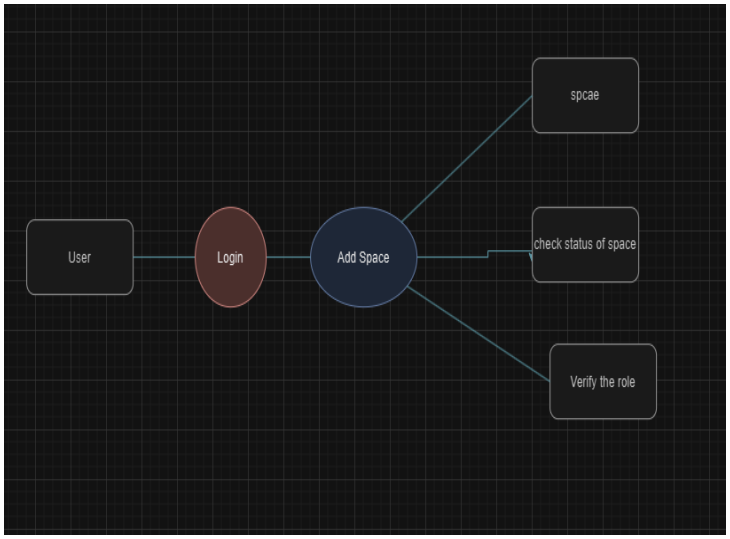


3.4 Data Flow Diagrams (DFD)

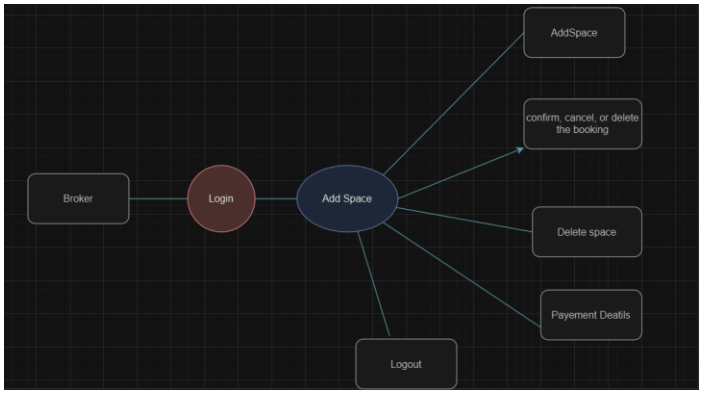
DFD Level 0:



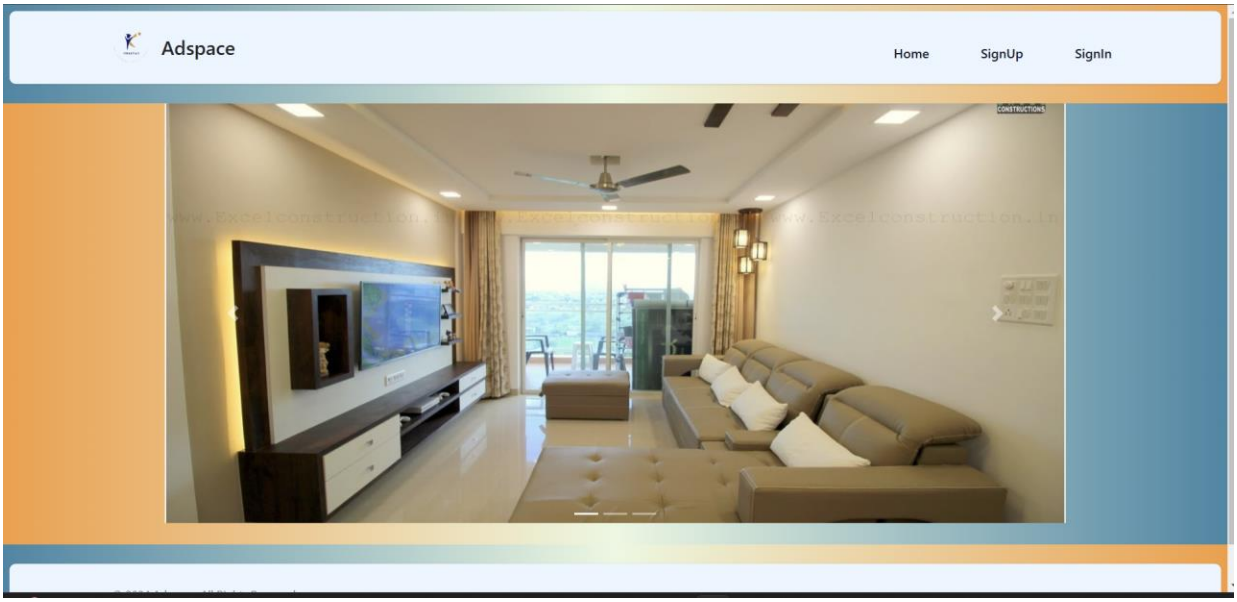
DFD Level 1:

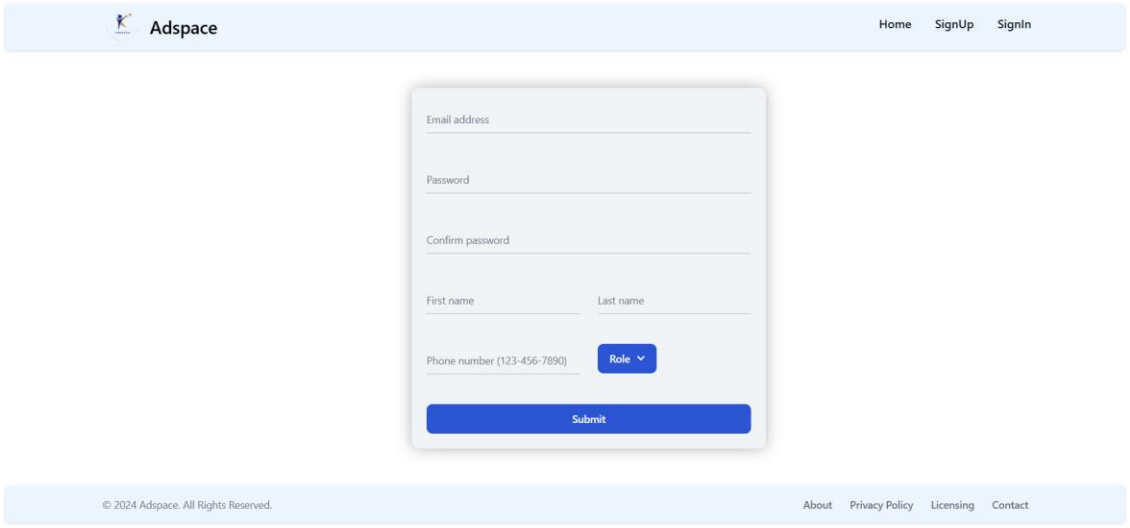


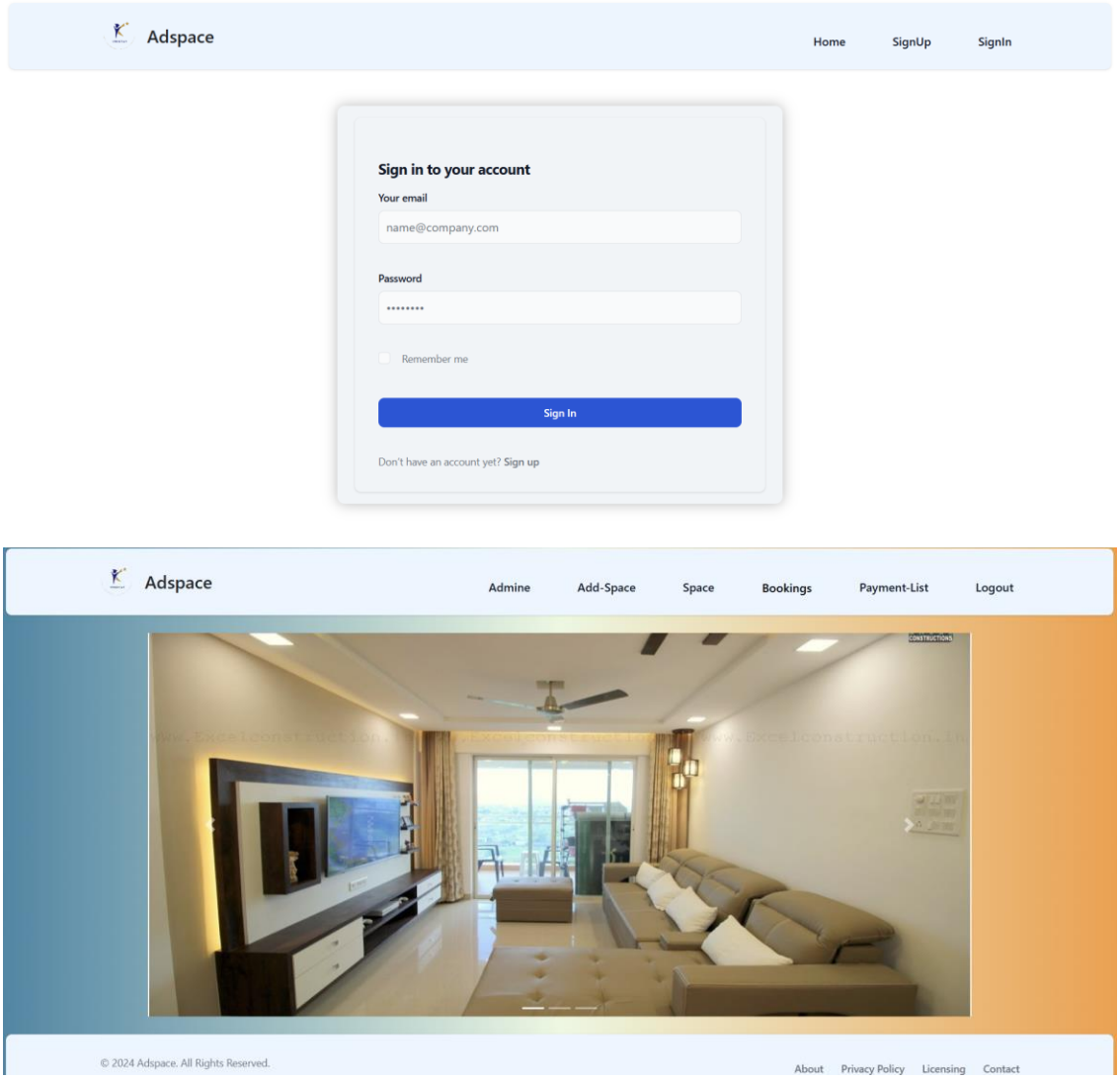
DFD Level 2:

