



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# Riyadh Airlines Booking System

## Graduation Project

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# **1. Chapter 1: Introduction**

## **1.1 Introduction:**

The overall goal of our project is to design an electronic platform specifically designed for *Riyadh Air*. This platform facilitates the smooth implementation of flight reservations for users, manages reservations efficiently, and easily obtains information related to reservations or flights in general. This ensures an easy-to-use experience for both customers and officials as well. Through careful design and functionality, this platform aspires to raise the performance, efficiency and customer satisfaction of Riyadh Airlines while providing managers and supervisors with a set of powerful tools to supervise and improve operational processes.

## **1.2 Problem Definition:**

The main challenge addressed by this project is the need of Riyadh Airlines for an electronic platform to book flights, and this problem hinders the airline from the smooth implementation of vital functions such as flight reservations, reservation management, and publishing basic travel information, as well as to the user interface, which brings back a satisfactory experience for both customers and officials.

## **1.3 Proposed Solution:**

The proposed solution is to create a reservation system for Riyadh Air Company in such a way that this site or system is based on a design with good accuracy to improve flight reservation processes for users. At the same time, this site provides powerful administrative tools for airline employees. The system also includes basic features such as a user registration system and search functions. Advanced flight reservations and reservations management capabilities.

## **1.4 System Scope**

The scope of the system defines the boundaries and coverage of this project, which is the Riyadh Airlines flight reservation system. It defines what the project includes and what functions it aims to provide.

### **1.4. 1 Key Functions or Features:**

- Book a flight for the user:

Users can search for existing and available flights based on specific inputs. Users can create or make reservations for previously selected flights based on the inputs.

- Administrative regulation:

Administrators can also view and view flight details based on several inputs. They can also supervise and modify reservations.

- Additional facilities and features:

1. The home page has attractive visuals and information about the airline
2. User Profiles Users can view and update their account details and access booking history
3. A currency converter that converts currencies with support for various countries in the Middle East
4. An ratings system where users can evaluate and enter their comments about the system
5. Also subscribe to email notifications to receive offers and announcements

### **1.4. 2 Users and stakeholders:**

- **Users:** Individuals looking to book flights.
- **Administrators:** Responsible for managing flights, reservations, and system announcements.

#### **1.4. 3      Interactions:**

- Users search for flights.
- Users make reservations and administrators manage the flights in the system as well as the reservations.
- Users interact with additional features such as a currency converter, rating system, and other useful sites

#### **1.4. 4      Limitations and restrictions:**

-Limited Trips The system is a prototype, so the number of available trips is limited to one month.

-Fake Payments Since this is a prototype project, the payment system for transactions is fake for testing purposes.

-In prototype status, the system lacks extensive administrative features and does not integrate with the government's national ID card (**ABSHR**).

#### **1.4. 5      Conclusion:**

This system scope lays the foundation for the Riyadh Airlines reservation system, defining its purpose, key features, user interactions and inherent limitations.

## **1.5 Goals and Objectives**

### **1.5. 1 User-Centric Interface Design:**

- Develop an intuitive and user-friendly interface that enables effortless navigation, empowering users to seamlessly search, select, and book flights with ease.

### **1.5. 2 Streamlined Booking Process:**

- Implement a swift booking mechanism, integrating seamless payment processes to enhance overall user experience. Prioritize efficiency in every step of the booking journey.

### **1.5. 3 Responsive Web Design:**

- Ensure a responsive and adaptive design, guaranteeing optimal functionality and accessibility across a spectrum of devices, including desktops, tablets, and smartphones. This approach aims to deliver a consistently seamless experience regardless of the user's chosen platform.

### **1.5. 4 Real-time Flight Information:**

- Integrate real-time flight information updates, ensuring users have access to the latest details on schedules, delays, and any other relevant changes, contributing to a more informed travel experience.

### **1.5. 5 User Account Management:**

- Develop a user account management system, allowing users to review and modify their profiles, track their booking history, and manage personal info, fostering a sense of control.

## 1.6 Hardware, Software Requirements and System Costs

Requirement	Details	Cost (per unit)	Unit	Quantity
<b>Hardware</b>				
<b>Database Server</b>	High-performance server for database management	\$2,500	Server	1
<b>Server Computer Device</b>	Powerful server computer for application hosting	\$3,000	Server	1
<b>Desktop Computer</b>	Workstations for development and administrative tasks	\$1,500	Desktop	5
<b>Monitors</b>	High-resolution monitors for workstations	\$300	Monitor	10
<b>Hard Drives</b>	Storage devices for data and system requirements	\$150	Drive	5
<b>Software</b>				
<b>Windows 11 OS</b>	Operating system for desktop computers	\$150	License	5
<b>Windows Server 2019</b>	Operating system for server computers	\$800	License	2
<b>Google Chrome Browser</b>	Web browser for accessing and testing the application	Free	License	5
<b>Desktop Computer Antivirus</b>	Antivirus software for desktop computers	\$50	License	5
<b>Server Computer Antivirus</b>	Antivirus software for server computers	\$150	License	2

## 1.7 Timeline:

Phase	Description	Duration
<b>Initiation</b>	Project initiation, requirement gathering, and team formation	1 month
<b>Planning</b>	Detailed project planning, resource allocation, and budgeting	2 month
<b>System Design</b>	Designing the architecture, database schema, and UI layout	2 month
<b>Development</b>	Actual coding and implementation of Riyadh Airlines features	1 month
<b>Testing</b>	System testing, user acceptance testing, and bug fixing	2 week
<b>Deployment</b>	Launching Riyadh Airlines for public use	1 month
<b>Maintenance &amp; Updates</b>	Ongoing support, bug fixes, and potential feature updates	Ongoing

## **1.8 Roles & Responsibilities**

### **1.8. 1 Project Manager:**

- Overseeing the entire project, ensuring it stays on schedule and within budget.
- Coordinating between different team members and stakeholders.
- Setting objectives and defining the scope of the project.
- Managing risks and solving problems as they arise.

### **1.8. 2 Back-End Developer:**

- Developing the server-side logic and database integration.
- Collaborating with front-end developers for integration purposes.

### **1.8. 3 Front-End Developer:**

- Implementing the web design and interactive features.
- Collaborating with back-end developers and designers.

### **1.8. 4 Documenting Specialist:**

- Creating detailed documentation of the development process.
- Maintaining records of project meetings and decisions.
- Writing technical guides and support documentation.
- Ensuring all documentation is updated and accessible.

### **1.8. 5 Ideas/Concept Developer:**

- Generating innovative ideas for website features.
- Keeping up-to-date with web technology trends.
- Brainstorming with the team to refine and implement ideas.

#### **1.8. 6 Testing Specialist**

- Identifying bugs and issues for resolution.
- Collaborating with developers for fixes and improvements.

#### **1.8. 7 Presentation Specialist:**

- Preparing project presentations for stakeholders.
- Creating supporting materials for demonstrations.

#### **1.8. 8 Database Administrator/Developer:**

- Designing and maintaining the database architecture.
- Ensuring data security and integrity.
- Optimizing database performance.
- Collaborating with back-end developers for data requirements.

### **1.9 These Roles and Responsibilities filed by:**

#### **1.9. 1 Mohammed Aleshawi:**

- Project Manager
- Back-End Developer
- Front-End Developer
- Documenting Specialist
- Database Administrator
- Testing Specialist
- Presentation Specialist

### **1.9. 2 Yazed Alaosimi:**

- Front-End Developer
- Ideas/Concept Developer
- Presentation Specialist

### **1.9. 3 Riyadh Althabet:**

- Front-End Developer
- Documenting Specialist
- Presentation Specialist

### **1.9. 4 Sultan Alqahtani:**

- Front-End Developer
- Presentation Specialist
- Documenting Specialist

### **1.9. 5 Suad Alotaibi:**

- Presentation Specialist

## **2. Chapter 2: (Background & Literature Review)**

### **2.1 Background**

The reason behind developing the Riyadh Airlines Booking System website stems from the lack of a system for Riyadh Airlines, especially since we in Saudi Arabia are in a thriving industry, and Riyadh Air aspires not only to comply with current industry standards, but also to exceed them in the future, God willing, and in the future, we will also focus on the current challenges. In the industry, especially with regard to website safety, as well as the issue of electronic payment security and ease of use, and in the future, we will enhance this.

### **2.2 Related Work**

Our website draws inspiration from flight reservation systems such as Flynas or SAR for booking train trips. These platforms provided very great ideas that we benefited from in developing Riyadh Airlines booking system.

We were concerned about the weaknesses that were identified in these systems, such as that the user goes through many stages until he books his trip, or the difficulty of the user interface, and we aim. Our Riyadh Airlines website aims to provide a clearer process with fewer steps for users to achieve similar tasks.

### **2.3 Competitive Analysis**

From a competitive standpoint, Flynas is a very strong example to follow, and we at the Riyadh Air website aim to integrate similar functions by making it a standard for the end-user experience while giving priority to simplicity and ease of use for users.

The only competitive challenges that Riyadh Airline Company faces due to its status as a prototype are In the payment process, for example, which is currently being simulated for testing purposes

## **2.4 Technologies and Tools Used**

### **2.4. 1 Development Technologies:**

Riyadh Airlines leveraged a combination of robust technologies for its development, ensuring a seamless and efficient user experience. The primary technologies include:

#### **HTML, CSS, and JavaScript:**

These front-end technologies were instrumental in crafting the user interface of Riyadh Airlines. HTML provided the structure, CSS added styling, and JavaScript enhanced interactivity.

#### **PHP:**

As the server-side scripting language, PHP facilitated dynamic content generation, user authentication, and communication with the database.

#### **SQL (MySQL):**

The MySQL database management system was utilized for storing and retrieving user information, flight details, and other relevant data.

### **2.4. 2 Project Documentation Tools:**

For project documentation, Riyadh Airlines utilized the following tools:

#### **Use Case Diagram:**

online.visual-paradigm.com website was employed to create detailed Use Case Diagrams, illustrating the interactions between users and the system.

### **Use Case Description:**

Documentation of Use Case Descriptions was done using **MS Word** editor, for clear and concise narrative descriptions of system interactions.

### **Sequence Diagram:**

Visual Paradigm and **sequencediagram.org** were employed to create Sequence Diagrams, visually representing the chronological order of interactions between different system components.

### **Class Diagram:**

Tools such as **Visual Paradigm and lucid** were utilized to craft Class Diagrams, providing an overview of the system's class structure and relationships.

### **Database Design (ERD, Database Schema, Database Description):**

For Entity-Relationship Diagrams (ERD), **Erdplus** was utilized. The database schema utilized by **sqlldbm** website and descriptions of attributes were documented using MS Word editor.

### **Local Hosting:**

Riyadh Airlines was locally hosted using Apache server through **XAMPP**. **PHPMyAdmin** served as the database management tool for efficient administration of the MySQL database.

## **2.5 Copyright Notice**

All resources, including but not limited to code, images, design elements, and textual content used in the development of Riyadh Airlines, are subject to copyright protection. The copyright for each respective resource belongs to its original creator or the designated copyright holder.

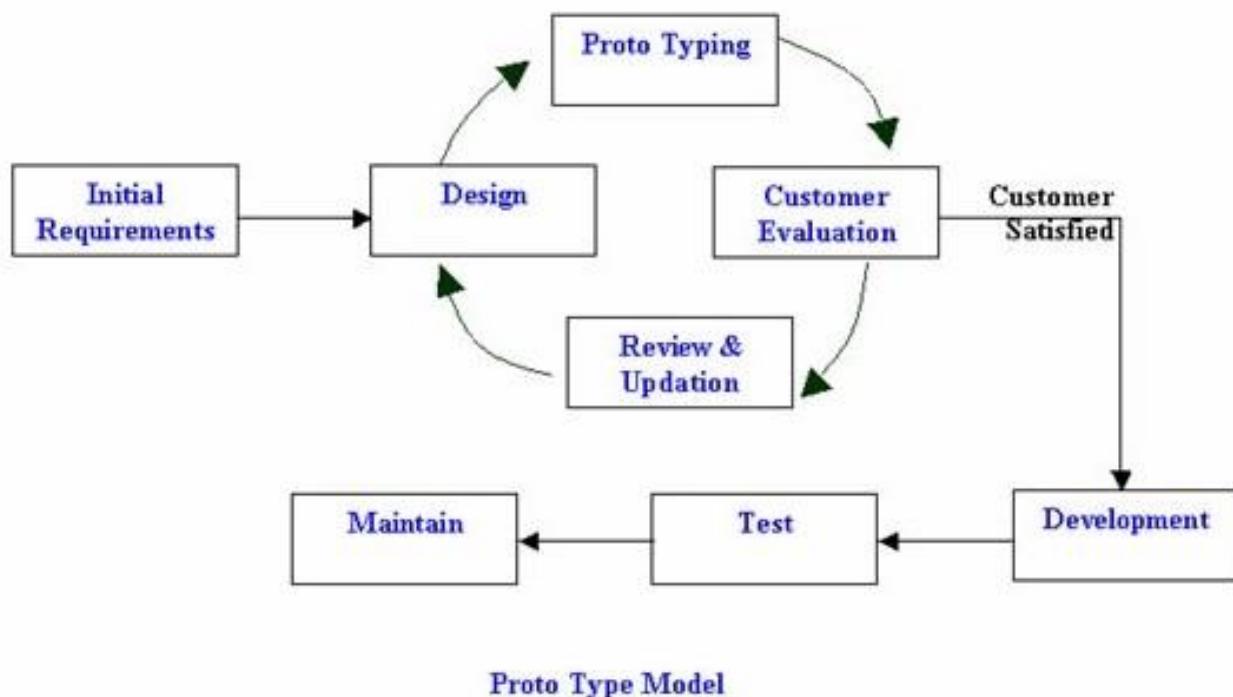
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### 3. Chapter 3 : System Analysis

#### 3.1 System Methodology

To develop our website, Riyadh Airlines, we adopted the system prototyping methodology. What this model or approach includes is creating a working model for the system at an early stage, focusing on the basic stages. We came up with a model as an initial version, then more features are added to improve it after receiving comments from users. Then we repeat this cycle repeatedly. And repeatedly until we reach the desired result based on the user's opinion.



## **3.2 Prototyping Methodology**

Prototyping methodology for Riyadh Airlines involves the following phases:

### **3.2. 1 Initial Requirements**

Objective:

Clearly discover and understand the initial necessities of Riyadh Airlines.

Activities:

- Engage with stakeholders to gather and record initial necessities.
- Define the number one capabilities and functionalities of the device.
- Identify key consumer interactions and expectations.

### **3.2. 2 Design**

Objective:

Develop a initial design based totally on the collected necessities.

Activities:

- Create a fundamental layout or prototype structure.
- Establish a skeletal outline of Riyadh Airlines booking system.

### **3.2. 3 Prototyping**

Objective:

Build an preliminary operating prototype of Riyadh Airlines.

Activities:

- Implement middle functionalities of the device in a prototype.
- Integrate the front-give up and lower back-cease components.
- Develop a functional but now not absolutely-featured model of the device.

### **3.2. 4 Customer Evaluation**

Objective:

Collect comments from users to pick out areas for development.

Activities:

- Share the prototype with users for trying out and assessment.
- Gather feedback on usability, functionality, and general consumer experience.

### **3.2. 5 Review and Updation**

Objective:

Review person remarks and make important updates to the prototype.

Activities:

- Iteratively refine the prototype primarily based on multiple feedback cycles.
- Address diagnosed issues, beautify functions, and enhance usability.

### **3.2. 6 Customer Satisfaction**

Objective:

Achieve customer satisfaction with the delicate prototype.

Activities:

- Continuously loop thru the Design, Prototyping, Customer Evaluation, and Review and Updation levels until users explicit delight.

### **3.2. 7 Deployment**

Objective:

Launch Riyadh Airlines Booking System.

Activities:

- Deploy the final model of the gadget to a manufacturing environment.
- Make Riyadh Airlines accessible to users for actual-testing and interactions.

### **3.2. 8 Test**

Objective:

Conduct thorough trying out to validate the machine's functionality and performance.

Activities:

- Perform complete testing to ensure the device meets all specific requirements.

