Software Requirements Specification

For

Travel Booking Platform

Version 1.0 Approved

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HCL Training

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Submitted in partial fulfillment

Of the requirements of

Software Engineering(Agile Methodology)

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Abstract

The Travel Booking Platform is a web-based application developed to simplify and automate the process of booking travel services such as flights, hotels, and travel packages. In today's fast-paced digital world, travelers expect quick access to travel information, price comparison, and secure booking facilities from a single platform. Traditional travel booking methods involve manual processes, multiple intermediaries, lack of transparency, and are often time-consuming and error-prone. This project aims to overcome these limitations by providing an efficient, user-friendly, and reliable online travel booking system.

The proposed system allows users to register, log in, search for available travel options based on their preferences, compare prices, and complete bookings through an integrated payment system. It also provides booking confirmation and history tracking for users. An administrator module is included to manage travel listings, availability, pricing, and user bookings. The system ensures data accuracy, security, and real-time updates, which significantly improves the overall user experience.

The Travel Booking Platform is developed using the **Agile software development methodology**, which emphasizes iterative development, continuous feedback, and flexibility to accommodate changing requirements. The project is divided into multiple sprints, each focusing on a specific module such as user authentication, search and booking functionality, payment processing, and reporting. This approach helps in early detection of issues, better risk management, and timely delivery of functional software.

The platform focuses on scalability, performance, and security by using modern web technologies and database management systems. It reduces operational costs for travel agencies and provides customers with a convenient, transparent, and efficient booking experience. This project is suitable for small and medium-sized travel agencies and can be extended in the future by integrating mobile applications, AIbased travel recommendations, multi-language support, and dynamic pricing. Overall, the Travel Booking Platform demonstrates how Agile-based development can deliver a high-quality, adaptable, and customer-centric software solution.

2. Introduction

The Travel Booking Platform is a software application designed to automate and simplify the process of booking travel-related services such as flights, hotels, and tour packages. With the rapid growth of the internet and digital services, travelers now prefer online platforms that provide fast access to information, price comparison, and secure booking options. This project aims to develop a centralized system where users can plan, search, and book their travel easily without depending on traditional manual booking methods.

2.1 Introduction

In earlier days, travel booking was handled manually through travel agents, phone calls, and physical visits, which consumed a lot of time and effort. These methods were inefficient and often resulted in errors and delays. The Travel Booking Platform provides an online solution that enables users to search for travel options, check availability, compare prices, and make bookings from anywhere at any time. The system also helps travel agencies manage bookings and customer data efficiently using a digital platform.