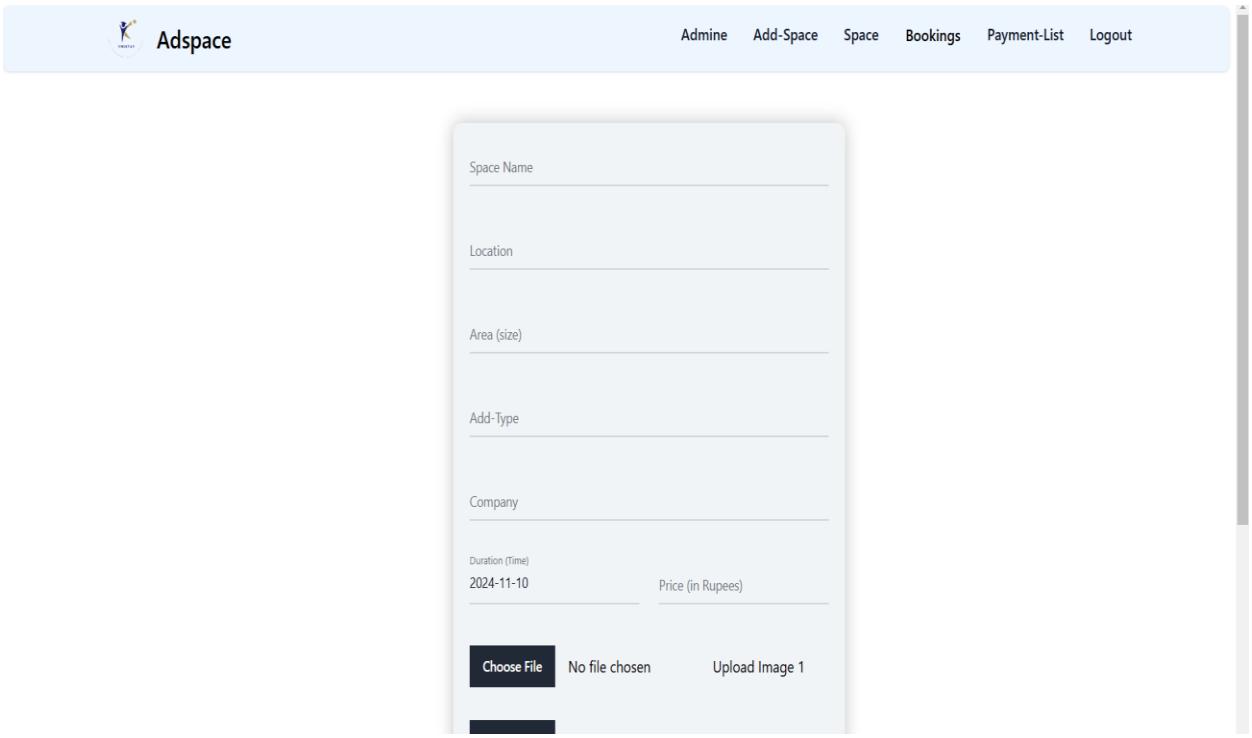


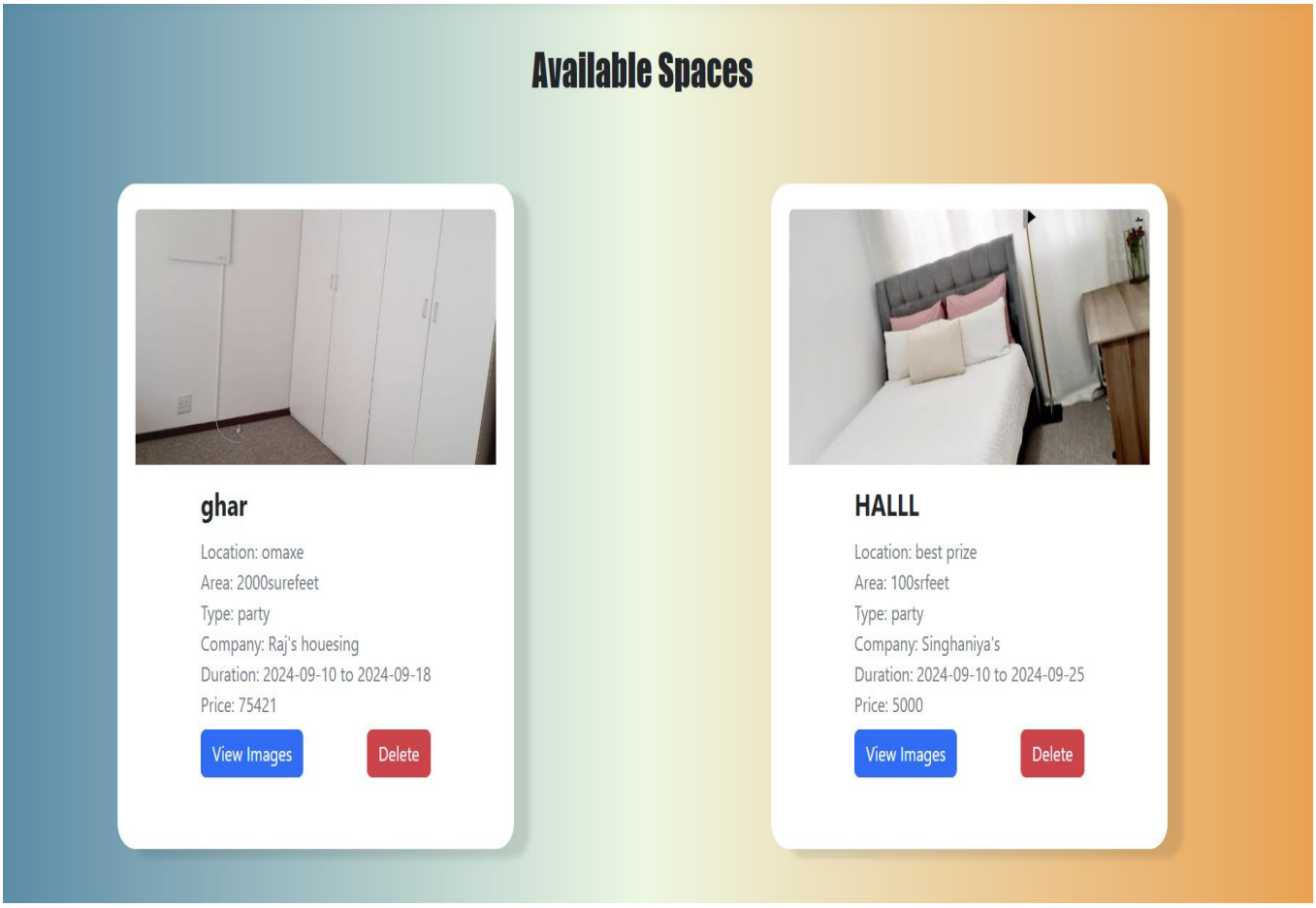
3.5 User Interface Design

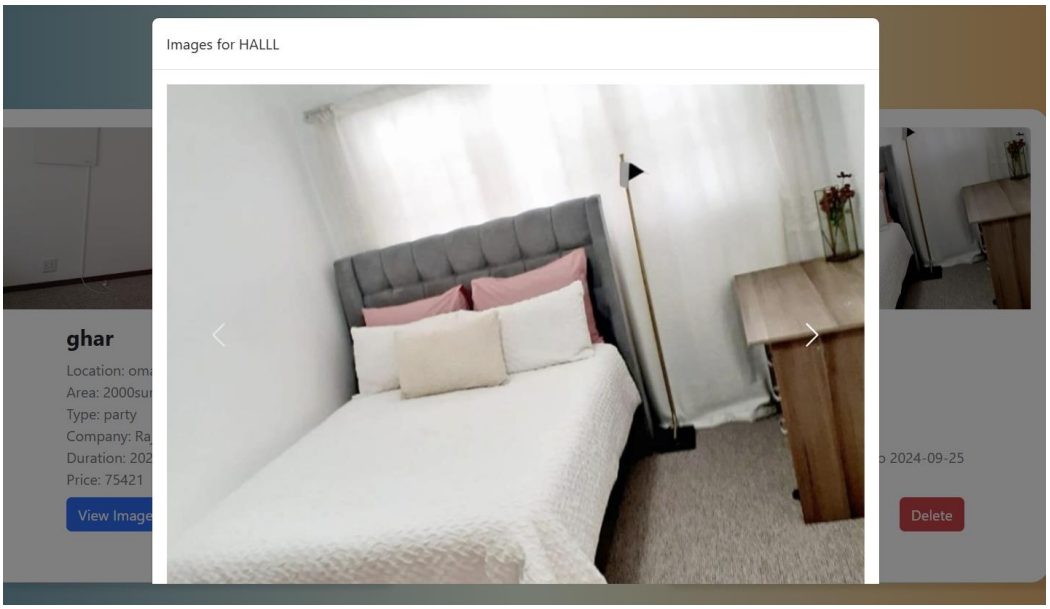


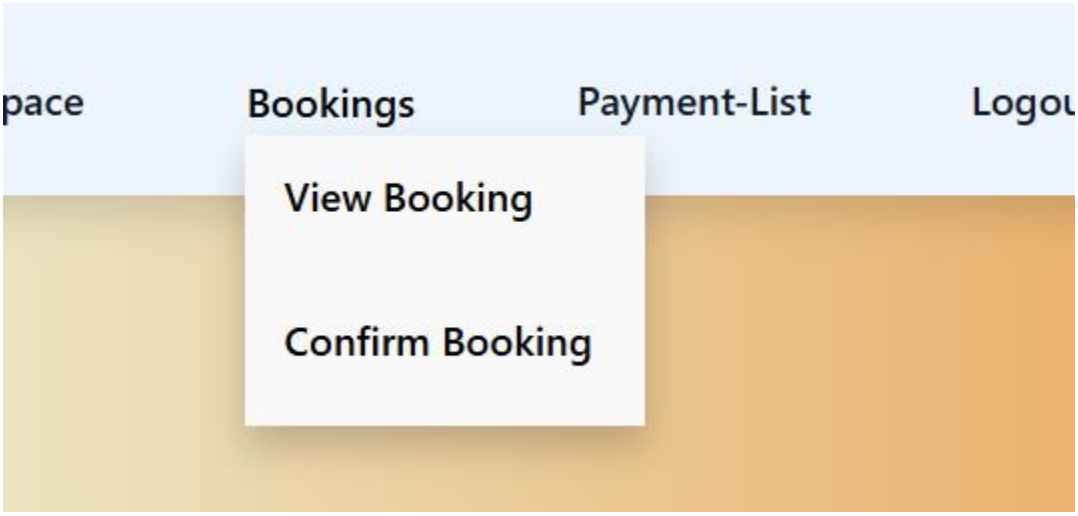


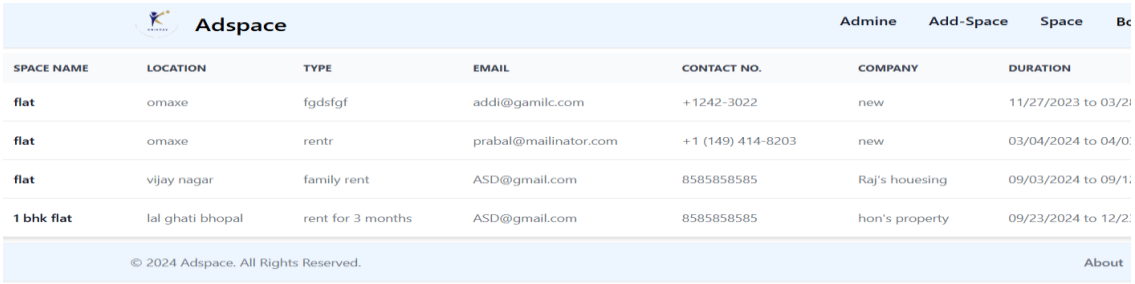

Adspace
Home
SignUp
SignIn
Sign in to your account
Your email
name@company.com
Password
Remember me
Sign In
Don't have an account yet? Sign up
Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout
© 2024 Adspace. All Rights Reserved.
About
Privacy Policy
Licensing
Contact

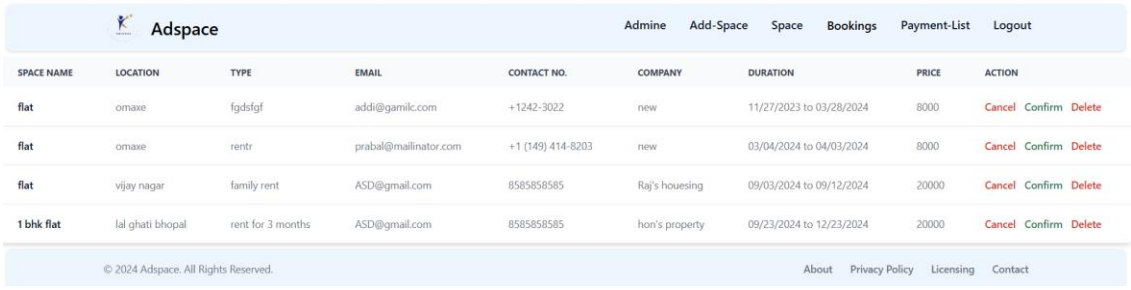

Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout
Space Name
Location