### **3.2. 9 Maintain**

Objective:

Provide ongoing support, deal with troubles, and put into effect.

Activities:

- Monitor the system's overall performance and deal with any post-release problems.
- Implement updates, enhancements, and new functions based totally on person remarks and changing requirements.

### **3.3 User Characteristics**

#### **3.3.1 Demographics:**

The primary users of the Riyadh Airline website are adults above 18 years old, primarily Saudi Arabian citizens who prefer to use the website in English.

#### **3.3.2 Technical Proficiency:**

The users are generally not considered tech-savvy. Therefore, the website needs to be straightforward and easy to navigate.

#### **3.3.3 Frequency of Use:**

Users typically access the site when planning to travel within Saudi cities, suggesting a periodic use correlated with their travel needs.

#### **3.3.4 User Goals and Tasks:**

Users visit the Riyadh Airline website primarily for tasks related to flight booking. This includes searching for flights, making reservations, and accessing travel-related services like hotel bookings, car rentals, and tourist guides.

### **3.4 User Requirements**

#### **3.4.1 Easy Navigation:**

The website should offer a user-friendly interface to facilitate easy navigation, especially important for users who are not tech-savvy.

#### **3.4.2 Interactive and Attractive UI:**

The interface should be engaging and aesthetically pleasing, enhancing the overall user experience.

#### **3.4.3 Useful Tools:**

Integration of additional services like hotel links, car rental options, and tourist guides to provide a comprehensive travel planning platform.

### **3.5 Software Requirements and Specifications**

#### **3.5. 1 Functional Requirements:**

- **Flight Search:** Users should be able to search for flights based on various parameters like date and destination.
- **Booking System:** A system for users to book flights, including a dynamic seat booking feature.
- **User Account Management:** Functionality for users to create, edit, and manage their profiles.
- **Admin Dashboard:** For administrators, there should be full access to the website with a dashboard for managing content and monitoring user activities.

#### **3.5. 2 Non-Functional Requirements:**

- **Usability:**
- **Performance:** Optimal load time and quick response time, ensuring a smooth user experience.
- **Simplicity:** The design and functionality should be straightforward, accommodating the technical proficiency level of the average user.

## **4. Chapter 4 : System Design**

### **4.1 1. Use Case**

## **Actors:**

### **User:**

Description: Individuals utilizing the Riyadh Airlines Booking System.

Role: Users access the system to search for flights, make bookings, and manage their accounts.

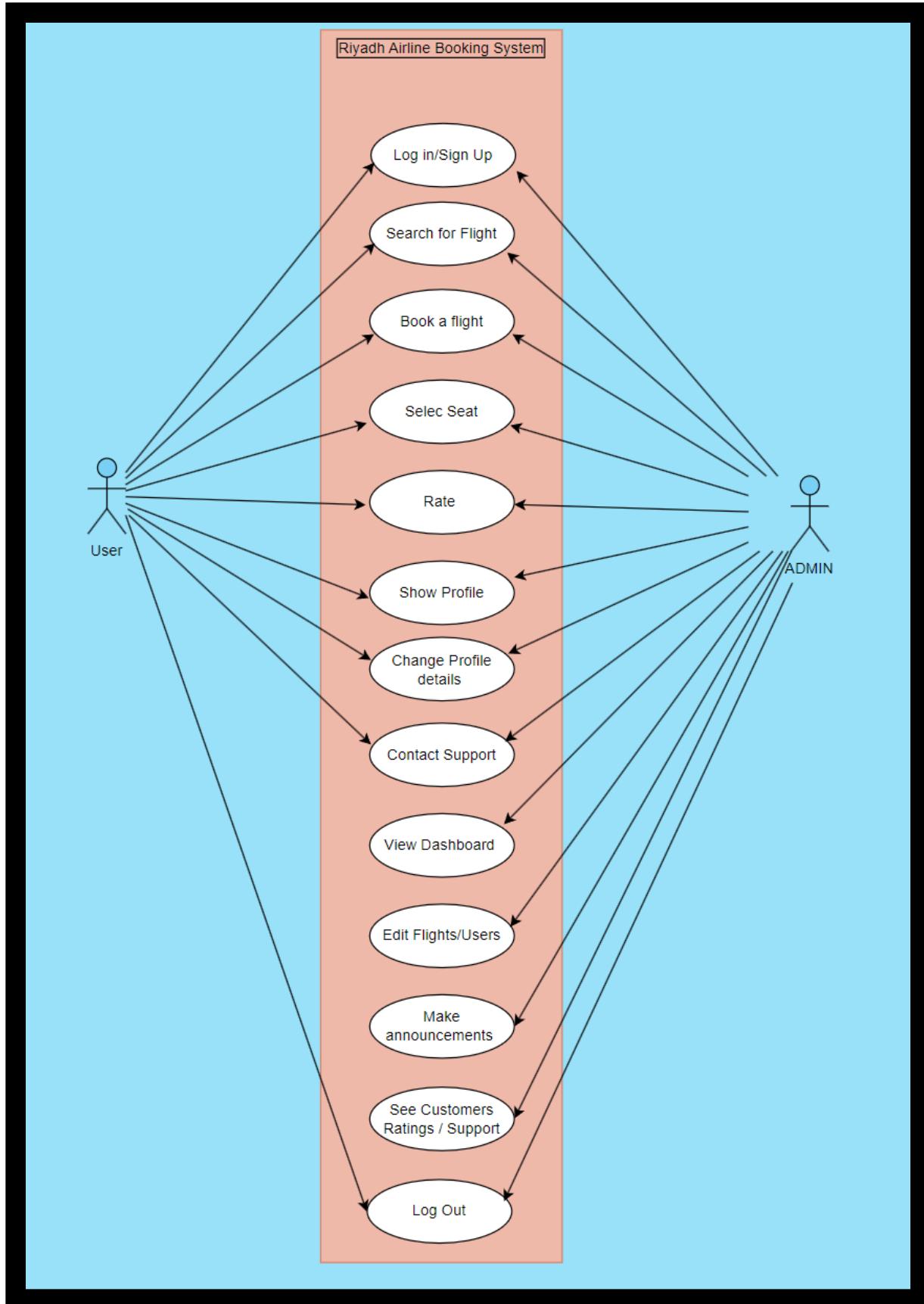
### **Admin (Administrator):**

Description: Staff members responsible for overseeing and managing the Riyadh Airlines Booking System.

Role: Admins play a crucial role in system management, handling tasks such as flight and booking management, ensuring data accuracy, and assisting users.

### **4.1. 1 A use case diagram:**

visually illustrates how people (actors) interact with the system through various functions (use cases). It defines actors and their specific roles in the system, helping system developers understand object interactions for system development, especially in Object-Oriented Systems Development.



#### **4.1. 2      Use case table for login funcion**

Function's name	Login
Short description	Enables users to access their accounts to use the website's services.
Actors	User, Admin
Pre-conditions	The user is not already logged in.
Basic Flow	The user enters their credentials (username and password), and the system authenticates and grants access.
After-conditions	The user is logged in and can access other functionalities.

#### **4.1. 3      Use case table for Sign Up funcion**

Function's name	Sign Up
Short description	Allows new users to create an account to access the website's services.
Actors	New User
Pre-conditions	The user does not have an existing account.
Basic Flow	The user provides personal and authentication information to create a new account. The system registers this information.
After-conditions	The user's account is created, allowing them to log in.

#### **4.1. 4      Use case table for Search for flights funcion**

Function's name	Search for Flight
Short description	Users can search for available flights based on specific criteria.
Actors	User
Pre-conditions	User is logged in.
Basic Flow	The user enters search criteria such as dates, destination, and class. The system displays matching flights.
After-conditions	Search results are presented to the user.

#### **4.1. 5      Use case table for Book a Flight funcion**

Function's name	Book a Flight
Short description	Allows users to book a flight from the available options.
Actors	User
Pre-conditions	User is logged in and has selected a flight.
Basic Flow	The user chooses a specific flight and completes the booking process including payment.
After-conditions	The flight is booked, and the user receives a confirmation.

#### **4.1. 6      Use case table for Select Seat funcion**

Function's name	Select Seat
Short description	Users can select their preferred seat for their flight.
Actors	User
Pre-conditions	User has booked a flight.
Basic Flow	User accesses the seating layout and selects a preferred seat.
After-conditions	Seat selection is confirmed and saved to the user's booking.

#### **4.1. 7      Use case table for Rate funcion**

Function's name	Rate
Short description	Users can rate their flight experience.
Actors	User
Pre-conditions	User has completed a flight.
Basic Flow	User provides a rating and optional feedback for a recent flight.
After-conditions	Rating is recorded and may be used for service improvement.

#### **4.1. 8      Use case table for Show Profile funcion**

Function's name	Show Profile
Short description	Allows users to view their personal profile and booking history.
Actors	User
Pre-conditions	User is logged in.
Basic Flow	User accesses their profile which displays personal information and past bookings.
After-conditions	User reviews their profile information.

#### **4.1. 9      Use case table for Change Profile Details funcion**

Function's name	Change Profile Details
Short description	Users can update their personal and contact information.
Actors	User
Pre-conditions	User is logged in.
Basic Flow	User edits and saves changes to their profile details.
After-conditions	Updated information is saved in the user's profile.

#### **4.1. 10      Use case table for Contact Support funcion**

Function's name	Contact Support
Short description	Users can reach out to customer support for assistance or inquiries.
Actors	User
Pre-conditions	User is logged in.
Basic Flow	User sends a message or query through a support interface.
After-conditions	Support receives the message and may respond to the user.

#### **4.1. 11      Use case table for View Dashboard funcion**

Function's name	View Dashboard
Short description	Admins can view and manage the website's operational dashboard.
Actors	Admin
Pre-conditions	Admin is logged in.
Basic Flow	Admin accesses the dashboard to monitor and manage website activities.
After-conditions	Admin can make decisions or take actions based on dashboard data.

#### **4.1. 12      Use case table for Edit Flights/Users funcion**

Function's name	Edit Flights/Users
Short description	Allows admins to modify flight details and manage user accounts.
Actors	Admin
Pre-conditions	Admin is logged in.
Basic Flow	Admin edits flight information or user accounts as needed.
After-conditions	Changes are updated in the system.

#### **4.1. 13      Use case table for Announcements funcion**

Function's name	Make Announcements
Short description	Admins can create and publish announcements for users.
Actors	Admin
Pre-conditions	Admin is logged in.
Basic Flow	Admin composes and posts announcements.
After-conditions	Announcements are visible to users on the website.

#### **4.1. 14      Use case table for See Customers Ratings/Support funcion**

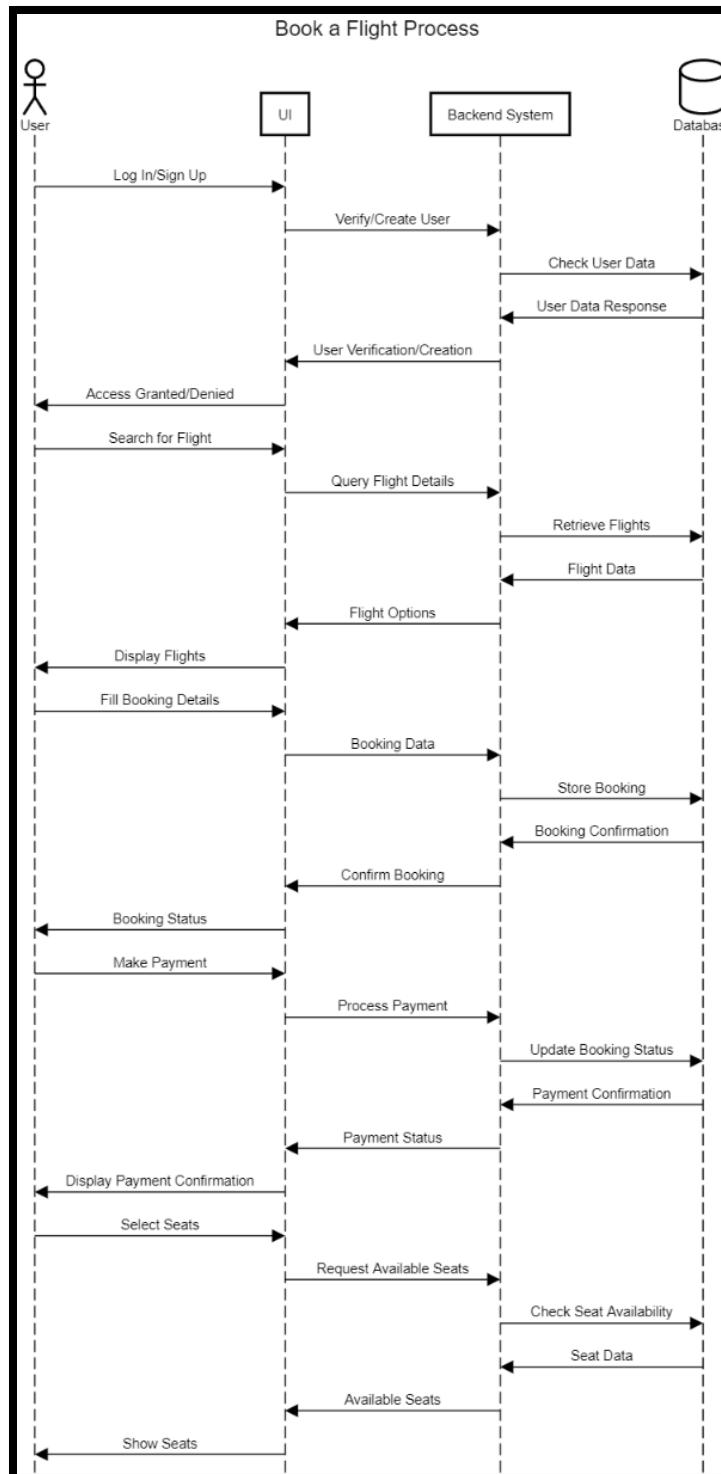
Function's name	See Customers Ratings/Support
Short description	Admins can view customer ratings and support messages.
Actors	Admin
Pre-conditions	Admin is logged in.
Basic Flow	Admin reviews customer feedback and support queries.
After-conditions	Admin gains insights from customer feedback for improvements.