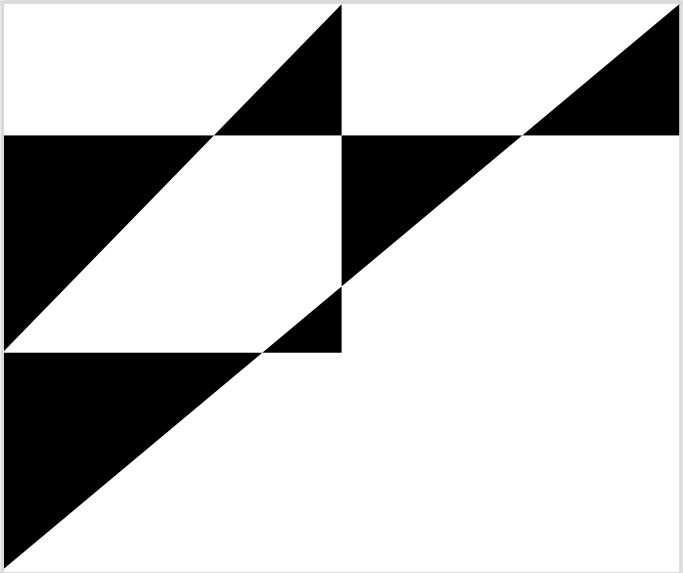
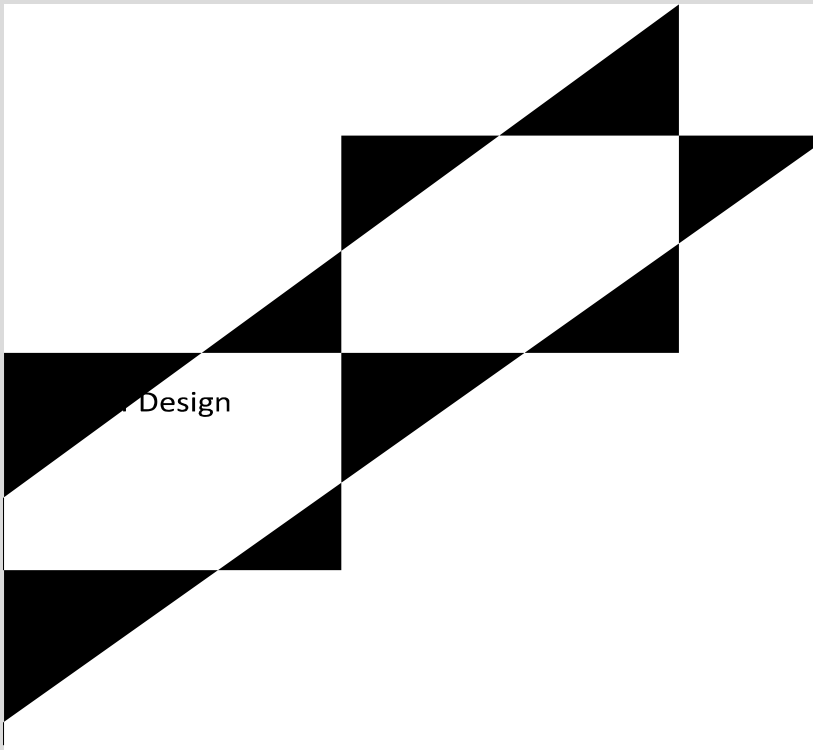
2.2 Problem Identification

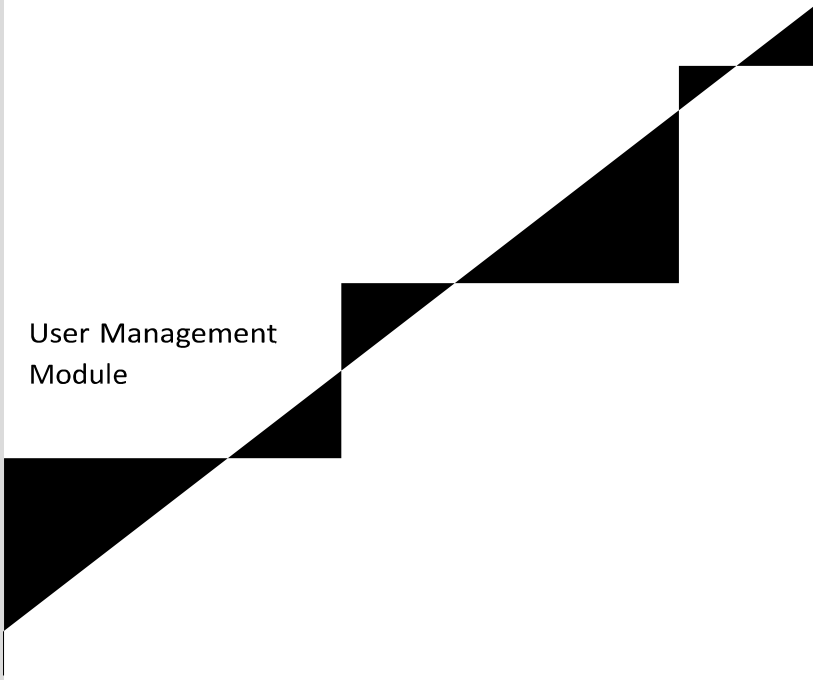
The major problems with traditional travel booking systems are:\n- Lack of real-time availability information\n- Time-consuming manual booking processes\n- High chances of human error\n- Limited price comparison options\n- Poor customer experience and delayed confirmations\n\nThese issues create inconvenience for customers and increase operational workload for travel agencies.