Area (size)
Add-Type
Company
Duration (Time)
2024-11-10
Price (in Rupees)
Choose File
No file chosen
Upload Image 1

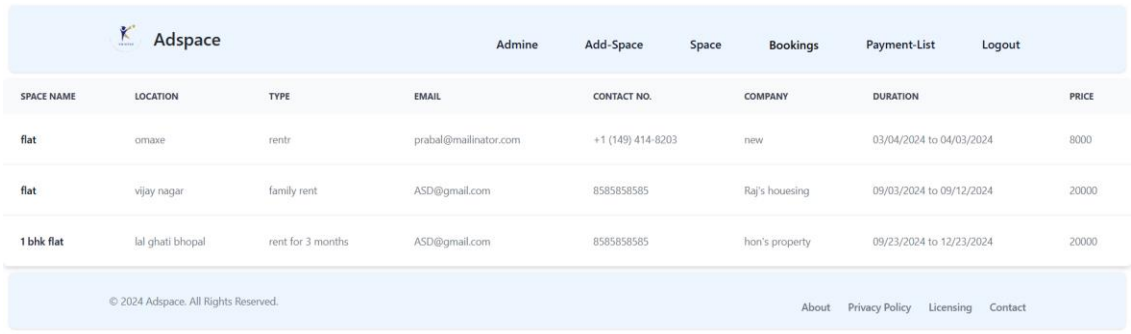

Available Spaces
ghar
Location: omaxe
Area: 2000surefeet
Type: party
Company: Raj's houesing
Duration: 2024-09-10 to 2024-09-18
Price: 75421
View Images
Delete
HALLL
Location: best prize
Area: 100srfeet
Type: party
Company: Singhaniya's
Duration: 2024-09-10 to 2024-09-25
Price: 5000
View Images
Delete

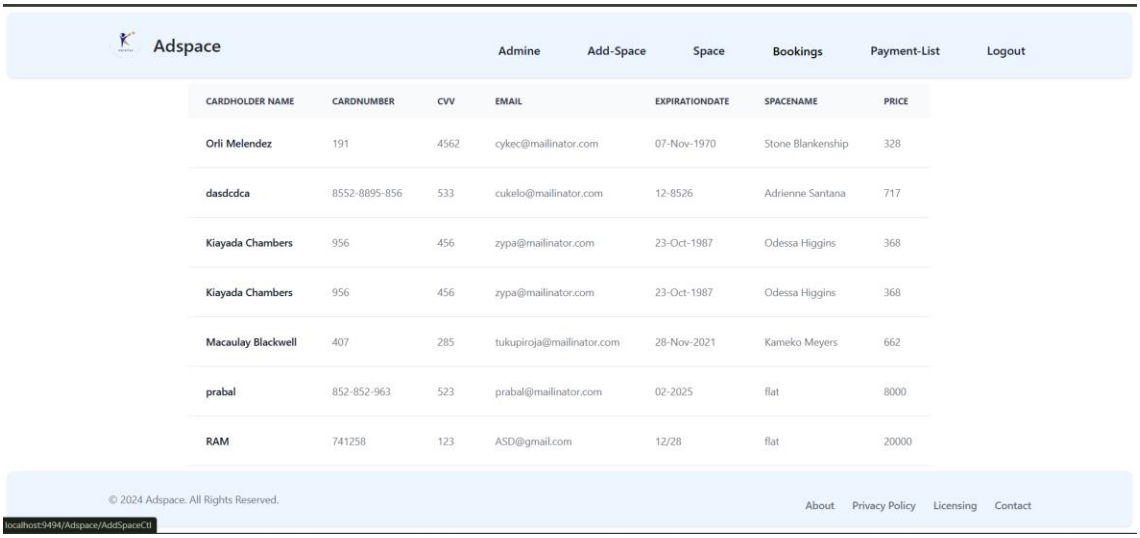

Images for HALLL
ghar
Location: om
Area: 2000su
Type: party
Company: Ra
Duration: 202
Price: 75421
View Image
2024-09-25
Delete