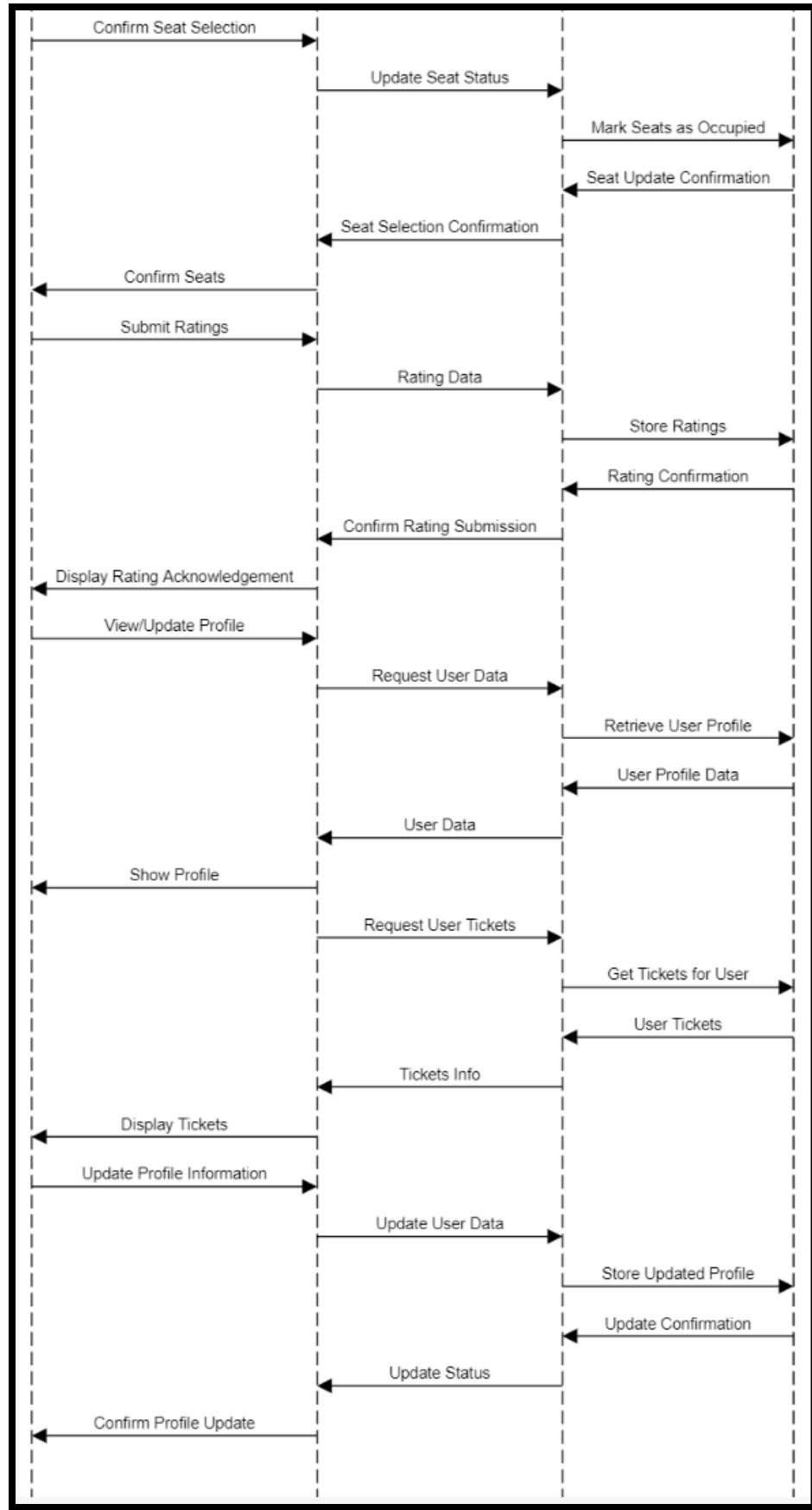
#### **4.1. 15      Use case table for Log Out funcion**

Function's name	Log Out
Short description	Users or admins can securely log out of their accounts.
Actors	Admin
Pre-conditions	User/Admin is logged in.
Basic Flow	User/Admin selects the log out option, and the system ends their session.
After-conditions	User/Admin is logged out and must re-enter credentials to access account features again

## 4.2 Sequence diagram:

series of related things or events, or the order in which they follow each other: The first chapter describes the strange sequence of events that led to his death.



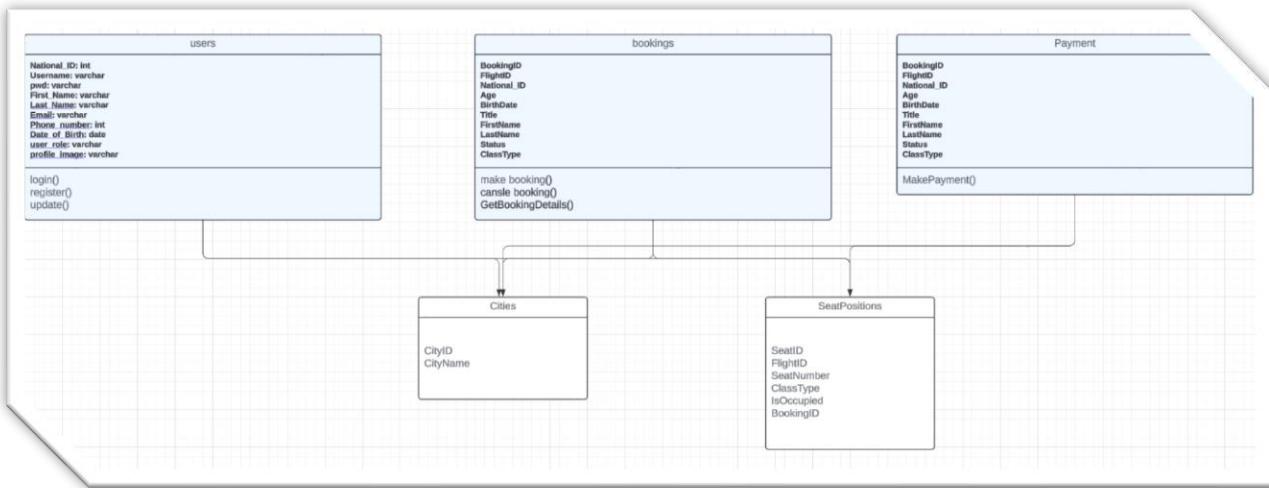


### 4.3 Class Diagram:

Class diagram: is a type of UML (Unified Modeling Language) diagram used in software engineering to visualize the structure and relationships within a system.

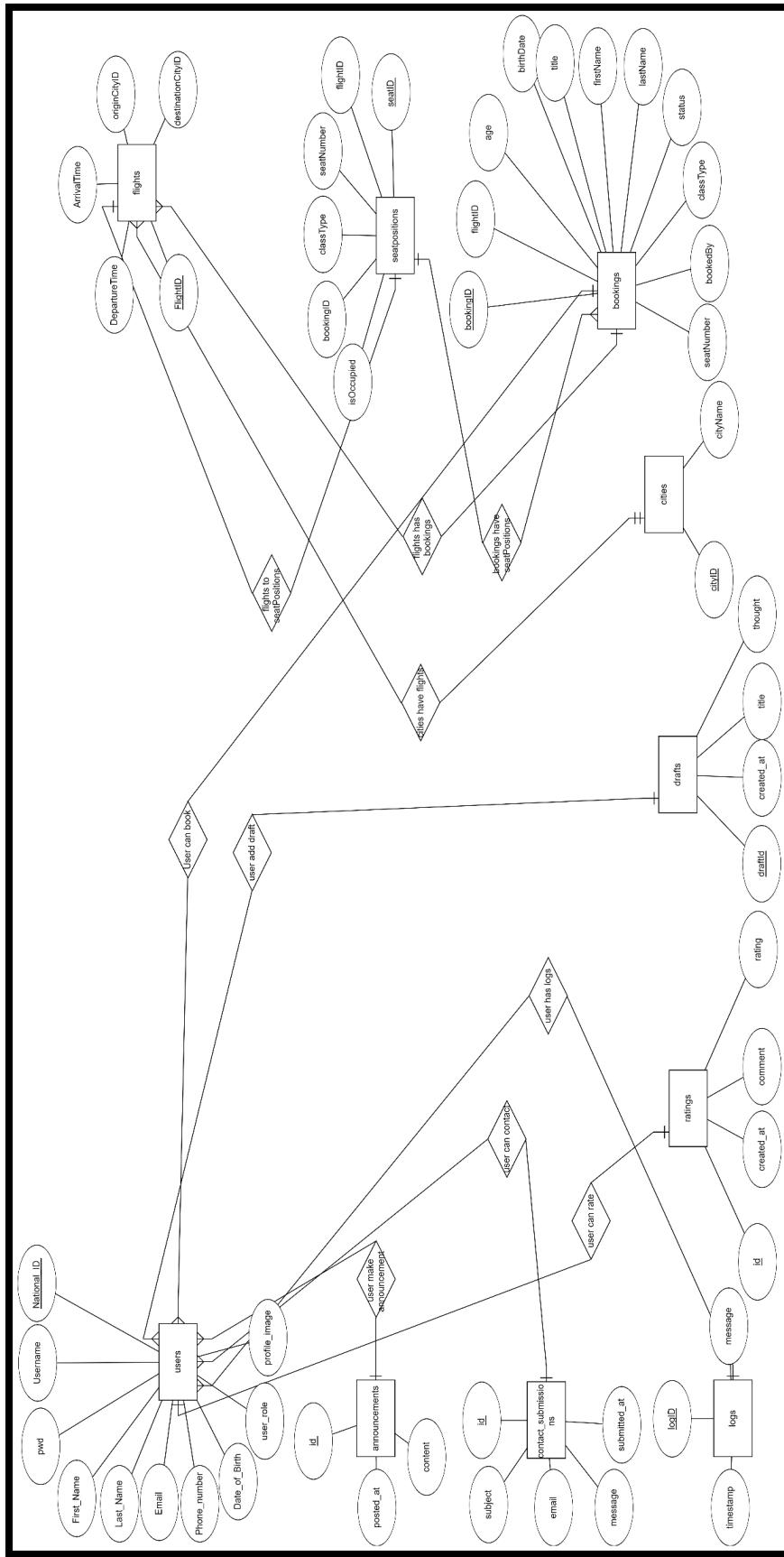
It provides a static view of the system by representing classes, their attributes, methods, and the associations between classes. In a class diagram, classes are depicted as boxes, and relationships between them are illustrated by connecting lines.

The diagram helps in understanding the overall design of a software system, showcasing the essential components and their interactions, making it a valuable tool for both developers and stakeholders in the software development process.



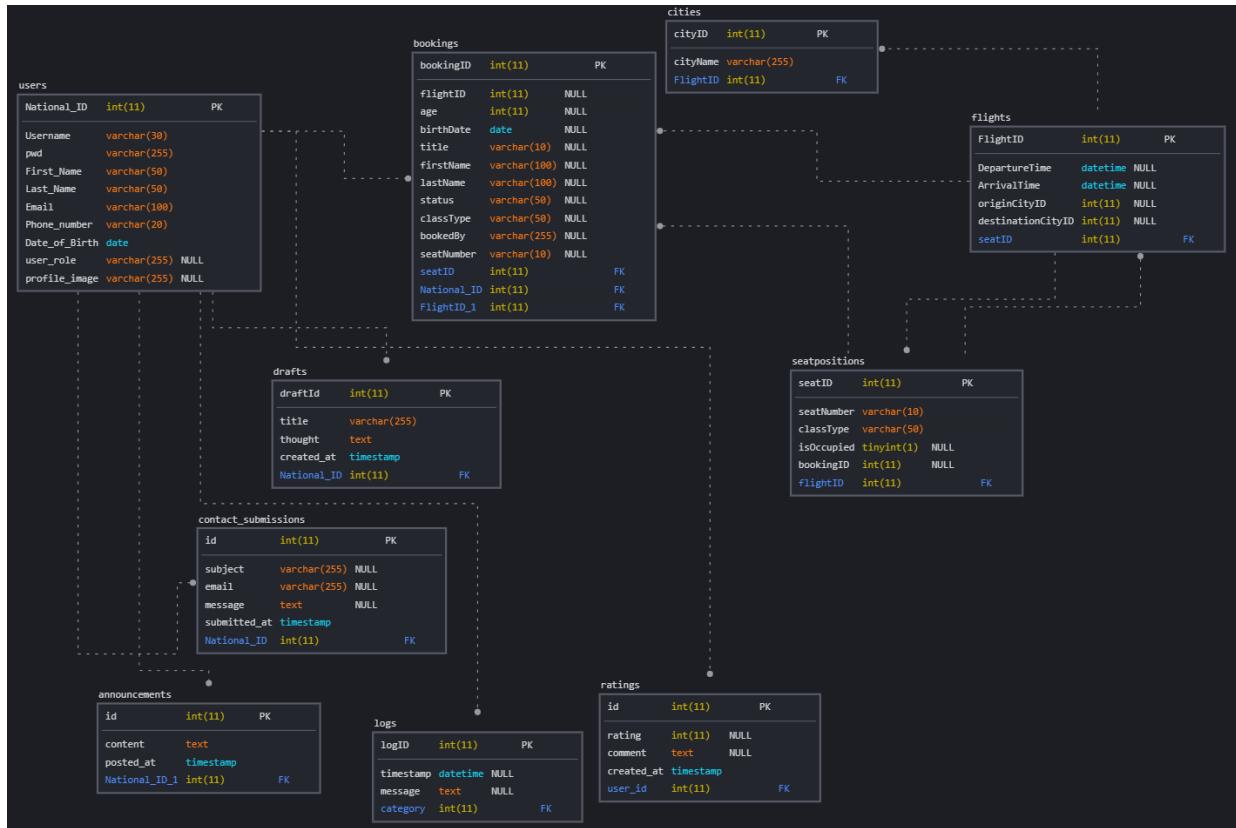
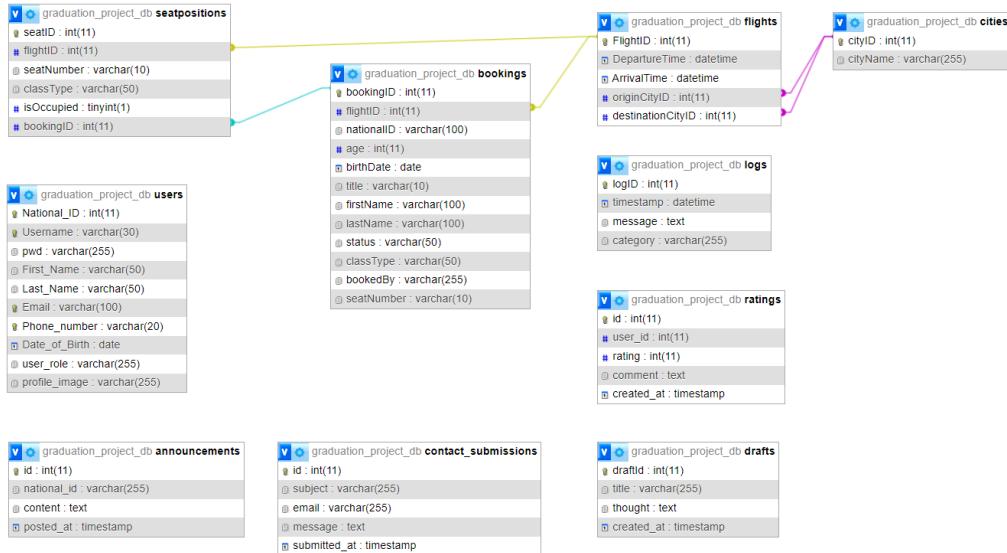
### 4.4 Database Design:

#### 4.4.1 Entity Relation Diagram (ERD)



#### 4.4. 2 Database Schema:

A schema is like a blueprint for data. It defines how data is organized and related in databases. In web development, schema markup helps search engines understand webpage content for better search results. It's all about structured organization for easier data management and search engine optimization.



## **5. Chapter 5 : System Implementation**

### **5.1 Hardware & Software Tools**

#### **5.1.1 Hardware Requirements**

For the successful development and operation of the Riyadh Airlines booking system, the following hardware components are required:

**1. Web Server:**

- A dedicated web server to host the application.
- Adequate processing power and memory to handle concurrent user requests.

**2. Database Server:**

- A robust database server to store flight information, user data, and transaction details.
- Sufficient storage capacity to accommodate growing data.

**3. Networking Equipment:**

- Reliable network infrastructure to ensure seamless communication between the web server and database server.

## **5.1. 2 Software Requirements**

The Riyadh Airlines booking system relies on a combination of software tools and technologies. The key components include:

### **1. Web Development:**

- Front-end development: HTML5, CSS3, JavaScript, and a responsive framework (e.g., Bootstrap) for an optimal user interface.
- Back-end development: PHP, or another suitable server-side technology.

### **2. Database Management:**

- Database system: MySQL, based on the project's requirements.
- Database management tools for efficient data manipulation and maintenance.

### **3. Server Environment:**

- Operating System: Linux-based OS for server environments (e.g., Ubuntu Server).
- Web Server: Apache or Nginx for handling HTTP requests.

### **4. Development Tools:**

- Integrated Development Environment (IDE): Visual Studio Code, or others for coding efficiency.