2.3 Need of the Project

The need for the Travel Booking Platform arises from the increasing demand for fast, reliable, and user-friendly travel services. An automated system is required to provide real-time travel information, instant booking confirmation, and secure online payment facilities. This project reduces manual work, improves efficiency, and enhances customer satisfaction while ensuring accuracy and transparency in bookings.

2.4 Project Scheduling

Sprint No.	Sprint Name
	Requirement Analysis & Planning
Sprint 2	 Design

Sprint 3	

Sprint 4	Search and Booking Module

Sprint 5	Payment and Confirmation Module
Sprint 6	Testing, Deployment & Documentation

2.5 Objectives

- To develop an online Travel Booking Platform.
- To automate the travel booking process.
- To provide real-time travel availability and booking details.
- To enable secure user login and online payment.
- To reduce manual work and booking errors.
- To improve user convenience and customer satisfaction.

3. Software Requirement Specification (SRS)

The Software Requirement Specification (SRS) is a detailed document that describes the functional and non-functional requirements of the Travel Booking Platform. It acts as a blueprint for system development and helps developers, testers, and stakeholders clearly

understand what the system should do and how it should perform. This document ensures that the final software meets user needs and business objectives.

3.1 Purpose

The main purpose of this SRS is to clearly define all the requirements of the Travel Booking Platform. It provides complete information about system functionalities, system behavior, constraints, and interfaces. This document serves as a communication medium between clients, developers, and testers. It also acts as a reference during system design, implementation, testing, and future maintenance of the project.

3.2 Scope

The scope of the Travel Booking Platform includes providing an online system where users can easily plan and book travel services such as flights, hotels, and travel packages. The system allows users to create accounts, log in securely, search for travel options, compare prices, make bookings, and complete payments online.

An admin panel is included to manage travel listings, booking details, user information, and payment records. The system is designed to be user-friendly, secure, and scalable so that it can be expanded in the future.

3.3 Hardware Requirement / Software Requirement (Minimum)

Hardware Requirements

These are the minimum hardware resources required to run the system efficiently:

- Processor: Intel i3 or higher
- RAM: Minimum 4 GB
- Hard Disk: At least 20 GB free space
- Internet Connection: Required for online access

Software Requirements

The following software components are required:

- Operating System: Windows 10 / Linux
- Web Browser: Google Chrome, Mozilla Firefox
- Database Management System: MySQL
- Web Server: Apache / Tomcat
- Programming Environment: Java or Node.js

3.4 Tools

The following tools and technologies are used to develop the Travel Booking Platform:

- **Frontend Tools:** HTML, CSS, JavaScript for designing the user interface
- **Backend Tools:** Java or Node.js for business logic and server-side processing
- **Database Tool:** MySQL for storing user, booking, and payment data
- **IDE:** Eclipse or Visual Studio Code for development
- **Version Control:** Git for managing source code and collaboration

These tools help in building a reliable, scalable, and maintainable system.

3.5 Software Process Model

The **Agile Software Development Model** is used for this project. Agile focuses on incremental and iterative development, where the system is developed in small modules called sprints. Each sprint delivers a working feature of the system. Agile allows continuous user feedback, early detection of errors, and flexibility to incorporate changes at any stage of development. This model improves software quality, reduces risk, and ensures timely project completion.

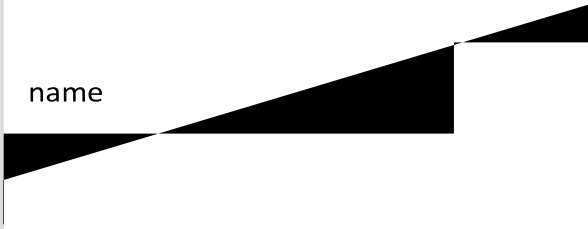
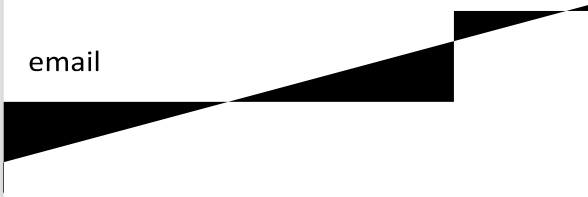
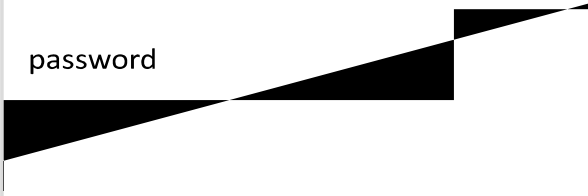
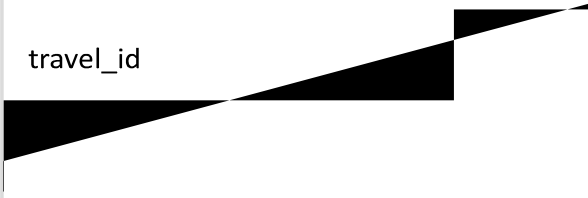
4. System Design