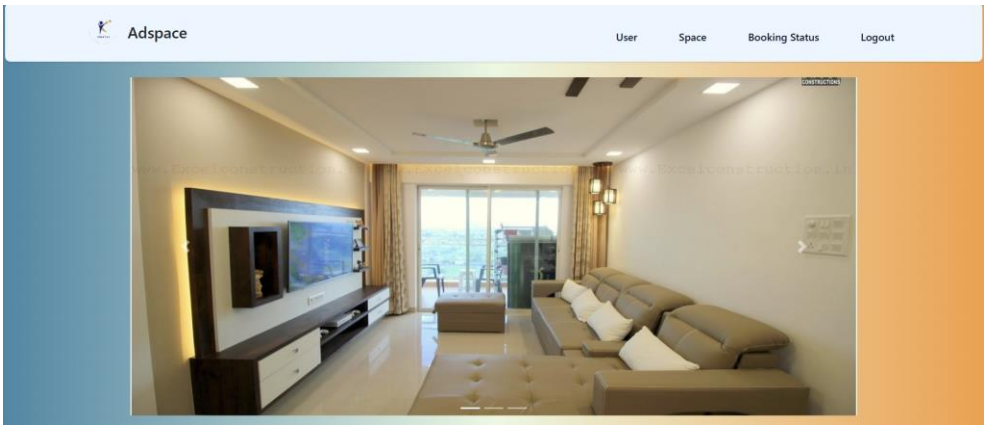

pace
Bookings
Payment-List
Logou
View Booking
Confirm Booking

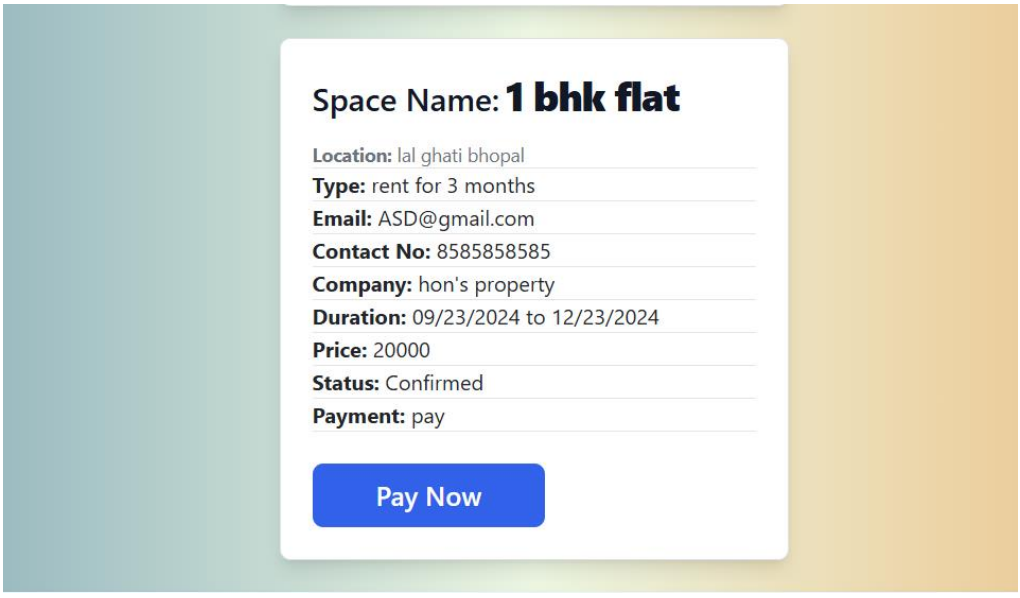

Adspace
Admine
Add-Space
Space
SPACE NAME
LOCATION
TYPE
EMAIL
CONTACT NO.
COMPANY
DURATION
flat
omaxe
fgdsfgf
addi@gamilc.com
+1242-3022
new
11/27/2023 to 03/2
flat
omaxe
rentr
prabal@mailinator.com
+1 (149) 414-8203
new
03/04/2024 to 04/0
flat
vijay nagar
family rent
ASD@gmail.com
8585858585
Raj's housesing
09/03/2024 to 09/1
1 bhk flat
lal ghati bhopal
rent for 3 months
ASD@gmail.com
8585858585
hon's property
09/23/2024 to 12/2
© 2024 Adspace. All Rights Reserved.
About

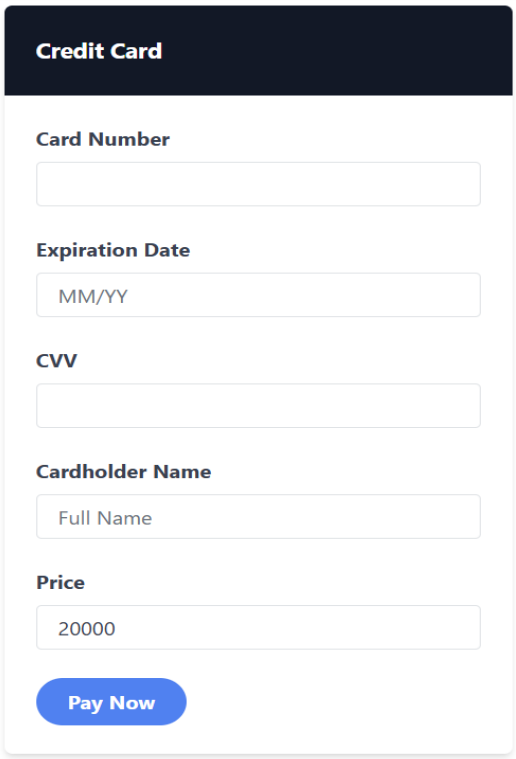

Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout
SPACE NAME
LOCATION
TYPE
EMAIL
CONTACT NO.
COMPANY
DURATION
PRICE
ACTION
flat
omaxe
fgdsfgf
addi@gamilc.com
+1242-3022
new
11/27/2023 to 03/28/2024
8000
Cancel Confirm Delete
flat
omaxe
rentr
prabal@mailinator.com
+1 (149) 414-8203
new
03/04/2024 to 04/03/2024
8000
Cancel Confirm Delete
flat
vijay nagar
family rent
ASD@gmail.com
8585858585
Raj's houesing
09/03/2024 to 09/12/2024
20000
Cancel Confirm Delete
1 bhk flat
lal ghati bhopal
rent for 3 months
ASD@gmail.com
8585858585
hon's property
09/23/2024 to 12/23/2024
20000
Cancel Confirm Delete
© 2024 Adspace. All Rights Reserved.
About
Privacy Policy
Licensing
Contact

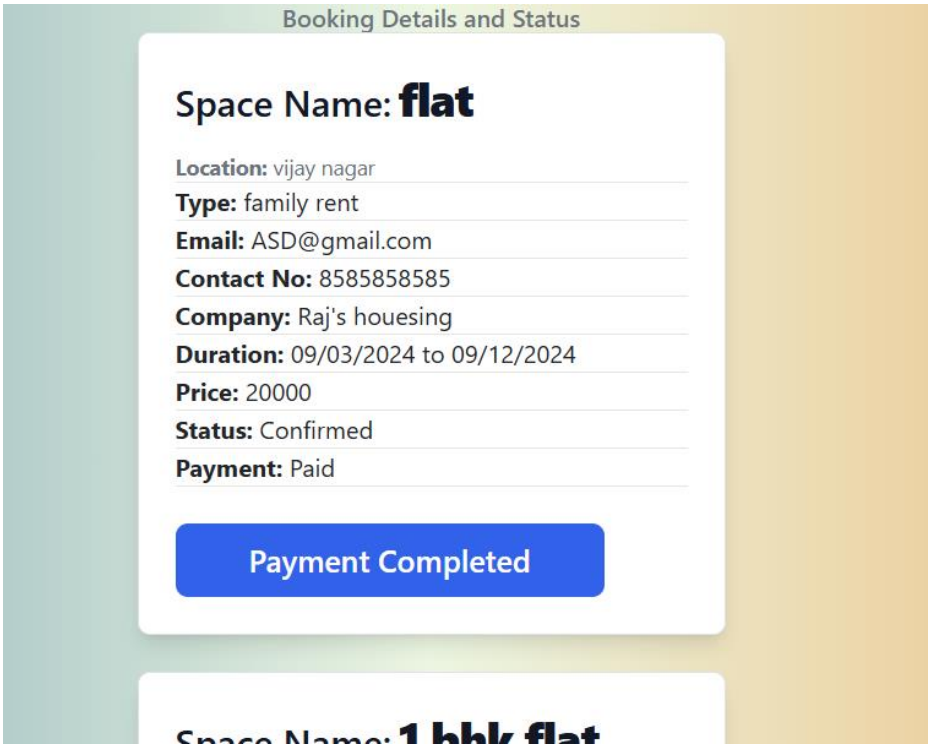

Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout
SPACE NAME
LOCATION
TYPE
EMAIL
CONTACT NO.
COMPANY
DURATION
PRICE
flat
omaxe
rentr
prabal@mailinator.com
+1 (149) 414-8203
new
03/04/2024 to 04/03/2024
8000
flat
vijay nagar
family rent
ASD@gmail.com
8585858585
Raj's houesing
09/03/2024 to 09/12/2024
20000
1 bhk flat
lal ghati bhopal
rent for 3 months
ASD@gmail.com
8585858585
hon's property
09/23/2024 to 12/23/2024
20000
© 2024 Adspace. All Rights Reserved.
About
Privacy Policy
Licensing
Contact


Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout
CARDHOLDER NAME
CARDNUMBER
CVV
EMAIL
EXPIRATIONDATE
SPACENAME
PRICE
Orli Melendez
191
4562
cykec@mailinator.com
07-Nov-1970
Stone Blankenship
328
dasdcdca
8552-8895-856
533
cukelo@mailinator.com
12-8526
Adrienne Santana
717
Kiayada Chambers
956
456
zypa@mailinator.com
23-Oct-1987
Odessa Higgins
368
Kiayada Chambers
956
456
zypa@mailinator.com
23-Oct-1987
Odessa Higgins
368
Macaulay Blackwell
407
285
tukupiroja@mailinator.com
28-Nov-2021
Kameko Meyers
662
prabal
852-852-963
523
prabal@mailinator.com
02-2025
flat
8000
RAM
741258
123
ASD@gmail.com
12/28
flat
20000
© 2024 Adspace. All Rights Reserved.
About
Privacy Policy
Licensing
Contact
localhost:9494/Adspace/AddSpaceCtl

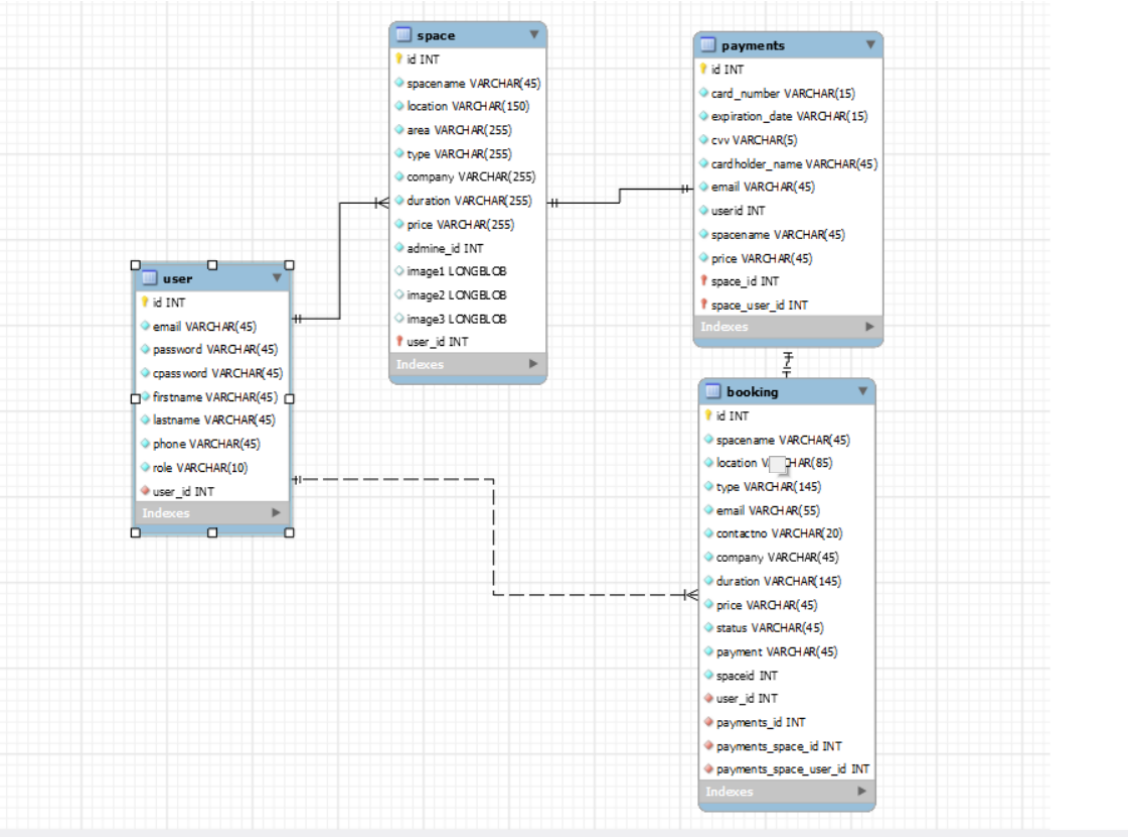

Adspace
User
Space
Booking Status
Logout


Space Name: 1 bhk flat
Location: lal ghati bhopal
Type: rent for 3 months
Email: ASD@gmail.com
Contact No: 8585858585
Company: hon's property
Duration: 09/23/2024 to 12/23/2024
Price: 20000
Status: Confirmed
Payment: pay
Pay Now


Credit Card
Card Number
Expiration Date
MM/YY
CVV
Cardholder Name
Full Name
Price
20000
Pay Now


Booking Details and Status
Space Name: flat
Location: vijay nagar
Type: family rent
Email: ASD@gmail.com
Contact No: 8585858585
Company: Raj's houesing
Duration: 09/03/2024 to 09/12/2024
Price: 20000
Status: Confirmed
Payment: Paid
Payment Completed

3.6.2 E-R Diagram



Chapter 4: Implementation & Testing

4.1 Methodology

- This chapter outlines the methodology used for implementing and testing the 'Add Space' project system. The goal is to ensure efficient and accurate implementation of all components and a reliable process for identifying and addressing any errors.

4.1.1 Proposed Algorithm

- The core algorithm for the 'Add Space' project involves the following steps:
    1. **User Registration & Authentication:** New users are registered with roles (admin, broker, or user) with input validation and password security mechanisms.
    2. **Space Management Operations:** Admins/brokers can perform CRUD operations on spaces, including adding, viewing, editing, and deleting space data, using validation checks.
    3. **Booking Management:** User-initiated bookings trigger status management by brokers (confirm, cancel, or pending).
    4. **Notification & Payment Integration:** Automated messaging based on booking status changes.
    5. **Database Operations:** Data storage and retrieval with respect to users, spaces, and bookings using efficient query mechanisms.

4.2 Implementation Approach

- The implementation is carried out with the following components:

4.2.1 Introduction to Languages, IDEs, Tools, and Technologies

- **Languages:** Java (Spring Boot), JavaScript (React/JSP)
- **Backend Framework:** Spring Boot for RESTful APIs
- **Frontend Technologies:** Thymeleaf, JSP, or React
- **IDE Used:** Eclipse, IntelliJ IDEA

- **Tools & Libraries:** MySQL for database, Spring Security for authentication/authorization, Spring Email for notifications
- **Project Management Tools:** Maven, Postman for API testing

4.3 Testing Approach

Testing ensures the reliability, functionality, and performance of each system component.

4.3.1 Unit Testing

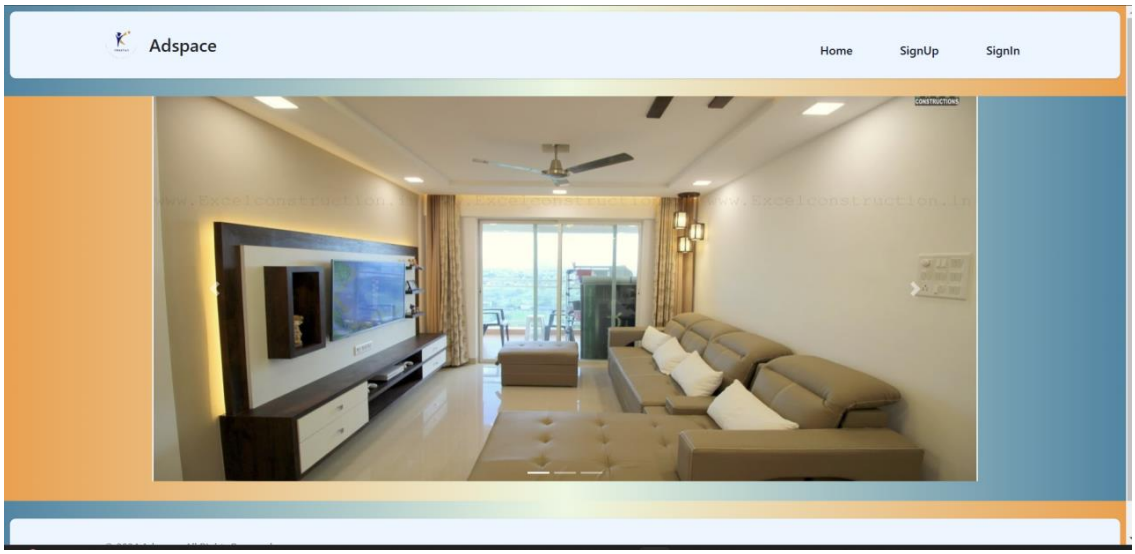
- **Test Cases:**
    - **Test Case 1:** Verify user registration form with valid and invalid data inputs.
        - *Expected Result:* Correct error messages for invalid data and successful registration for valid data.
    - **Test Case 2:** Test login functionality with correct and incorrect credentials.
        - *Expected Result:* Successful login with correct credentials, appropriate error message for incorrect inputs.