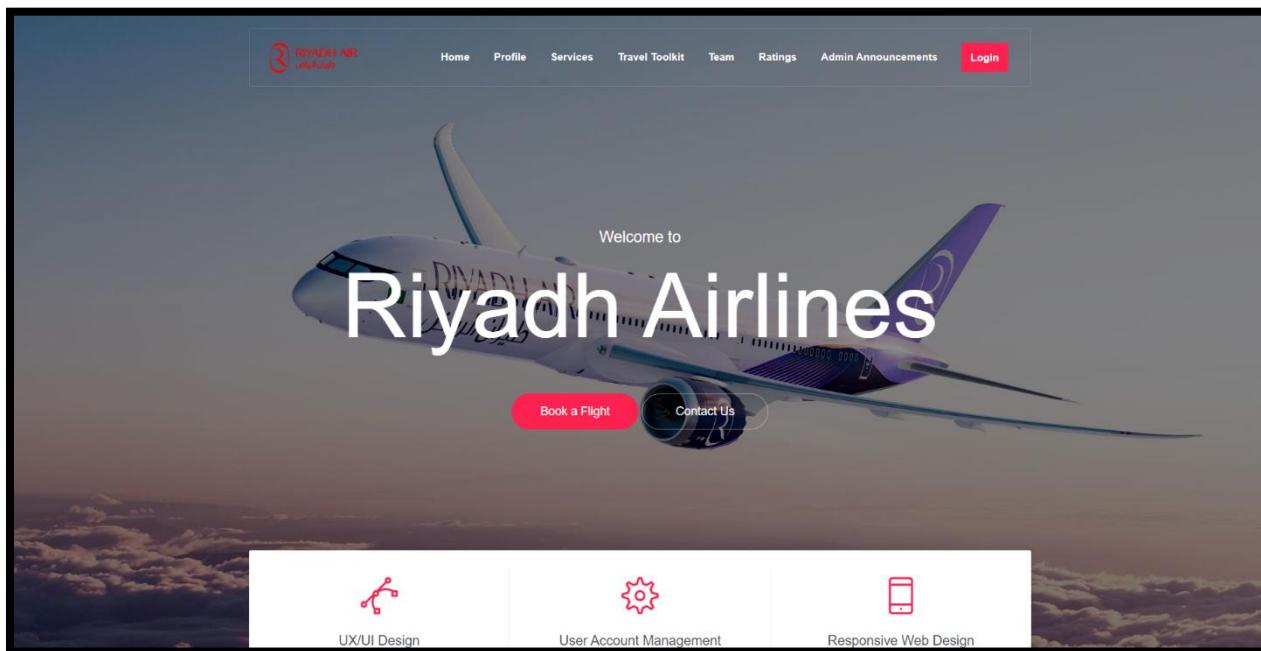
## 5.2 User Interface (UI)

### 5. 2.1.1 Home page

The User Interface (UI) of the Riyadh Airlines website is designed with a focus on user engagement, clarity, and ease of navigation. The home page, in particular, is strategically organized into distinct sections to provide users with a seamless and informative experience.

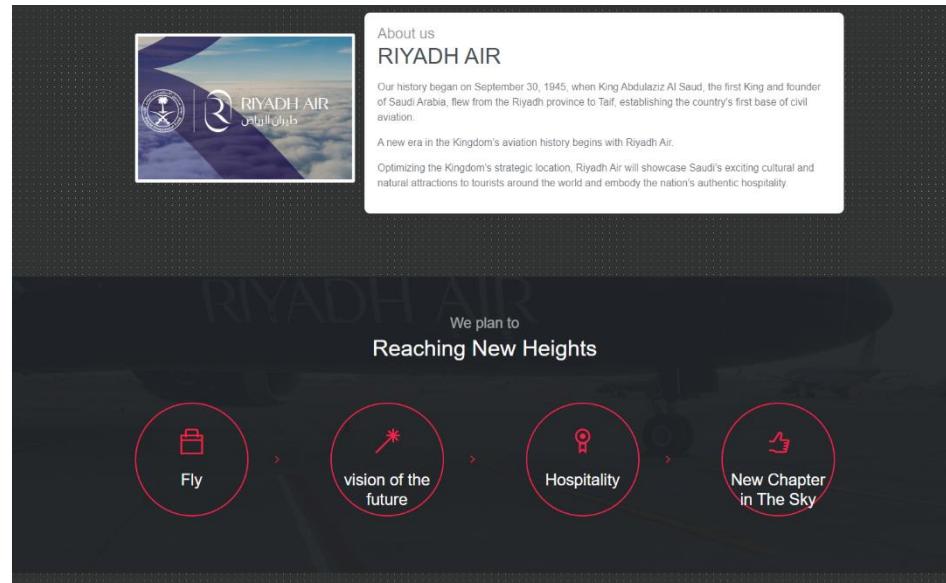
### 5. 2.1.2 Welcome Section:

The initial section of the home page serves as a warm welcome to users, featuring visually appealing elements that create a positive first impression. The use of compelling visuals aims to captivate users and set the tone for their journey through the site.



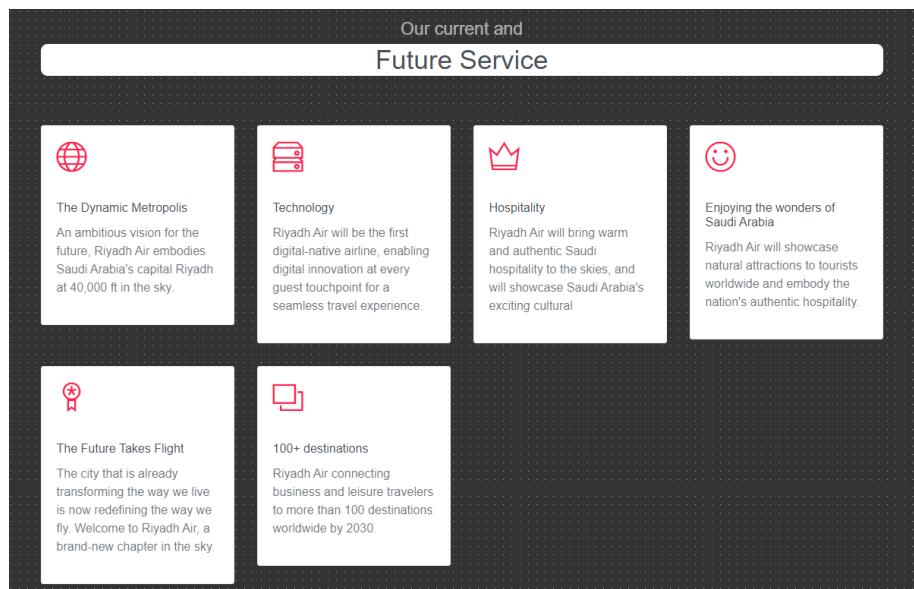
### **5. 2.1.3 About Us and Visions Section:**

Following the welcome section, users can access information about Riyadh Airlines' identity, mission, and vision. This section provides users with insights into the company's core values and long-term objectives, fostering a sense of trust and transparency.



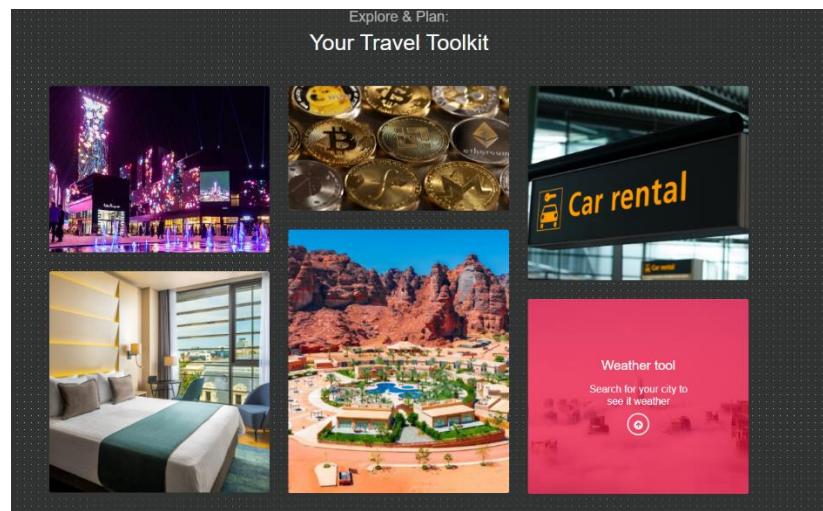
### **5. 2.1.4 Services Section:**

The services section highlights key offerings provided by Riyadh Airlines. Clear and concise information is presented to inform users about the range of services available, enhancing their understanding of what the airline has to offer.



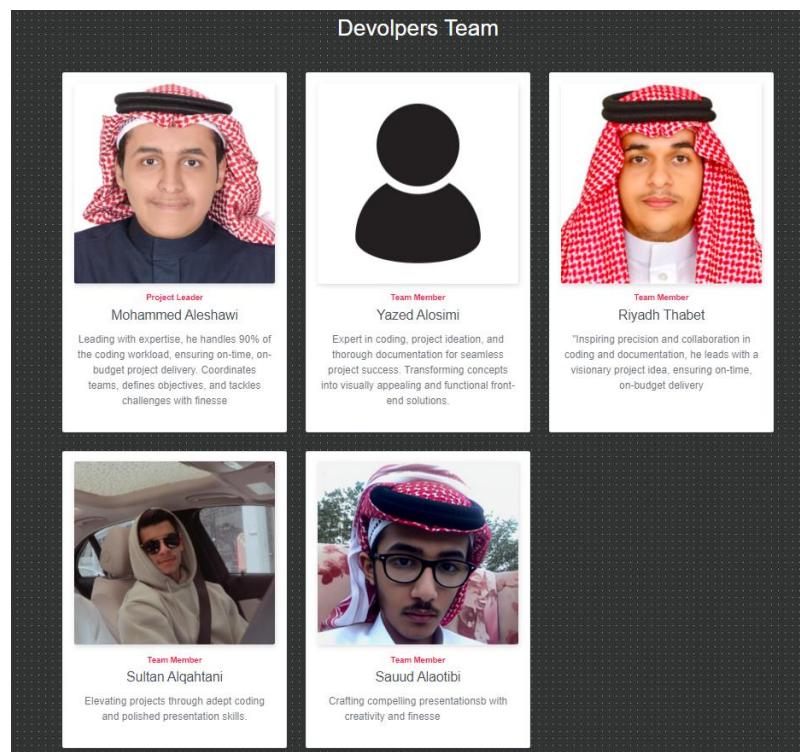
### **5. 2.1.5 Travel Toolkit Section:**

This section serves as a valuable resource for users, offering a curated set of useful links within the "Travel Toolkit." Users can easily access relevant information, such as travel guides, essential tools, and other resources that enhance their overall travel experience.



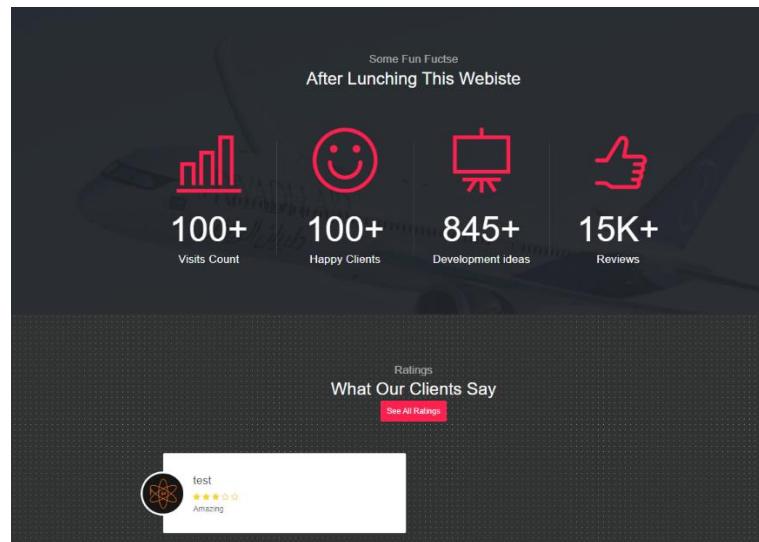
### **5. 2.1.6 Developers Team Section:**

A dedicated area is allocated to introduce the developers' team behind the Riyadh Airlines website. This transparency provides users with insight into the individuals responsible for the site's development, fostering a connection between users and the development team.



### **5. 2.1.7 Facts and Ratings Section:**

This section aims to inform users about key facts related to the airline industry and displays user ratings prominently. The inclusion of ratings contributes to the overall user experience by providing real-time feedback from other users.

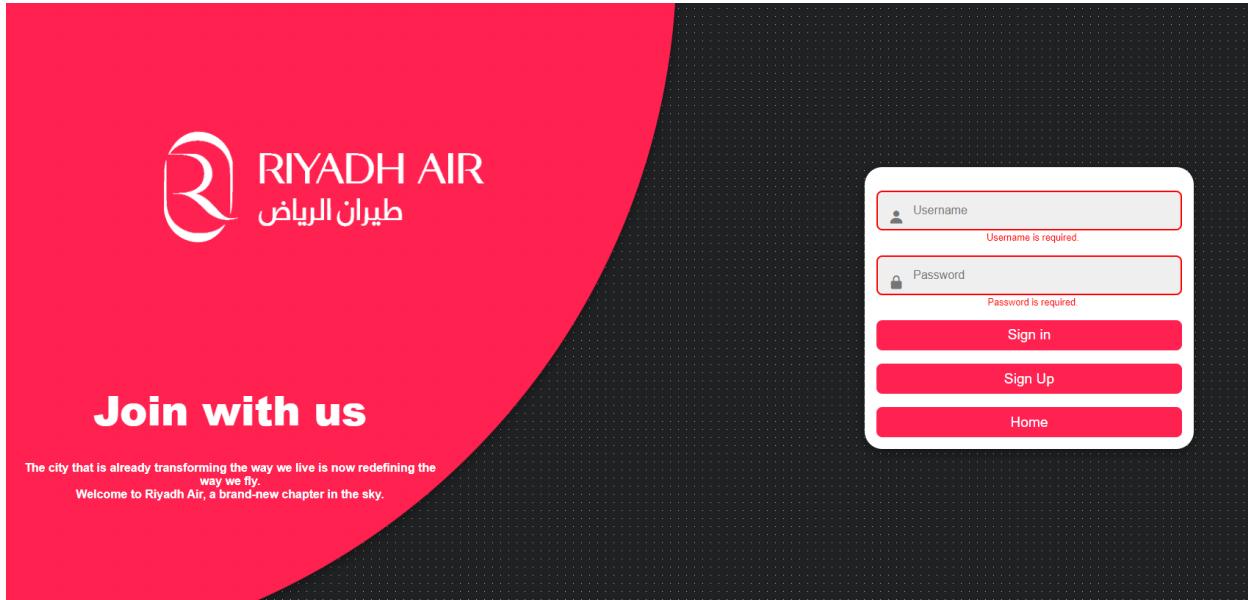
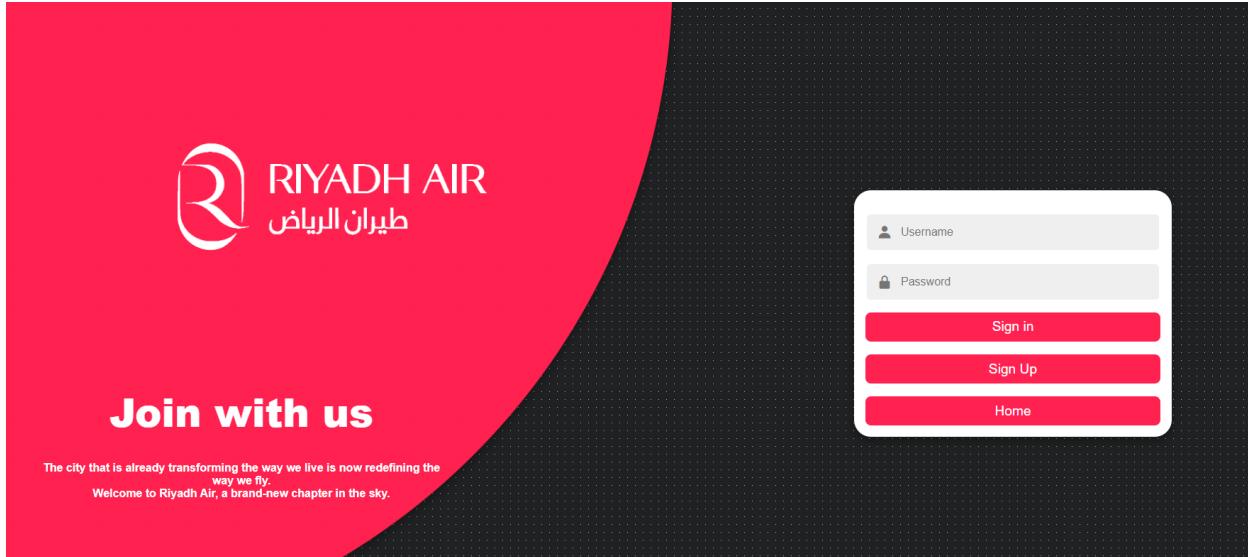