System Design describes the overall architecture of the Travel Booking Platform and explains how different components of the system interact with each other. This phase focuses on data structures, system flow, and relationships between various entities. Proper system design helps in achieving efficiency, scalability, and maintainability of the software.

4.1 Data Dictionary

The Data Dictionary provides detailed information about the data elements used in the system.

Entity Name	Attribute
	user_id

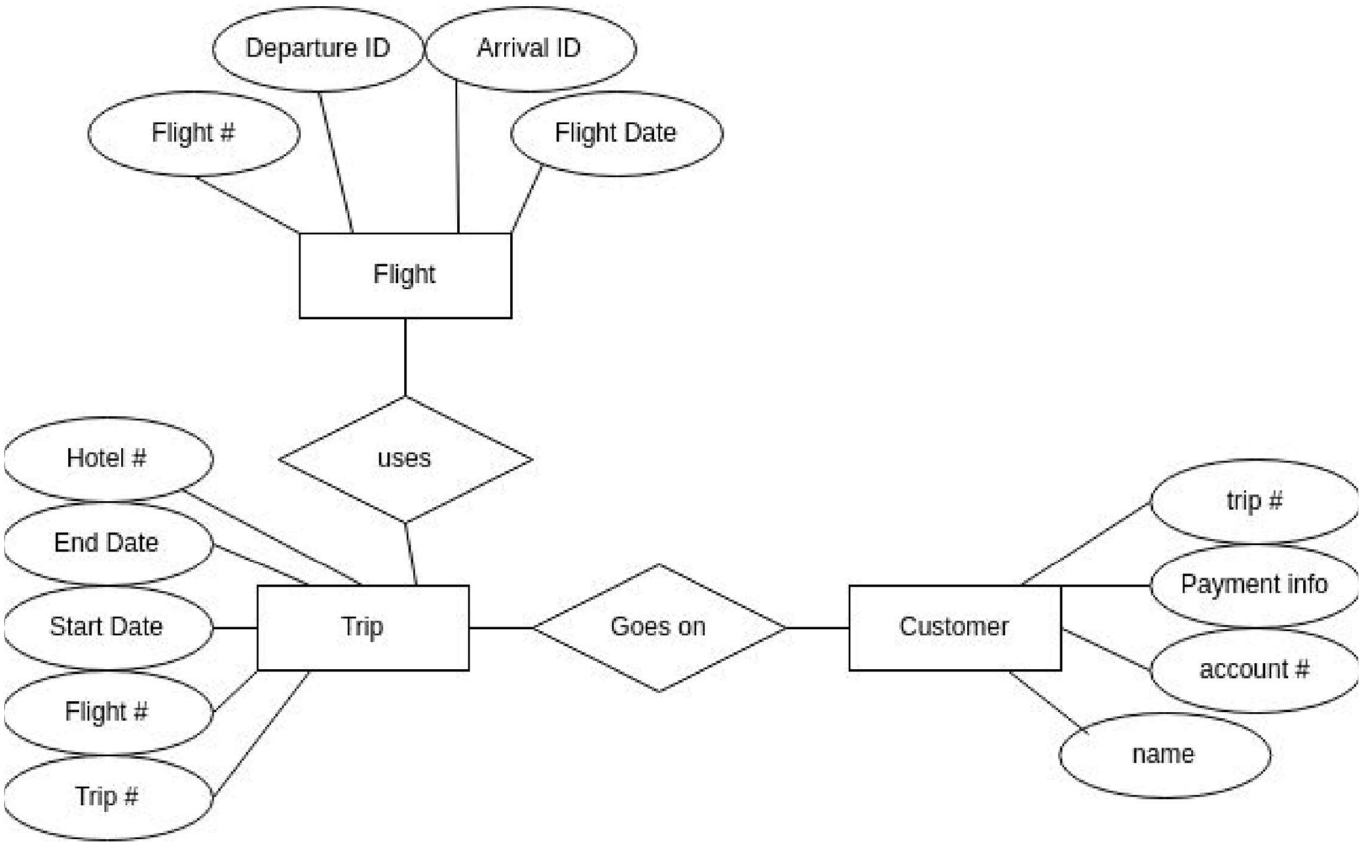
User	name 
User	email 
User	password 
Travel	travel_id 
Travel	type 