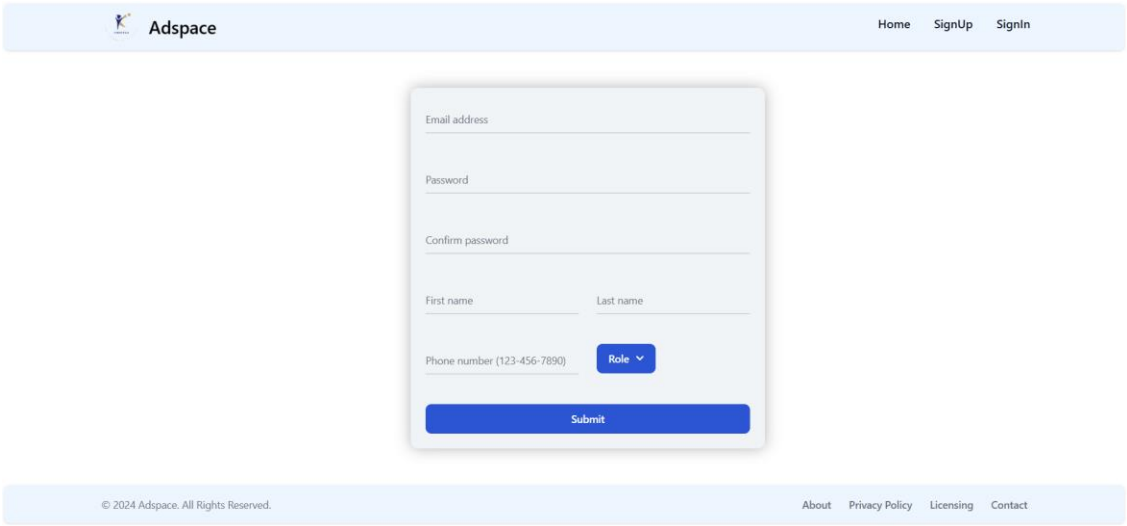
4.3.2 Integration Testing

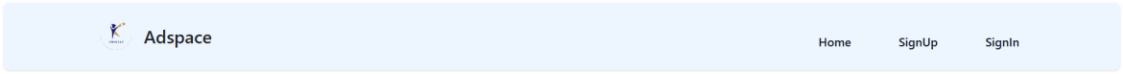
- **Test Cases:**
    - **Test Case 1:** Test CRUD operations on space data (Add, Update, Delete).
        - *Expected Result:* Verify data consistency across all modules, proper validation checks, and error messages.
    - **Test Case 2:** Booking workflow end-to-end (User booking, broker status updates).
        - *Expected Result:* Trigger appropriate state transitions, notifications, and record updates.