### **5. 2.1.8 Admin Announcements and Contact Us Section:**

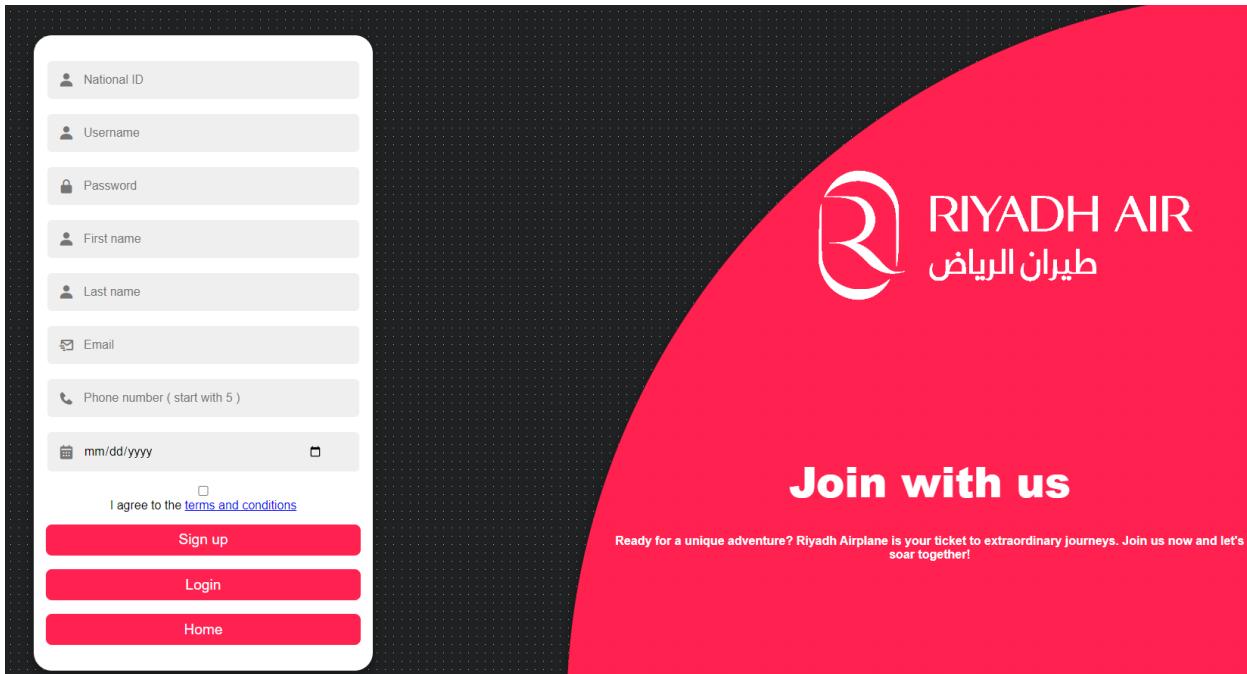
The final section features announcements from administrators, ensuring users are informed about any important updates or news. Additionally, users are provided with contact information, facilitating easy communication between users and the administration.

The screenshot shows the "Admin Announcements" section with a "Latest Announcement" card. The announcement was made by "ADMIN" on "2024-01-31 19:58:23" and reads "We are open !". Below this, the "Contact Us" section provides "Get Here" information (Location: Riyadh, SA; Phone Number: 920000090; Email Address: info@myadhair.com; Website: example.com) and a "Get In Touch" form for messaging. The form includes fields for "Enter email", "Subject", "Message", and a red "Send Message" button.

## 5.2. 2 Login Page:



### 5.2. 3 Sign up Page:



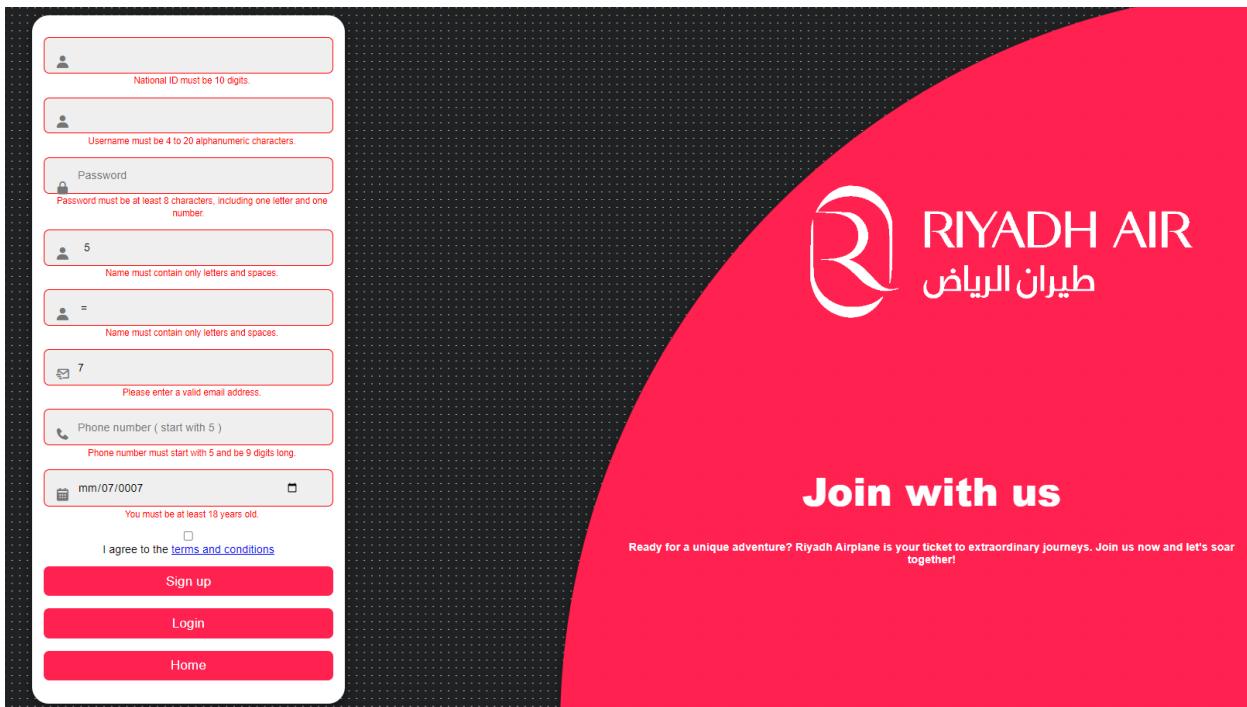
The sign-up page features a black header with the airline's logo and name. Below the header is a large red curved graphic. On the left, there is a white sign-up form with fields for National ID, Username, Password, First name, Last name, Email, Phone number (start with 5), and mm/dd/yyyy. A checkbox for agreeing to terms and conditions is present. On the right, a "Join with us" button is displayed above a promotional message: "Ready for a unique adventure? Riyadh Airplane is your ticket to extraordinary journeys. Join us now and let's soar together!"

National ID  
Username  
Password  
First name  
Last name  
Email  
Phone number ( start with 5 )  
mm/dd/yyyy  
 I agree to the [terms and conditions](#)

Sign up  
Login  
Home

**Join with us**

Ready for a unique adventure? Riyadh Airplane is your ticket to extraordinary journeys. Join us now and let's soar together!



This version of the sign-up page shows validation errors for each field. The errors are: National ID must be 10 digits; Username must be 4 to 20 alphanumeric characters; Password must be at least 8 characters, including one letter and one number; Name must contain only letters and spaces; Name must contain only letters and spaces; Please enter a valid email address; Phone number ( start with 5 ) must start with 5 and be 9 digits long; You must be at least 18 years old; and I agree to the terms and conditions.

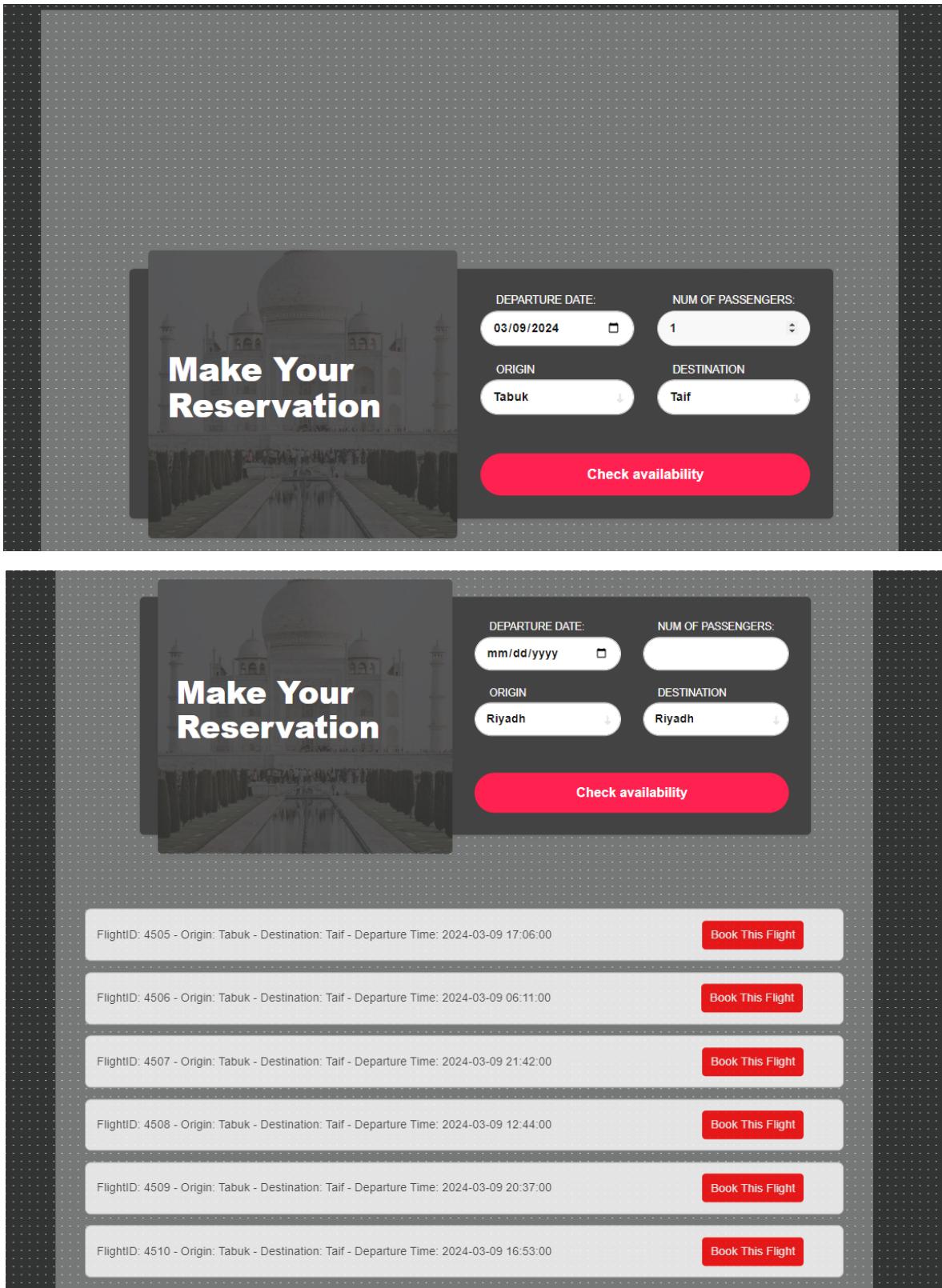
National ID must be 10 digits  
Username must be 4 to 20 alphanumeric characters.  
Password must be at least 8 characters, including one letter and one number.  
Name must contain only letters and spaces.  
Name must contain only letters and spaces.  
Please enter a valid email address.  
Phone number ( start with 5 )  
Phone number must start with 5 and be 9 digits long.  
mm/07/0007  
You must be at least 18 years old.  
 I agree to the [terms and conditions](#)

Sign up  
Login  
Home

**Join with us**

Ready for a unique adventure? Riyadh Airplane is your ticket to extraordinary journeys. Join us now and let's soar together!

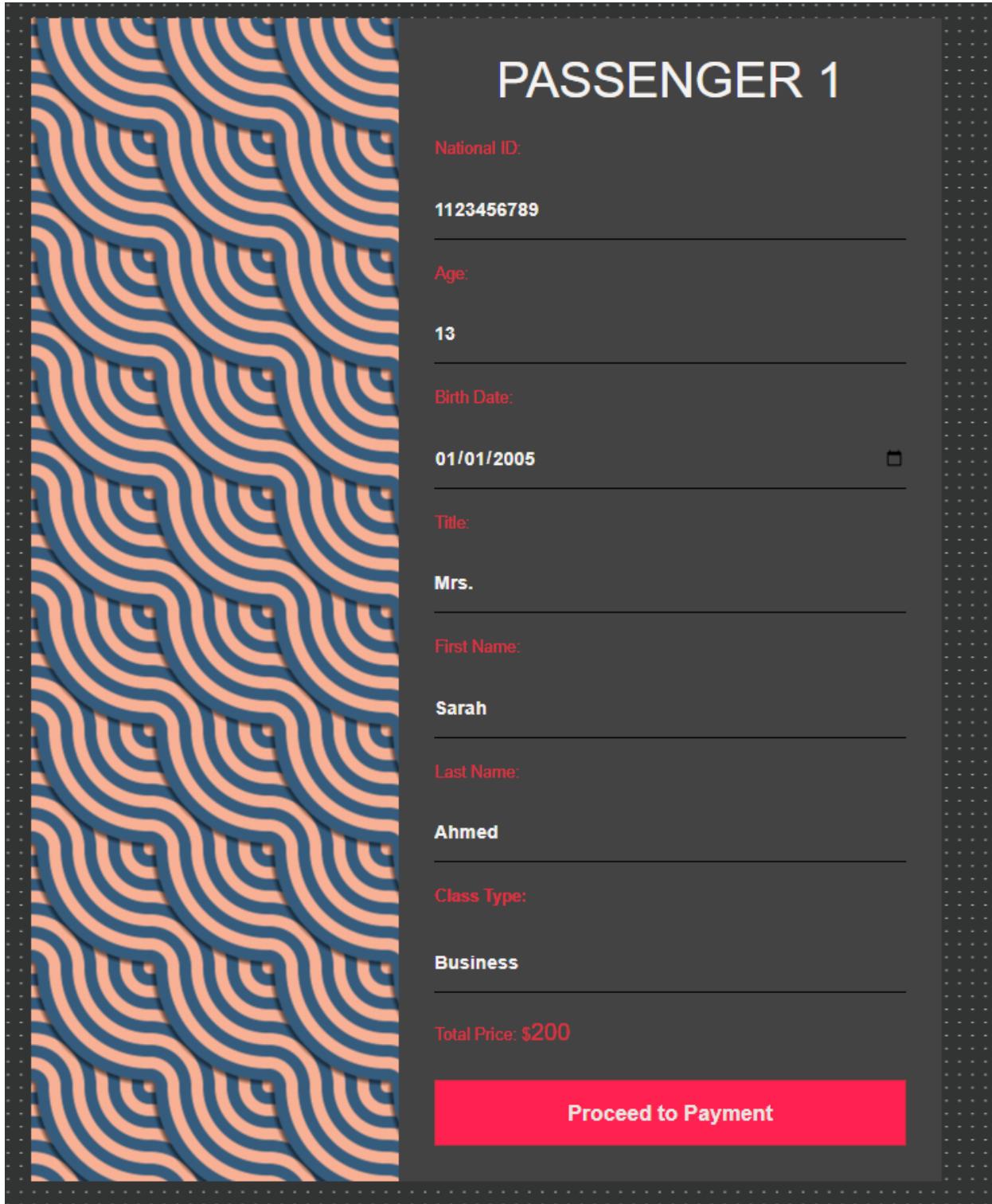
## 5.2.4 Search Flight Page:



The screenshot shows a flight search interface. At the top, there is a banner with the text "Make Your Reservation" overlaid on a background image of the Taj Mahal. Below the banner, there are input fields for "DEPARTURE DATE" (set to 03/09/2024), "NUM OF PASSENGERS" (set to 1), "ORIGIN" (set to Tabuk), and "DESTINATION" (set to Taif). A red "Check availability" button is located below these fields. The main search area has a dark background with the same "Make Your Reservation" banner. It displays five flight options, each with a "Book This Flight" button. The flight details are as follows:

FlightID	Origin	Destination	Departure Time	Action
4505	Tabuk	Taif	2024-03-09 17:06:00	Book This Flight
4506	Tabuk	Taif	2024-03-09 06:11:00	Book This Flight
4507	Tabuk	Taif	2024-03-09 21:42:00	Book This Flight
4508	Tabuk	Taif	2024-03-09 12:44:00	Book This Flight
4509	Tabuk	Taif	2024-03-09 20:37:00	Book This Flight
4510	Tabuk	Taif	2024-03-09 16:53:00	Book This Flight

**5.2. 5      Booking Page:**



The booking page features a decorative vertical wavy pattern on the left side, composed of blue and orange concentric arcs.