Travel	source
Travel	destination
Booking	booking_id
Booking	booking_date
Booking	status

Payment	payment_id
Payment	amount
Payment	mode

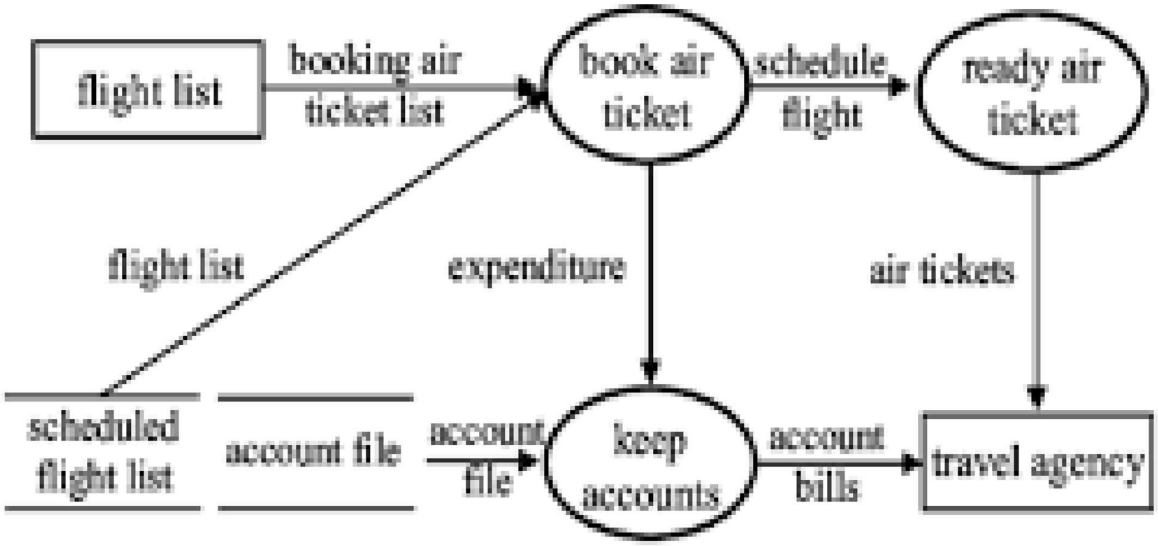
4.2 ER Diagram

The **Entity Relationship (ER) Diagram** represents the relationship between entities in the system.



4.3 Data Flow Diagram (DFD)

The **Data Flow Diagram (DFD)** shows the flow of data between users and the system.



5. Implementation

Implementation is the phase where the system design is converted into a working software application. In this phase, all modules of the Travel Booking Platform such as user registration, login, search, booking, and payment are developed using selected programming languages and tools. The system is implemented in a modular manner following the Agile methodology, where each feature is developed, tested, and integrated incrementally.