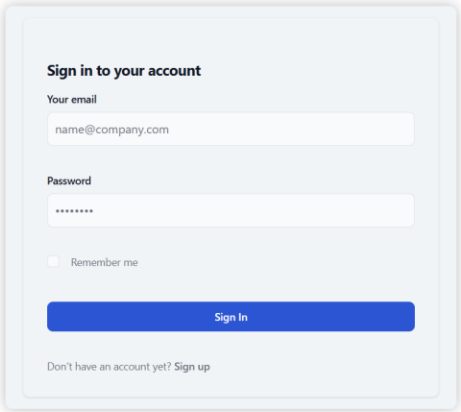
Chapter 5: Results & Discussion

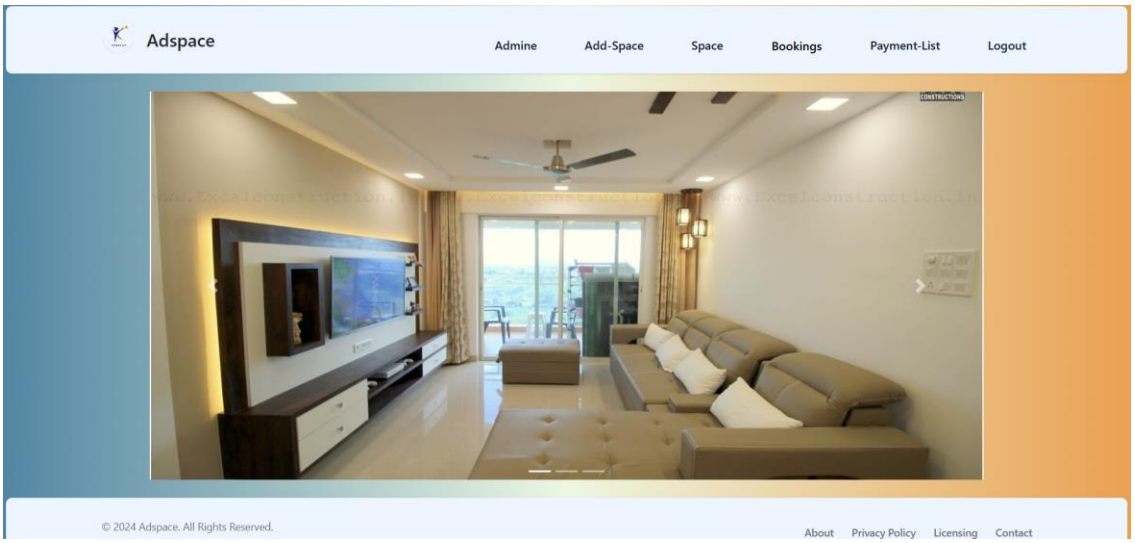
5.1 User Interface Representation

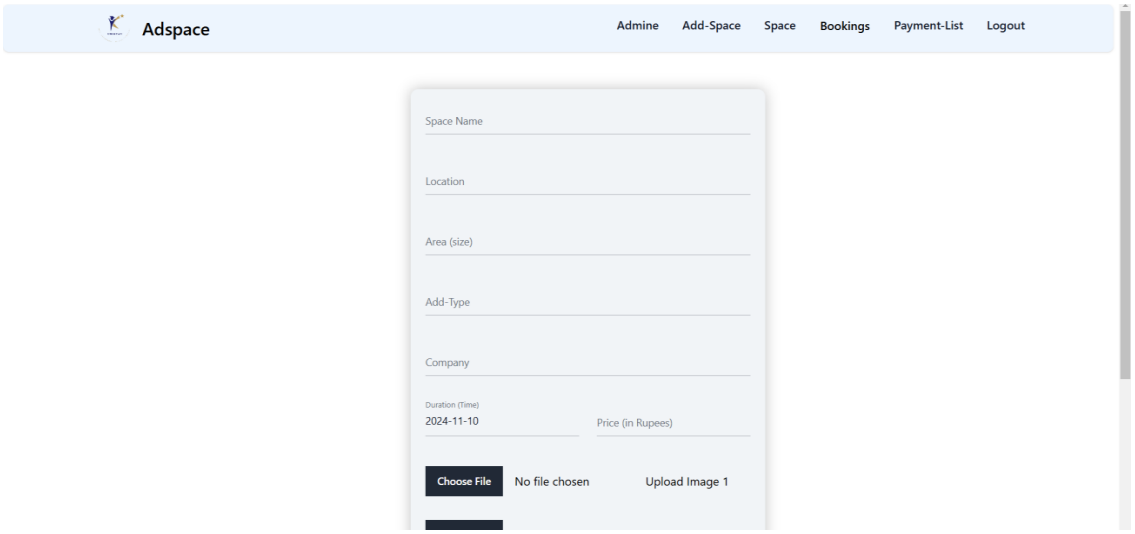




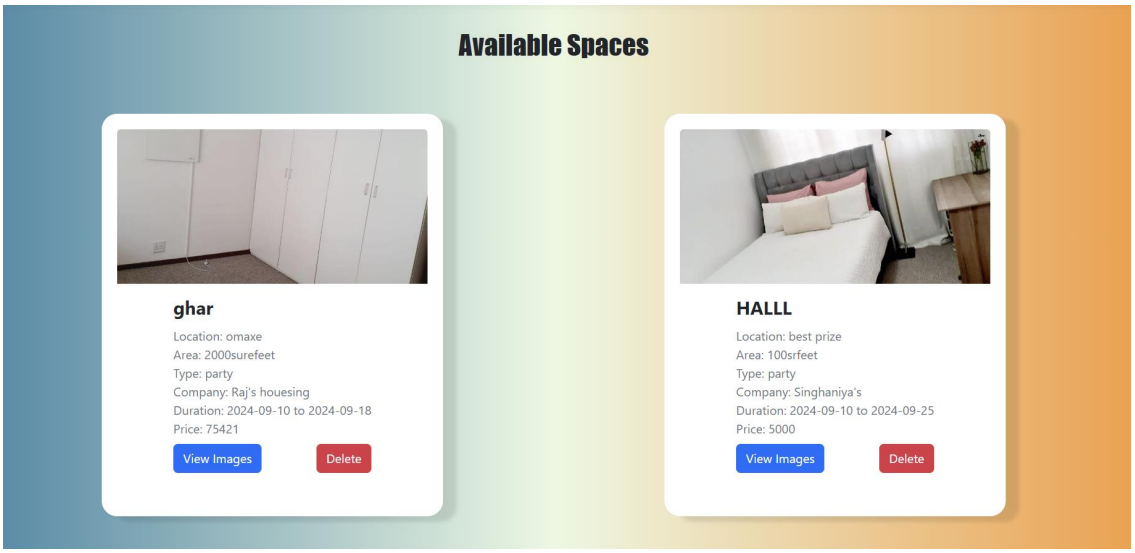

Adspace
Home
SignUp
SignIn

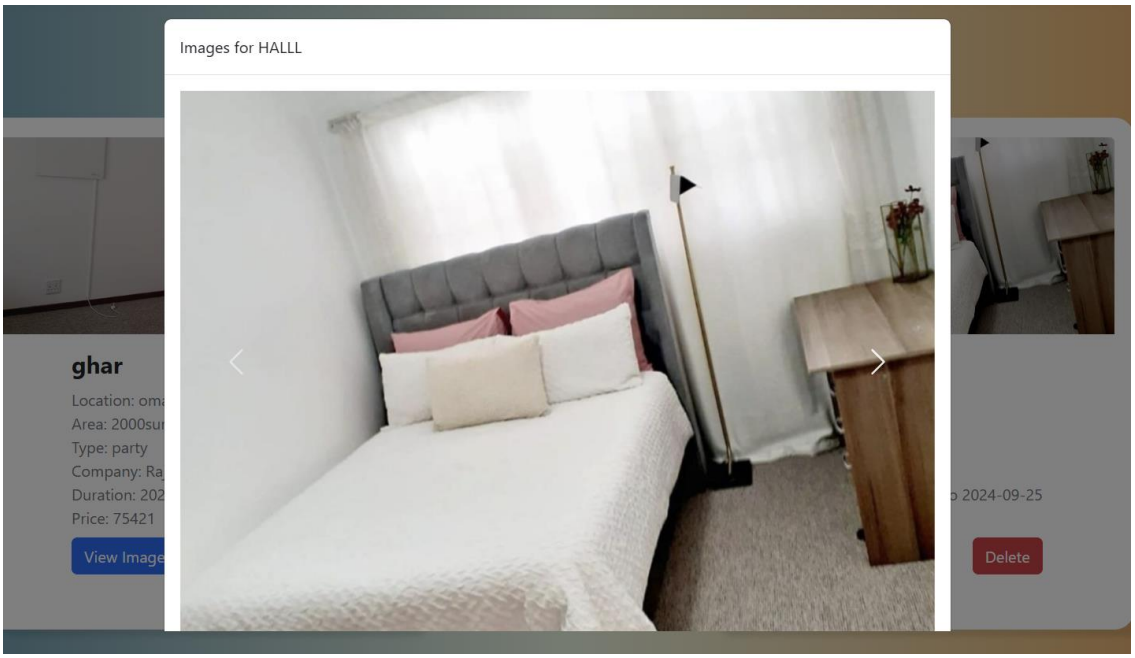

Sign in to your account
Your email
name@company.com
Password
Remember me
Sign In
Don't have an account yet? Sign up

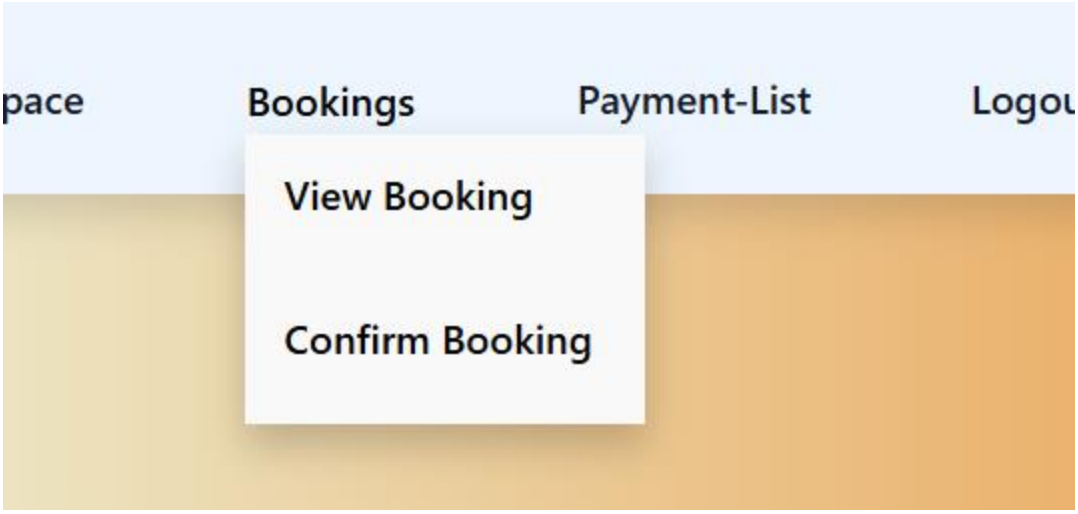

Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout
© 2024 Adspace. All Rights Reserved.
About
Privacy Policy
Licensing
Contact


Adspace
Admine
Add-Space
Space
Bookings
Payment-List
Logout

Space Name
Location
Area (size)
Add-Type
Company
Duration (Time)
2024-11-10
Price (in Rupees)
Choose File
No file chosen
Upload Image 1


Available Spaces
ghar
Location: omaxe
Area: 2000surefeet
Type: party
Company: Raj's houesing
Duration: 2024-09-10 to 2024-09-18
Price: 75421
View Images
Delete
HALLL
Location: best prize
Area: 100srfeet
Type: party
Company: Singhaniya's
Duration: 2024-09-10 to 2024-09-25
Price: 5000
View Images
Delete


Images for HALLL
ghar
Type: party
Price: 75421
Delete



5.1.1 Brief Description of Various Modules

User Registration & Login Module

- Facilitates user registration, login, and role-based authentication (admin, broker, or user).

Space Management Module

- Allows brokers and admins to add, edit, view, and delete spaces. It includes image upload functionality and space type selection (e.g., halls, flats, rooms).

Booking Management Module

- Enables users to book spaces. Brokers manage booking status, including confirmations, cancellations, or pending status updates.

Notification & Messaging Module

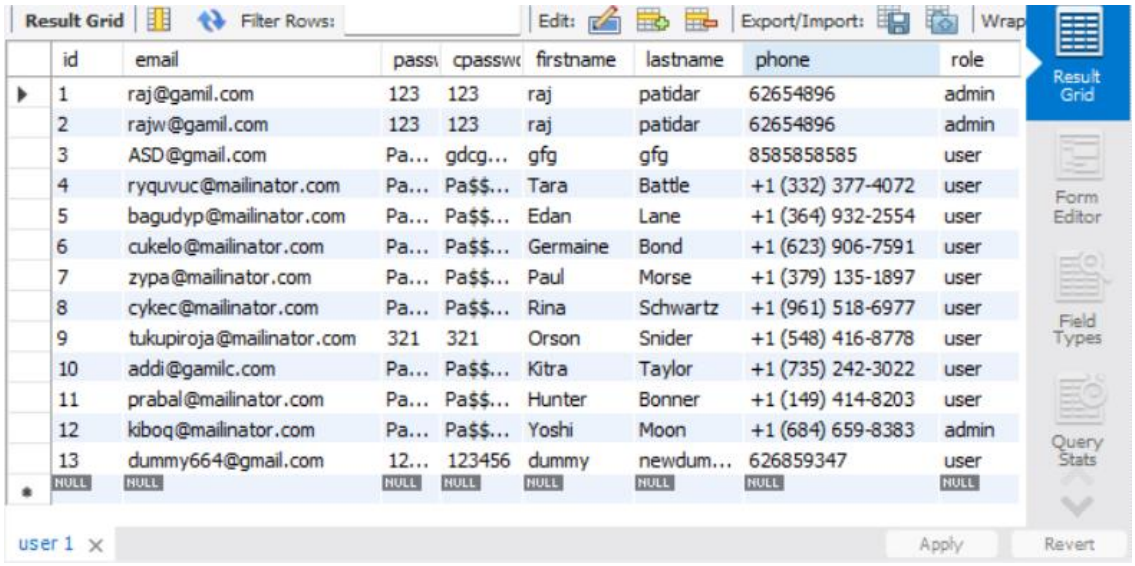
- Automates messages related to booking confirmations, status changes, and payments.

Reports & Analytics Module

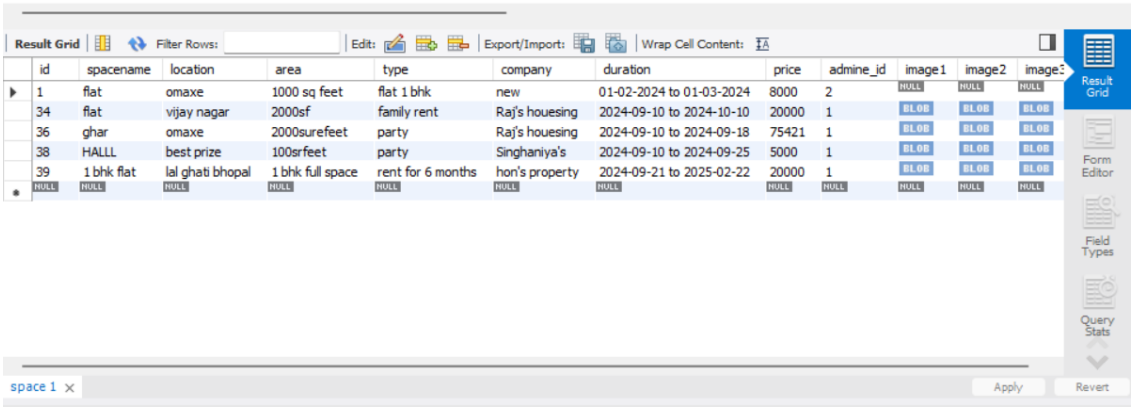
- Provides summarized data on bookings, space availability, and user activity, aiding brokers and admins in decision-making.