**PASSENGER 1**

**National ID:**  
1123456789

**Age:**  
13

**Birth Date:**  
01/01/2005

**Title:**  
Mrs.

**First Name:**  
Sarah

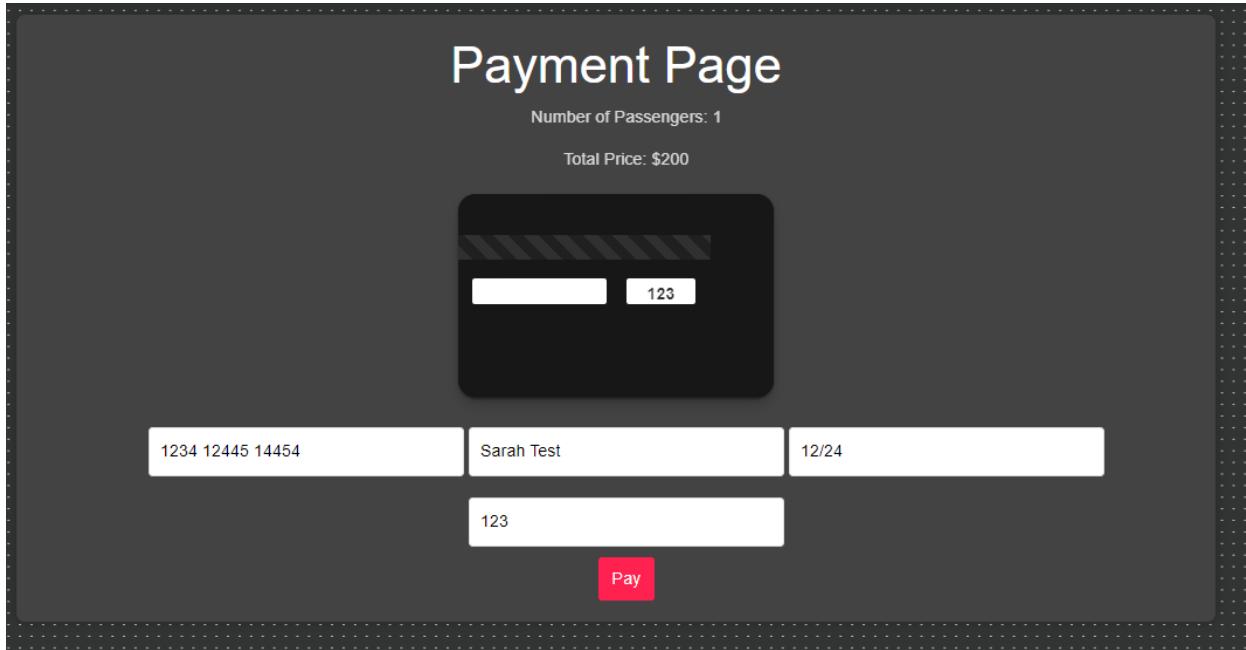
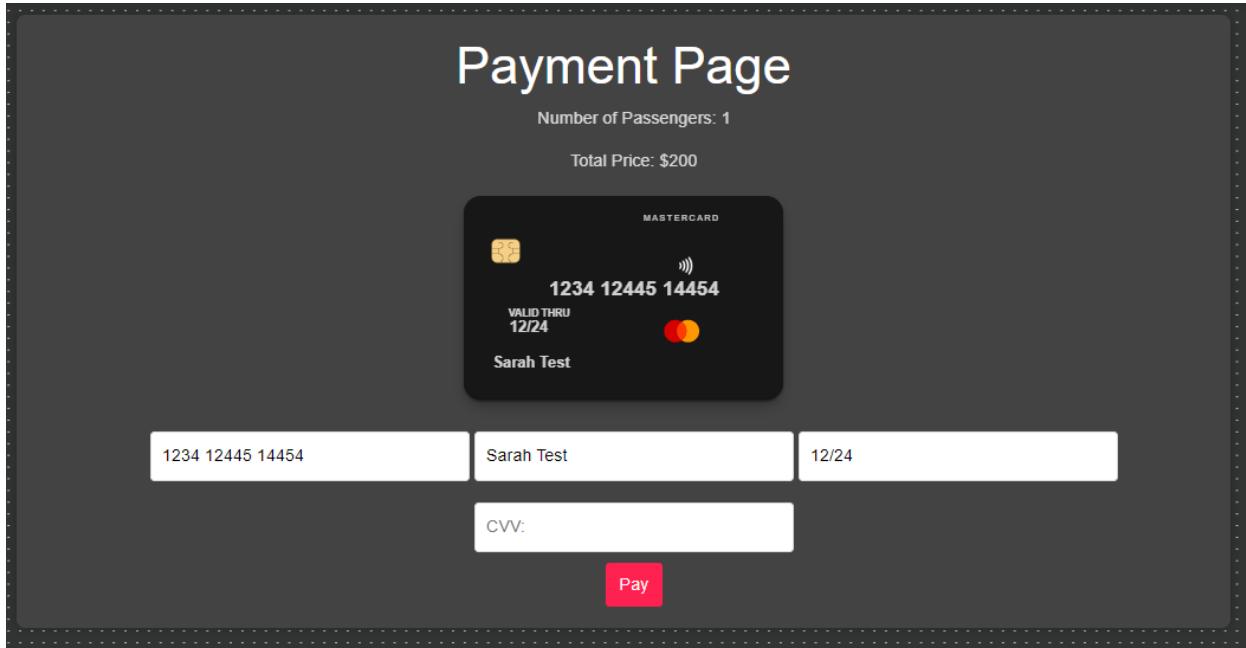
**Last Name:**  
Ahmed

**Class Type:**  
Business

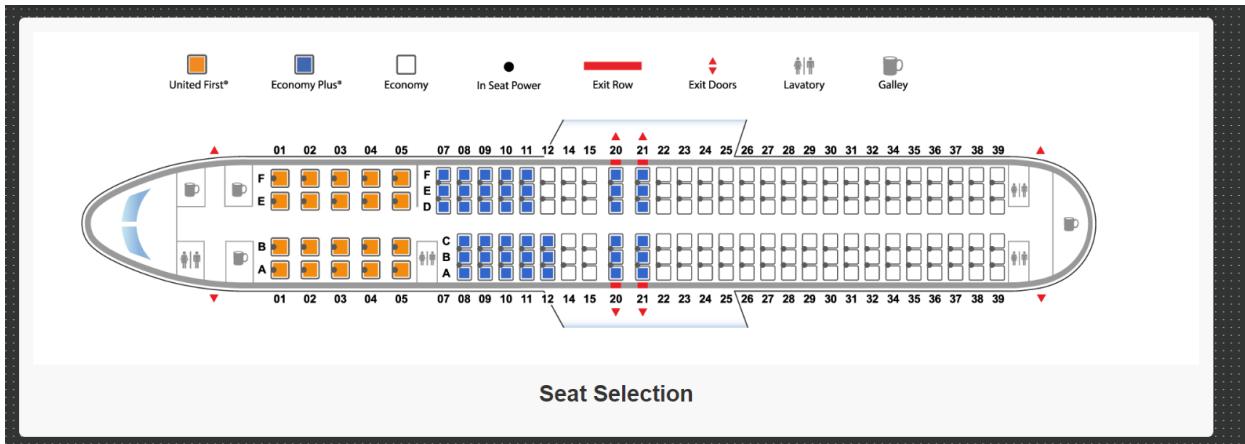
**Total Price:** \$200

**Proceed to Payment**

## 5.2. 6 Payment Page:



## 5.2. 7      Seat Selection Page:



Passenger 1: Select a Seat (Class: Business)

Available Seats	Unavailable Seats
<input type="radio"/> A8	
<input type="radio"/> A9	
<input type="radio"/> A10	
<input type="radio"/> A11	
<input type="radio"/> A12	
<input type="radio"/> A13	
<input type="radio"/> A14	
<input type="radio"/> A15	
<input type="radio"/> A20	
<input type="radio"/> A21	
<input type="radio"/> B8	
<input type="radio"/> B9	
<input type="radio"/> B10	
<input type="radio"/> B11	
<input type="radio"/> B12	
<input type="radio"/> B13	
<input type="radio"/> B14	
<input type="radio"/> B15	
<input type="radio"/> B20	
<input type="radio"/> B21	
<input type="radio"/> C8	
<input type="radio"/> C9	
<input type="radio"/> C10	
<input type="radio"/> C11	
<input type="radio"/> C12	
<input type="radio"/> C13	
<input type="radio"/> C14	
<input type="radio"/> C15	
<input type="radio"/> C20	
<input type="radio"/> C21	
<input type="radio"/> D7	
<input type="radio"/> D8	
<input type="radio"/> D9	
<input type="radio"/> D10	
<input type="radio"/> D11	
<input type="radio"/> D12	
<input type="radio"/> D13	
<input type="radio"/> D14	
<input type="radio"/> D15	
<input type="radio"/> D20	
<input type="radio"/> D21	
<input type="radio"/> E8	
<input type="radio"/> E9	
<input type="radio"/> E10	
<input type="radio"/> E11	
<input type="radio"/> E12	
<input type="radio"/> E13	
<input type="radio"/> E14	
<input type="radio"/> E15	
<input type="radio"/> E20	
<input type="radio"/> E21	
<input type="radio"/> F8	
<input type="radio"/> F9	
<input type="radio"/> F10	
<input type="radio"/> F11	
<input type="radio"/> F12	
<input type="radio"/> F13	
<input type="radio"/> F14	
<input type="radio"/> F15	
<input type="radio"/> F20	
<input type="radio"/> F21	A7

**Confirm Seats**

## 5.2. 8 Profile Page:



Test AI Test  
test

### Information

Email: test@gmail.com Phone Number: 555555554

Projects

Date Of Birth: 2000-01-01 User Role: normal\_user

### Update Info

Username: test Password:

First Name: Test Last Name: AI Test

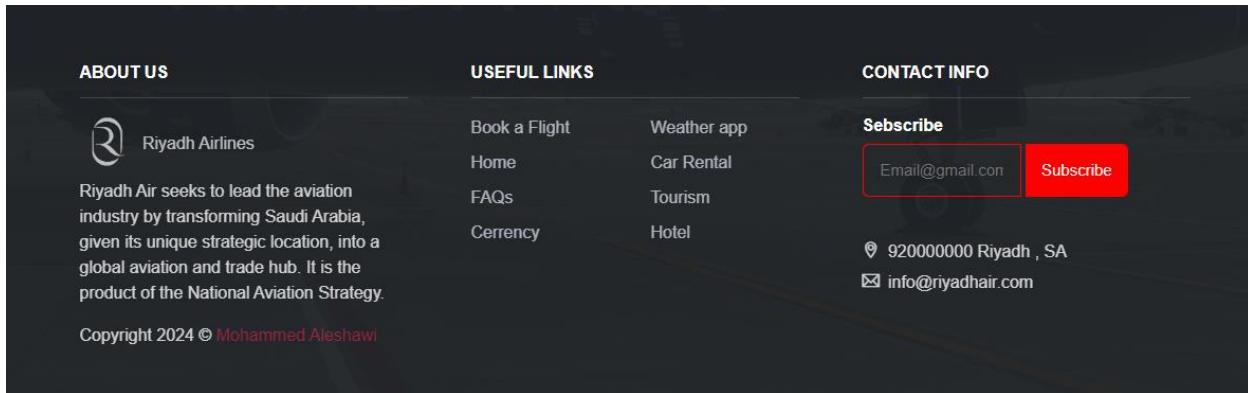
Email: test@gmail.com Phone Number: 555555554

Date of Birth: 01/01/2000

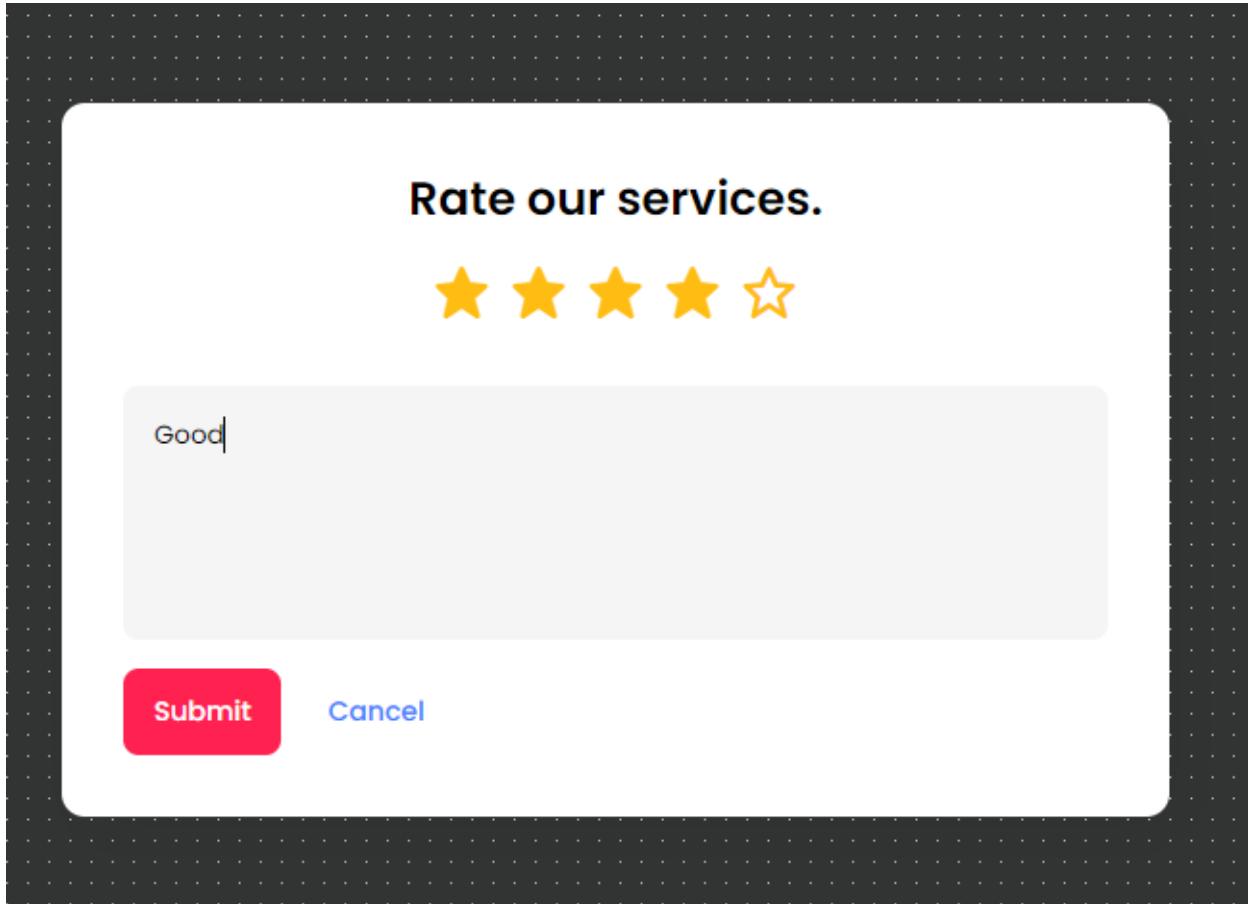
### Your Booked Tickets

FROM	TO	FLIGHT
MEDINA	JIZAN	3231
SEAT C15 CLASS BUSINESS	DEPARTURE 7:11 AM, MAR 07, 2024 ARRIVAL 9:28 AM, MAR 07, 2024	
NAME AHMED ZABADY STATUS CANSLED		
FROM	TO	FLIGHT
TABUK	TAIF	4505
SEAT F9 CLASS BUSINESS	DEPARTURE 5:06 PM, MAR 09, 2024 ARRIVAL 10:20 PM, MAR 09, 2024	
NAME SARAH AHMED STATUS PAID		

## 5.2. 9 Email Notification Subscribe Page:



## 5.2. 10 Ratings Page:



## 5.2. 11 Images of some other pages:

### Most Beautiful festivals in Saudi Arabia.



### Riyadh Boulevard World

Boulevard World offers its visitors the pleasure of exploring the civilizations and cultures of the world, strolling through its fantastical facilities, in addition to many exceptional experiences and adventures in each of its unique regions.