5.1 Program Code

Below is a **sample code** representing the basic structure of the Travel Booking Platform (illustrative purpose):

User Class (Java – Sample Code)

```
public class User {     private

int userId;     private String

name;     private String

email;     private String

password;


   public User(int userId, String name, String email, String password) {

this.userId = userId;        this.name = name;        this.email = email;

this.password = password;
```

```
    }


    public void login() {
        System.out.println("User logged in successfully");
    }
    public void searchTravel() {
        System.out.println("Searching available travel options");
    }
}
```

Booking Class (Sample Code)

```
public class Booking {     private
int bookingId;     private String
travelType;     private String
status;


    public Booking(int bookingId, String travelType) {
this.bookingId = bookingId;         this.travelType =
travelType;         this.status = "Confirmed";
    }


    public void displayBooking() {
        System.out.println("Booking ID: " + bookingId);
        System.out.println("Travel Type: " + travelType);
        System.out.println("Status: " + status);
    }
}
```

5.2 Output Screens

The following are the major output screens of the Travel Booking Platform:

1. Login Screen

- Allows users to enter email and password
- Provides secure authentication
- Option for new user registration

2. User Registration Screen

- Collects user details such as name, email, and password Stores data
- securely in the database

3. Search Travel Screen

- Allows users to search travel options by source, destination, and date Displays
- available flights, hotels, or packages

4. Booking Screen

- Shows selected travel details
- Allows users to confirm booking

5. Payment Screen

- Displays payment amount
- Supports payment methods such as card, UPI, or net banking

6. Booking Confirmation Screen

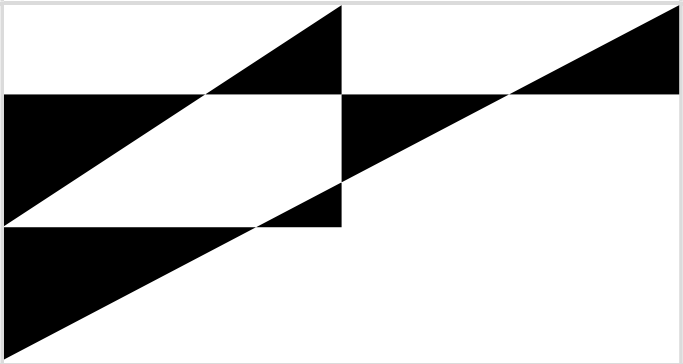
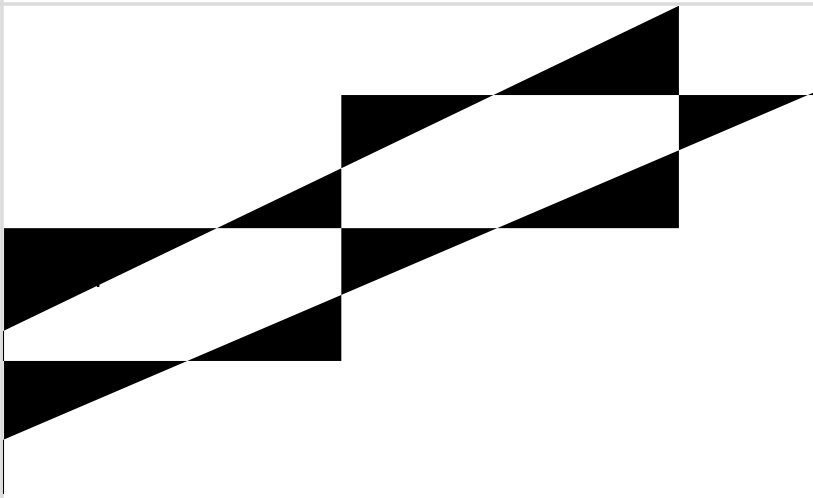
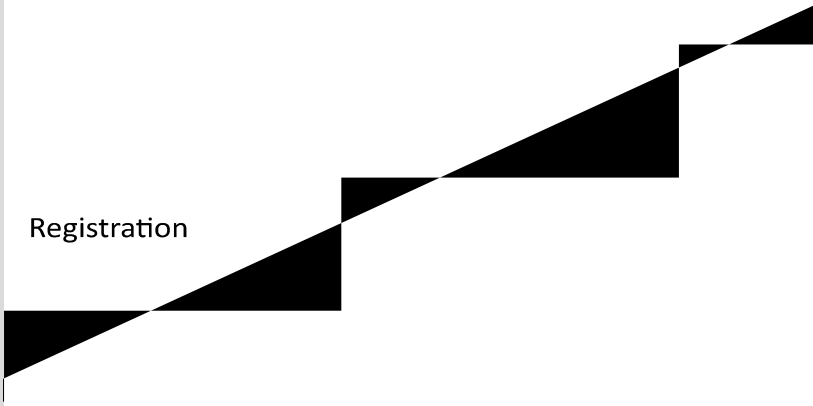
- Shows booking ID and confirmation message
- Provides booking status and details