5.3 Database Description

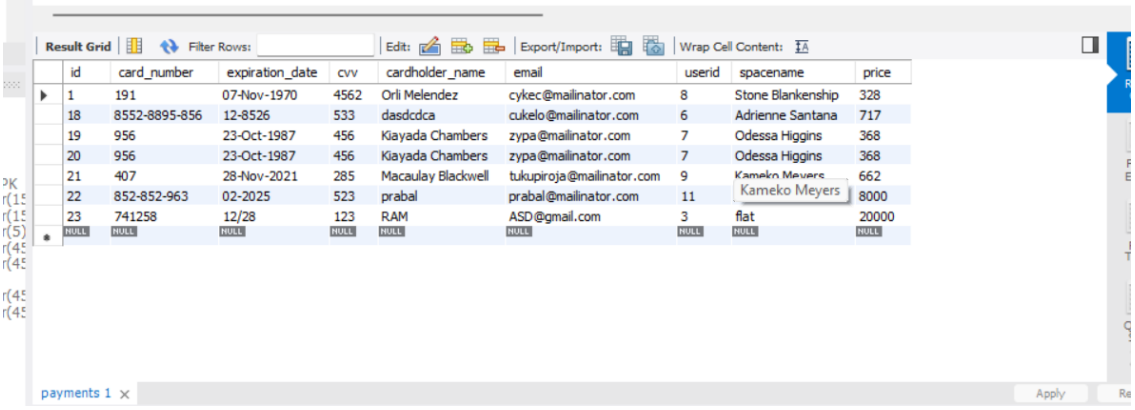
5.3.1 Snapshot of Database Tables with Brief Description



id	email	passv	cpasswc	firstname	lastname	phone	role
1	raj@gamil.com	123	123	raj	patidar	62654896	admin
2	rajw@gamil.com	123	123	raj	patidar	62654896	admin
3	ASD@gmail.com	Pa...	gdcg...	gfg	gfg	8585858585	user
4	ryquvuc@mailinator.com	Pa...	Pa$$...	Tara	Battle	+1 (332) 377-4072	user
5	bagudyp@mailinator.com	Pa...	Pa$$...	Edan	Lane	+1 (364) 932-2554	user
6	cukelo@mailinator.com	Pa...	Pa$$...	Germaine	Bond	+1 (623) 906-7591	user
7	zypa@mailinator.com	Pa...	Pa$$...	Paul	Morse	+1 (379) 135-1897	user
8	cykec@mailinator.com	Pa...	Pa$$...	Rina	Schwartz	+1 (961) 518-6977	user
9	tukupiroja@mailinator.com	321	321	Orson	Snider	+1 (548) 416-8778	user
10	addi@gamilc.com	Pa...	Pa$$...	Kitra	Taylor	+1 (735) 242-3022	user
11	prabal@mailinator.com	Pa...	Pa$$...	Hunter	Bonner	+1 (149) 414-8203	user
12	kiboq@mailinator.com	Pa...	Pa$$...	Yoshi	Moon	+1 (684) 659-8383	admin
13	dummy664@gmail.com	12...	123456	dummy	newdum...	626859347	user



id	spacename	location	area	type	company	duration	price	admine_id	image1	image2	image3
1	flat	omaxe	1000 sq feet	flat 1 bhk	new	01-02-2024 to 01-03-2024	8000	2			
34	flat	vijay nagar	2000sf	family rent	Raj's housesing	2024-09-10 to 2024-10-10	20000	1	BLOB	BLOB	BLOB
36	ghar	omaxe	2000surefeet	party	Raj's housesing	2024-09-10 to 2024-09-18	75421	1	BLOB	BLOB	BLOB
38	HALLL	best prize	100srfeet	party	Singhaniya's	2024-09-10 to 2024-09-25	5000	1	BLOB	BLOB	BLOB
39	1 bhk flat	lal ghati bhopal	1 bhk full space	rent for 6 months	hon's property	2024-09-21 to 2025-02-22	20000	1	BLOB	BLOB	BLOB



id	card_number	expiration_date	cvv	cardholder_name	email	userid	spacename	price
1	191	07-Nov-1970	4562	Orli Melendez	cykec@mailinator.com	8	Stone Blankenship	328
18	8552-8895-856	12-8526	533	dasdcdca	cukelo@mailinator.com	6	Adrienne Santana	717
19	956	23-Oct-1987	456	Kiayada Chambers	zypa@mailinator.com	7	Odessa Higgins	368
20	956	23-Oct-1987	456	Kiayada Chambers	zypa@mailinator.com	7	Odessa Higgins	368
21	407	28-Nov-2021	285	Macaulay Blackwell	tukupiroja@mailinator.com	9	Kameko Meyers	662
22	852-852-963	02-2025	523	prabal	prabal@mailinator.com	11		8000
23	741258	12/28	123	RAM	ASD@gmail.com	3	flat	20000

5.4 Final Findings

- The 'Add Space' project successfully fulfills its goals by providing a comprehensive platform for space management, booking, and role-based access control.
- The developed modules operate as intended, offering robust CRUD functionalities, user notifications, and secure authentication mechanisms.
- Key findings include smooth workflow integration between brokers, admins, and users, with effective booking management and notification triggers. This demonstrates the project's potential for real-world applications, meeting user needs for short-term rental management with enhanced convenience and security features.

Chapter 6: Conclusion & Future Scope

Conclusion

The 'Add Space' project aimed to develop a comprehensive platform to manage short-term space rentals through a user-friendly system that includes brokers, admins, and users. By providing functionalities like user registration, role-based access control, space management, booking operations, and notifications, the project addresses the challenges faced by users and brokers in efficiently managing rental spaces for events and short durations.

The project was implemented using technologies like JSP, Servlets, and JDBC to ensure a secure, scalable, and interactive experience. Key features include flexible booking options, secure login mechanisms, automated status updates, and notifications for transactions. Testing phases confirmed that all modules perform reliably, adhering to the intended requirements and user expectations.

The project's success lies in creating a seamless and secure environment that facilitates effective management of spaces and bookings while minimizing the administrative burden on brokers and providing convenience to users. This approach helps to bridge the gap between space availability and short-term rental needs.

6.2 Future Scope

1. **Integration of Advanced Analytics**
    - Future iterations of the project can integrate AI-driven analytics to predict user trends, booking demands, and suggest optimal pricing or rental timing for spaces.
2. **Mobile Application Development**
    - Developing a mobile version of the application to enhance accessibility for users on smartphones, enabling faster space booking, confirmations, and management.
3. **Payment Gateway Integration**
    - Adding an online payment gateway to facilitate secure and easy transactions, enhancing user experience by providing end-to-end booking solutions.
4. **Enhanced Security Mechanisms**
    - Implementing advanced security measures, such as two-factor authentication (2FA) for users, to further protect user data and application integrity.

5. **Integration with Third-Party Platforms**
    - Allowing brokers to list their spaces on third-party platforms for greater visibility and integrating APIs to manage such listings.
6. **AI-based Recommendations**
    - Utilizing machine learning algorithms to provide personalized recommendations for users based on their previous bookings and preferences.
7. **Extended Space Types and Customization**
    - Adding more space types and features for customization based on event requirements or user preferences, broadening the range of offered services.

By continuing to evolve and incorporate user feedback, the 'Add Space' project can meet ever-changing market demands, further streamline rental processes, and provide a top-tier platform for space management and bookings

.

References

1. Books & Texts:
    - *Java: The Complete Reference* by Herbert Schildt - For understanding Java fundamentals, JDBC, and JSP basics used in the Add Space project.
    - *Head First Servlets and JSP* by Bryan Basham, Kathy Sierra, and Bert Bates - For practical insights into building web applications using JSP and Servlets.
2. Online Tutorials & Documentation:
    - Oracle's official documentation on JDBC and Java Standard Libraries: Oracle JDBC Documentation
    - Java Servlets and JSP documentation: Oracle Java EE Documentation
3. Web Articles:
    - TutorialsPoint for JSP and Servlet tutorials: JSP Tutorial
    - Baeldung for Spring and related backend development concepts: Baeldung
4. Web Technologies & Best Practices:
    - W3C and Javatpoint Guidelines for Web Development for UI/UX design principles applied in project interfaces.
    - MDN Web Docs for HTML, CSS, and web standards: MDN Web Docs
5. Frameworks & Tools Documentation:
    - Apache Tomcat documentation for deploying the application server used in the project: Apache Tomcat Docs
    - MySQL Documentation for database management: MySQL Docs
6. Open-Source Libraries & Tools:
    - GitHub documentation and community guides for version control and collaborative development: GitHub Guides
7. Mentor & Academic Guidance:
    - Prof. Shahida Khan for consistent mentorship throughout the project lifecycle.
    - Project guidelines provided by Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P.) for adherence to academic standards and requirements.
8. Online Communities:

- Stack Overflow for troubleshooting, debugging, and additional support for development issues during the project.
- Various forums on Java development for practical issues related to JSP/Servlets.