[Book Your Flight to Riyadh Now.](#)



RIYADH AIRLINES

Riyadh Dammam Jeddah Abha Jizan Medina Najran Ta...



**Mansard Riyadh**

Welcome to a hotel designed to inspire the imagination, rekindle the spirit, and awaken the senses. Mansard Riyadh, A Radisson Collection Hotel caters to the needs and whims of our valued guests. Whether staying in our guest rooms, serviced apartments, or long-stay villas, enjoy access to 24-hour room service, our spa and fitness center, and housekeeping twice a day.



**The Ritz-Carlton®**

Located next to the King Abdulaziz Convention Center, the luxurious Ritz-Carlton hotel in Riyadh features interiors with arched doorways and marble corridors. It features 6 restaurants, an indoor pool and spacious rooms equipped with an iPod dock. There is free Wi-Fi access in public areas.

## FAQ

Here are several frequently asked, that may answer your questions:

**What is the time limit for domestic flights?**



**If I entered the passengers name incorrect, what should I do?**



**I am in KSA and wish to pay the ticket fare, what are the forms of payment available?**



**What is a booking reference?**



**How do i book my flights?**



In summary, the user interface of Riyadh Airlines is designed to offer a visually appealing and user-friendly experience. The strategic organization of content ensures that users can easily access relevant information, making their interaction with the website intuitive and engaging. Further enhancements to user interactivity and additional security measures can be considered in future iterations to continually improve the overall user experience.

## 5.2.12 Images of the Administration Dashboard

### 5.2.12.1 Home

The screenshot shows the 'Dashboard' section of the administration interface. On the left, a sidebar menu includes 'Dashboard', 'Flights And Bookings', 'Users', 'Support', 'Logs', 'Files', and 'Home Page'. The main area has several cards:

- Welcome Mohammed**: Shows a profile picture of Mhmd, email ksa@gmail.com, and age 19 years old.
- Quick Draft**: A text input field with placeholder 'Write A Draft For Your Ideas' and a 'Save' button.
- Post Announcement**: A card for Admin Mohammed Aleshawi posted 2 days ago. It includes a text input field 'Enter your announcement here...' and a 'Post Announcement' button.
- Tickets Statistics**: Displays counts for Total (3), Waiting for Payment (0), Paid (2), and Canceled (0).
- Top Booked Destinations**: Shows Taif (Booking Count 2) and Jizan (Booking Count 1).
- Latest Announcements**: Shows a single entry: 'We are open' posted on 31/01/2024 at 07:58pm.
- Latest Drafts**: Shows a single entry: 'Test' posted by Admin Mohammed Aleshawi with the message 'This is test.'
- Send Notification email Daft**: A card for writing an email draft with a text input field 'Enter Message:' and a 'Send Email' button.

### 5.2.12.2 Flight and Booking Section

The screenshot shows the 'Flights And Bookings' section of the administration interface. The sidebar menu is identical to the Home page.

The main area contains four sections:

- All Bookings**: A table showing three booking entries:
 

Booking ID	Flight ID	Passenger Name	nationalID	age	birthDate	title	status	classType	bookedBy	Seat Number
1	3231	Ahmed Zabady	12587458	18	0002-02-02	Mr.	Canceled	Business	1111111111	A7
2	4505	Sarah Ahmed	1123456789	13	2005-01-01	Mrs.	Paid	Business	1111111111	A7
3	1345			0	0000-00-00	Mr.	Paid	First Class	112584444	A1
- Search Flights**: Includes fields for 'Search by Flight ID' and 'Search by Departure Time', and a 'Search' button.
- Edit Flights**: A card for searching flights by flight ID with a 'Search' button.
- Edit or Delete Bookings**: A card for searching bookings by booking ID with a 'Search Booking' button.

### 5. 2.12.3 Users Section

Administration Dashboard

↳ Dashboard  
↳ Flights And Bookings  
↳ Users  
↳ Support  
↳ Logs  
↳ Files  
Home Page

#### Users

**View Users**

National ID	Username	Password	First Name	Last Name	Email	Phone Number	Date of Birth	Role
112584444	Mhmd	[REDACTED]	Mohammed	Aleshaw	ksa@gmail.com	555555555	2004-07-31	ADMIN
1111111111	test	[REDACTED]	Test	Alttest	test@gmail.com	555555554	2000-01-01	normal_user

**Edit/Delete User**

Enter National ID:

Fetch User

Enter a National ID and click 'Fetch User' to edit or delete user information.

**Add New User**

National ID:  Username:   
Password:  Email:   
First Name:  Last Name:   
Phone Number:  mm/yy  
Normal User:

### 5. 2.12.4 Support Section

Administration Dashboard

↳ Dashboard  
↳ Flights And Bookings  
↳ Users  
↳ Support  
↳ Logs  
↳ Files  
Home Page

#### Support

**What Our Users Say**



Mhmd @ 112584444

a



test @ 1111111111

★★★ Good



test @ 1111111111

★★★ Amazing

**Contact Us Submissions**

### 5. 2.12.5 Logs Section

Administration Dashboard

Logs

Start Time:  End Time:  Category:

Log ID	Timestamp	Message	Category
1	2024-01-31 19:51:34	User logged in successfully	test
2	2024-01-31 19:57:43	User logged in successfully	Mtmd
3	2024-01-31 20:03:45	User logged in successfully	test
4	2024-02-01 12:41:24	User logged in successfully	test
5	2024-02-02 22:21:06	User logged in successfully	Mtmd
6	2024-02-02 22:33:16	User logged in successfully	Mtmd
7	2024-02-03 12:33:27	User logged in successfully	Mtmd
8	2024-02-03 12:44:20	User logged in successfully	Mtmd

[Print Logs](#)

Log ID	Timestamp	Message	Category
1	2024-01-31 19:51:34	User logged in successfully	test
2	2024-01-31 19:57:43	User logged in successfully	Mtmd
3	2024-01-31 20:03:45	User logged in successfully	test
4	2024-02-01 12:41:24	User logged in successfully	test
5	2024-02-02 22:21:06	User logged in successfully	Mtmd
6	2024-02-02 22:33:16	User logged in successfully	Mtmd
7	2024-02-03 12:33:27	User logged in successfully	Mtmd
8	2024-02-03 12:44:20	User logged in successfully	Mtmd

## 6. Chapter 6: System Testing

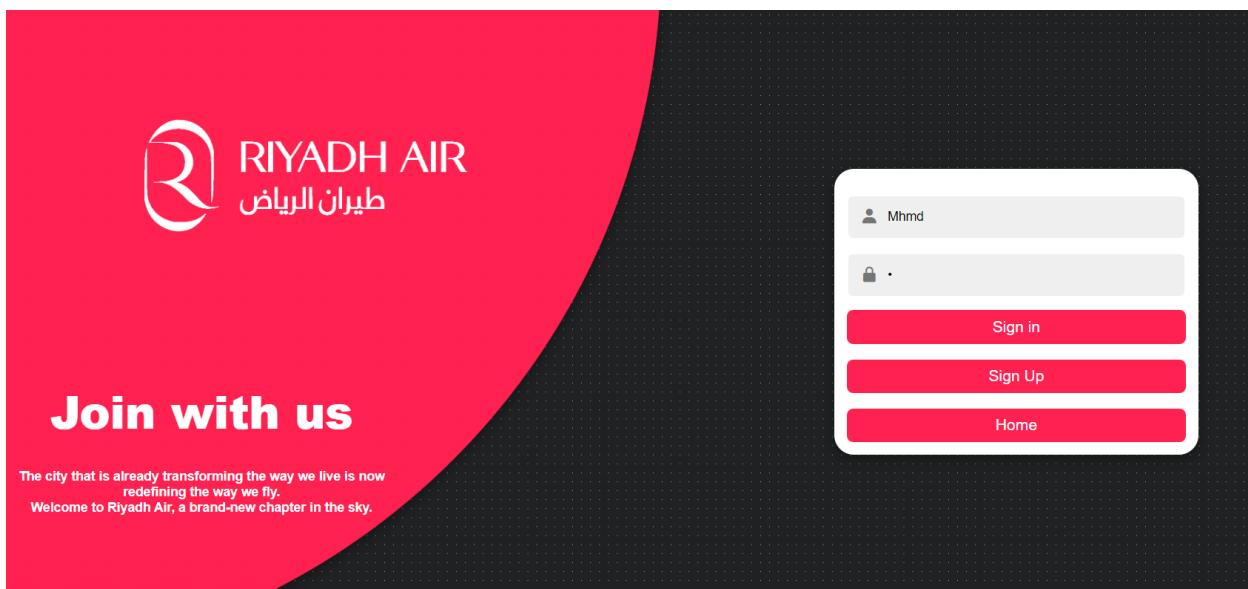
These unit tests and test cases cover various functionalities of the Riyadh Airlines website.

### 6.1 Login Function:

#### 6.1.1 Unit Test: Verify Successful Login

- Test Case:

1. Provide valid username and password.
2. Call the login function.



3. Check if the user is successfully logged in.

<pre>SELECT * FROM `users` WHERE `National_ID` = 2 ORDER BY `profile_image` DESC</pre>
<input type="checkbox"/> Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
<input type="checkbox"/> Show all   Number of rows: 25 <input type="button" value="Filter rows"/> Search this table
<input type="button" value="Extra options"/>

National_ID	Username	pwd	First_Name	Last_Name	Email	Phone_number	Date_of_Birth	user_role	profile_image
2	Mhmd	2	Mohammed	Aleshawis	a@gmail.com	3	2004-07-31	ADMIN	./uploads/profile_2.jpg

- Result: User is successfully logged in ( by directing user to the home page ).

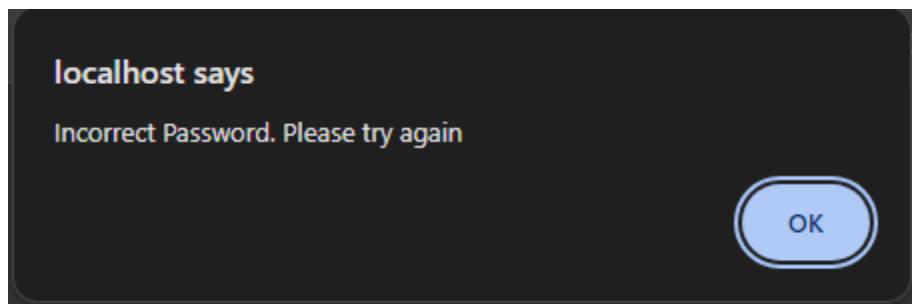
### **6.1. 2      Unit Test: Verify Incorrect Login**

- Test Case:

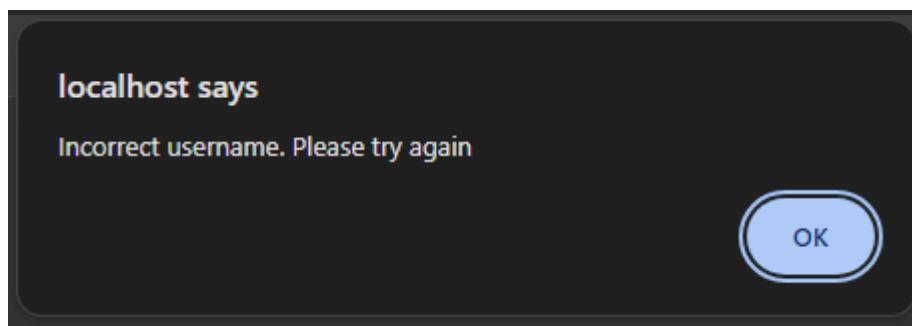
1. Provide an invalid username or password.
2. Call the login function.
3. Check if the system rejects the login.

- Result: Login fail, and the system indicates incorrect credentials ( whether it's with username or password).

Incorrect username alert:

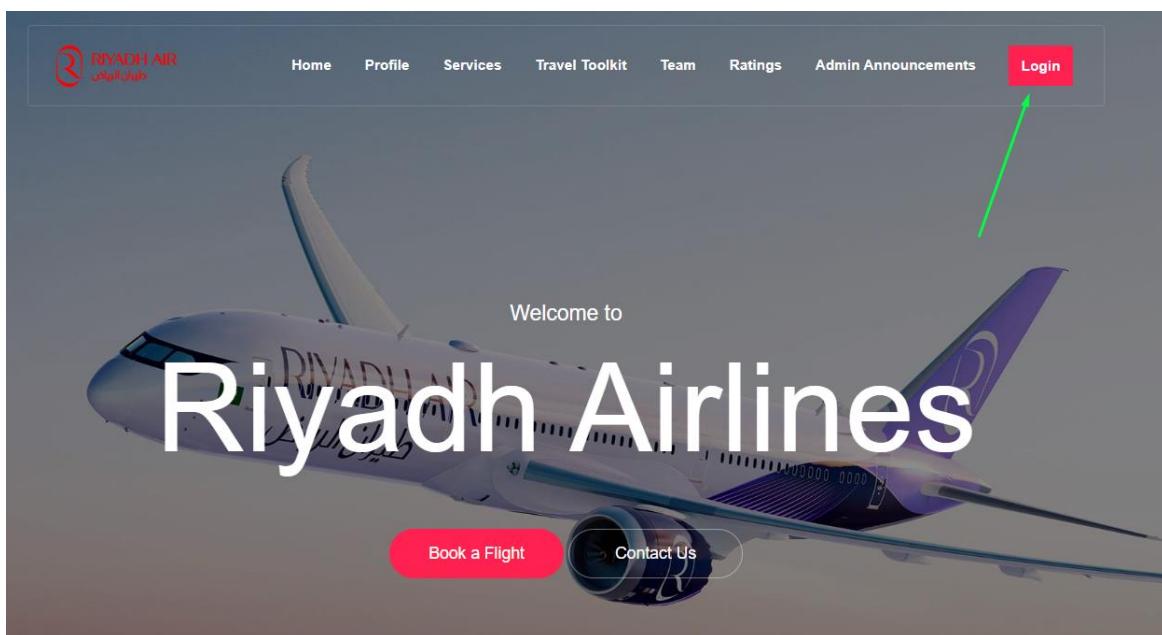
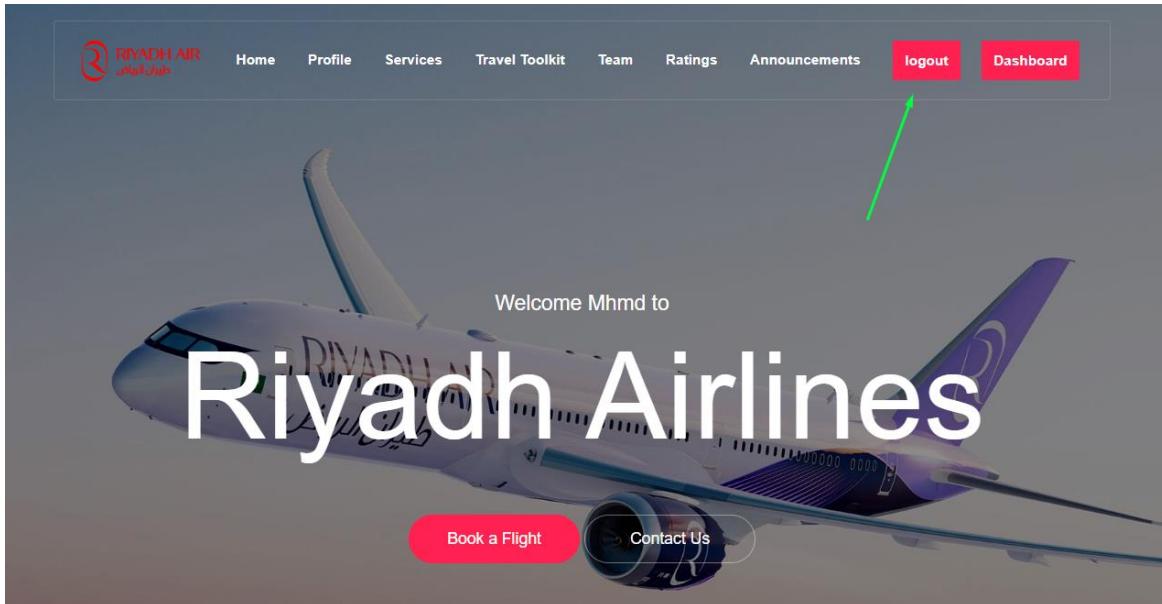


Incorrect password alert:



### 6.1.3 Unit Test: Verify Logout

- Test Case:
  1. Log in.
  2. Call the logout function.
- Result: User is logged out and the logout button in navbar is changed to login.