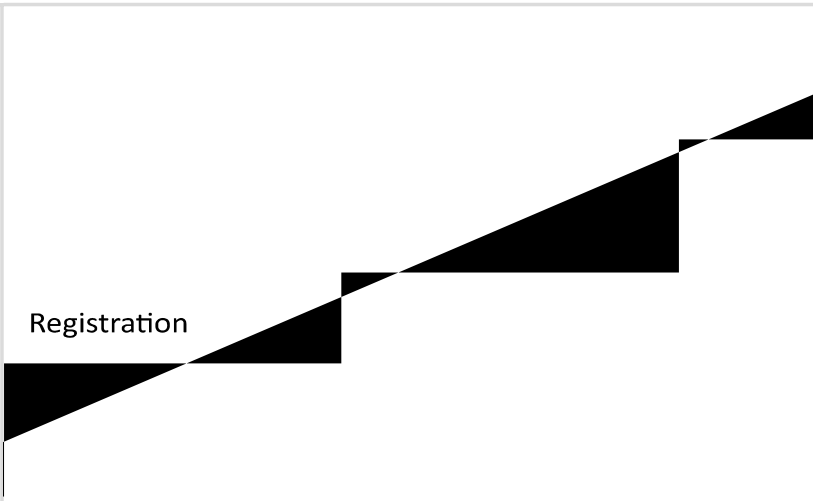
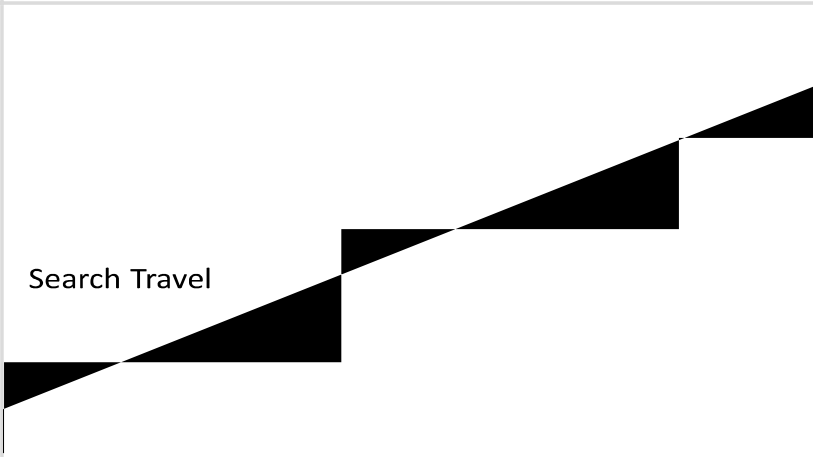
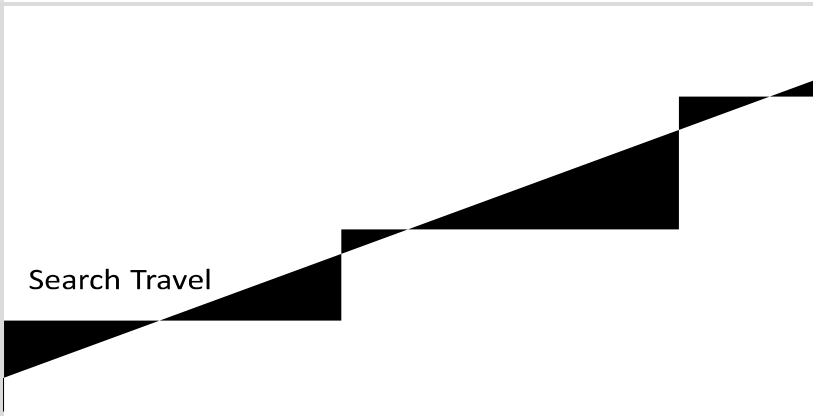
6. Testing

Testing is an important phase of the software development life cycle. It is performed to ensure that the Travel Booking Platform works correctly and meets all specified requirements. The main goal of testing is to identify errors, verify system functionality, and ensure reliable performance before deployment. Various test cases are executed using valid and invalid input data.

6.1 Test Data

The following test data is used to validate different modules of the system:

Test Case ID	Module
	Login
TC02	
TC03	Registration 

TC04	
TC05	
TC06	

TC07	Booking
TC08	Payment
TC09	Payment

6.2 Test Result

After executing all test cases, the following results were observed:

- All functional modules such as registration, login, search, booking, and payment worked as expected.
- Invalid inputs were handled properly with appropriate error messages.
- The system provided accurate booking confirmations.
- No critical bugs were found during testing.

7. User Manual

The User Manual provides step-by-step instructions to help users understand and use the Travel Booking Platform effectively. It explains how to access the system, perform bookings,

make payments, and view booking details. This manual is designed for both new and existing users to ensure smooth operation of the system.

7.1 How to Use Project Guidelines

Follow the steps below to use the Travel Booking Platform:

1. **Open the Application**
   Launch the Travel Booking Platform using a web browser.
2. **User Registration**
   New users must register by providing basic details such as name, email, and password.
3. **Login**
   Registered users can log in using their email ID and password.
4. **Search Travel Options**
   Enter travel details such as source, destination, date, and travel type (flight/hotel/package).
5. **Select Travel Option**
   Choose the desired travel option from the available results.
6. **Booking Confirmation**
   Review booking details and confirm the booking.
7. **Payment Process**
   Make payment using available payment methods like card, UPI, or net banking.
8. **View Booking Details**
   After successful payment, booking confirmation and booking ID will be displayed.
9. **Logout**
   User can safely log out after completing the booking.

7.2 Screen Layouts and Description

1. Home Page

- Displays application name and navigation menu Options for
- Login, Register, and Search Travel

2. Registration Screen

- Fields for name, email, and password Submit
- button for user registration

3. Login Screen

- Input fields for email and password
- Login button for authentication

4. Search Travel Screen

- Input fields for source, destination, date Displays list
- of available travel options

5. Booking Screen

- Shows selected travel details Confirm
- booking option

6. Payment Screen

- Displays payable amount
- Payment method selection

7. Booking Confirmation Screen

- Shows booking ID and confirmation message
- Option to view booking history

8. Project Applications and Limitations

Applications

The Travel Booking Platform can be used in various real-world scenarios, such as:

- Online travel agencies for booking flights, hotels, and tour packages
- Travel and tourism companies to manage customer bookings
- Corporate travel management for employees
- Individual users for planning and booking personal trips
- Small and medium-scale travel businesses to digitalize their services

This system helps in reducing manual work, improving efficiency, and providing better customer service.

Limitations

Despite its advantages, the system has certain limitations:

- Requires a stable internet connection to function properly
- Limited payment options in the basic version

- Depends on accurate data input for correct results
- Performance may be affected under very high user load
- Advanced features like dynamic pricing are not included

9. Conclusion and Future Enhancement

Conclusion

The Travel Booking Platform successfully automates the travel booking process and provides users with a convenient, reliable, and secure way to book travel services online. The system reduces manual effort, minimizes errors, and improves customer satisfaction. By following the Agile software development methodology, the project was developed efficiently with continuous improvement and flexibility. Overall, the project meets its objectives and demonstrates effective use of modern software development practices.

Future Enhancement

The system can be enhanced in the future with the following features:

- Mobile application for Android and iOS platforms
- Integration of AI-based travel recommendations
- Multi-language support for global users
- More payment options such as wallets and international cards
- Real-time notifications via email and SMS Dynamic
- pricing and personalized offers

10. Bibliography & References

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4. Oracle Java Documentation
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