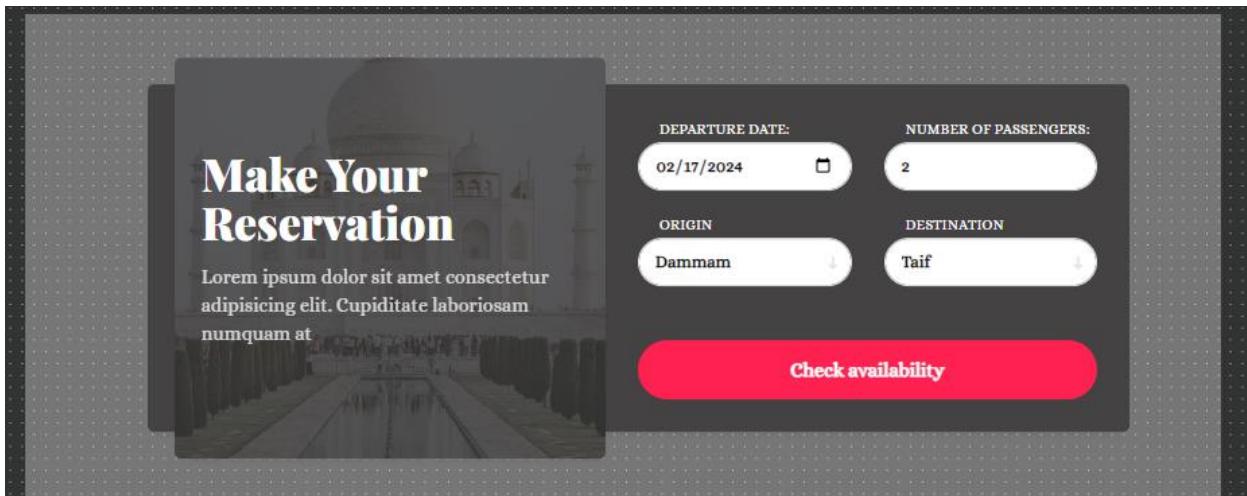


## 6.2 Search for Flight Function:

### 6.2.1 Unit Test: Verify Search Results

- Test Case:
  1. Provide valid search criteria.
  2. Call the search function.
- Result: Accurate search results are displayed.

The search criteria:



The result (fetched from the database):

FlightID: 7948 - Origin: Dammam - Destination: Taif - Departure Time: 2024-02-17 19:12:00	<a href="#">Book This Flight</a>
FlightID: 7949 - Origin: Dammam - Destination: Taif - Departure Time: 2024-02-17 20:59:00	<a href="#">Book This Flight</a>
FlightID: 7950 - Origin: Dammam - Destination: Taif - Departure Time: 2024-02-17 21:53:00	<a href="#">Book This Flight</a>
FlightID: 7951 - Origin: Dammam - Destination: Taif - Departure Time: 2024-02-17 07:57:00	<a href="#">Book This Flight</a>
FlightID: 7952 - Origin: Dammam - Destination: Taif - Departure Time: 2024-02-17 16:09:00	<a href="#">Book This Flight</a>

## 6.3 Book a Flight Function:

### 6.3.1 Unit Test: Verify Successful Booking

- Test Case:

1. Choose a specific flight.
2. Complete the booking process, including payment.

Choose a specific flight:



Complete the booking process, including payment:



**PASSENGER 1**

National ID:

777512

Age:

14

Birth Date:

12/21/3123

Title:

Mrs.

First Name:

32312

Last Name:

321312

Class Type:

First Class

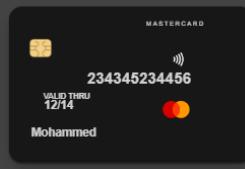
Total Price: \$300

**Proceed to Payment**

## Payment Page

Number of Passengers: 1

Total Price: \$300



234345234456	Mohammed	12/14
966		
<b>Pay</b>		

- Result: Flight should be booked, and a he is directed to the seat selection page.

### **6.3.2 Unit Test: Verify Booking Without Login**

- Test Case:

1. Attempt to book a flight without logging in.
2. Check if the system prompts the user to log in.

- Result: System will prompt the user to log in before proceeding with booking.

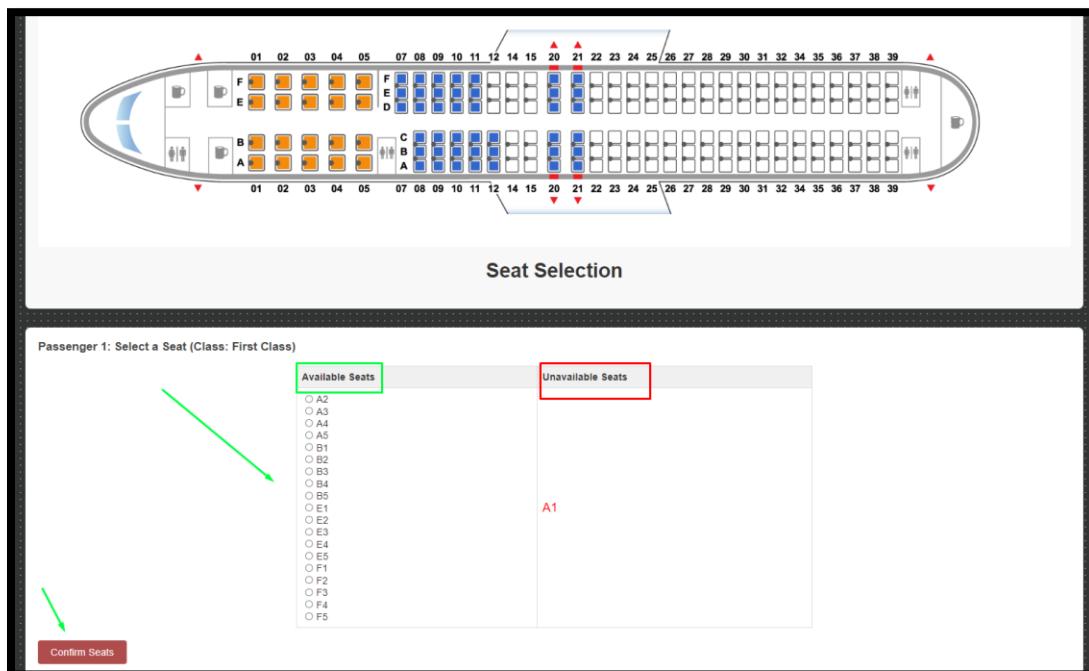
### **6.4 Select Seat Function:**

#### **6.4.1 Unit Test: Verify Seat Selection**

- Test Case:

1. Access the seating layout.
2. Select a preferred seat.
3. Check if the seat selection is confirmed and saved.

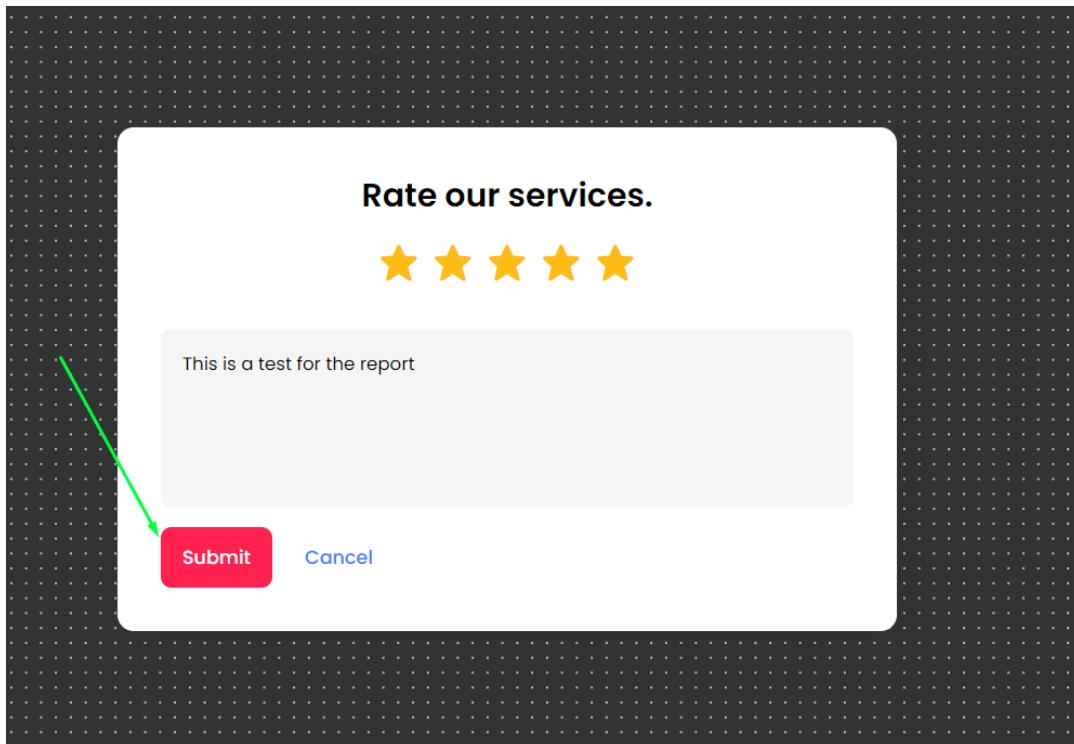
- Result: Seat selection is confirmed and saved and user is directed to the rating page.



## 6.5 Rate Function:

### 6.5.1 Unit Test: Verify Rating Submission

- Test Case:
  1. Provide a rating and optional feedback.
  2. Call the rate function.
  3. Check if the rating is recorded.
- Result: Rating should be recorded successfully.



SELECT \* FROM `ratings` ORDER BY `ratings`.`created\_at` DESC

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

1 > >> |  Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

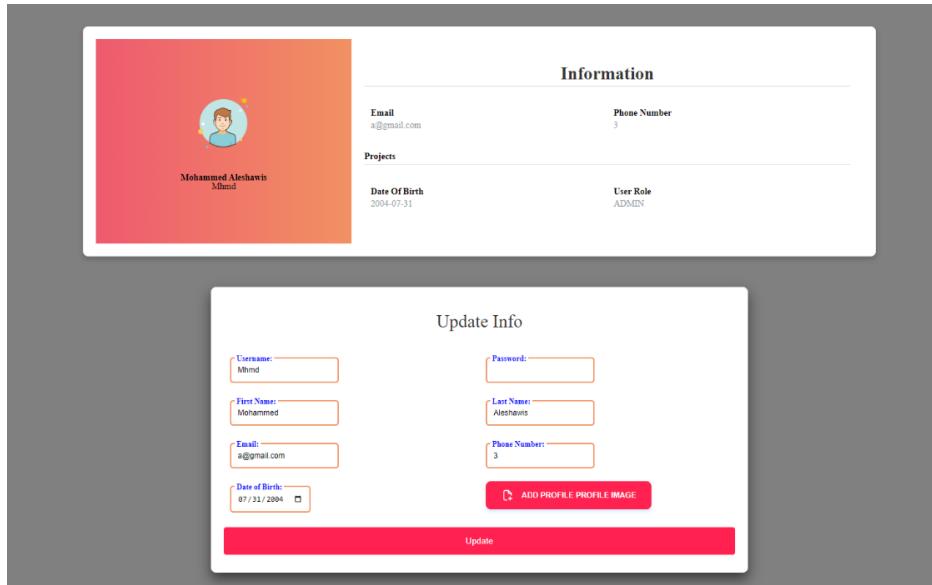
	T →		id	user_id	rating	comment	created_at
<input type="checkbox"/>				34	2	5 This is a test for the report	2024-01-29 21:10:26

## 6.6 Show Profile Function:

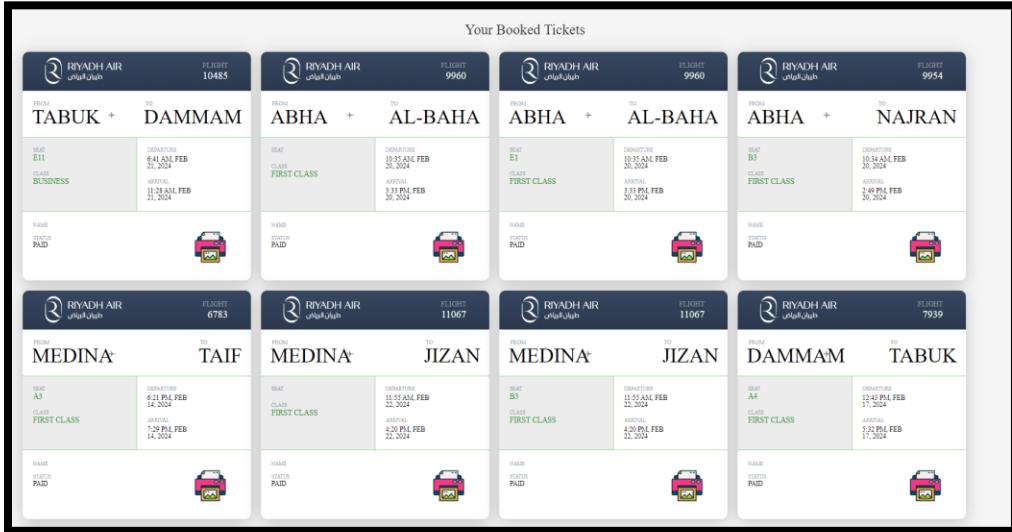
### 6.6.1 Unit Test: Verify Profile Access

- Test Case:

1. Log in.
  2. Access the profile.
  3. Check if the personal information and past bookings are displayed.
- Result: Profile information is be displayed.



The image shows two overlapping forms. The top form is titled 'Information' and displays profile details: Email (a@gmail.com), Phone Number (3), Projects (empty), Date Of Birth (2004-07-31), and User Role (ADMIN). The bottom form is titled 'Update Info' and contains fields for Username (Mhmd), Password (empty), First Name (Mohammed), Last Name (Aleshawis), Email (a@gmail.com), Phone Number (3), and Date of Birth (07/31/2004). It also includes an 'ADD PROFILE IMAGE' button and a large red 'Update' button at the bottom.



The image shows a grid of eight flight ticket cards under the heading 'Your Booked Tickets'. Each card provides details for a flight from one city to another, including flight number, date, time, class, and passenger name.

FROM	TO	FLIGHT	DEPARTURE	ARRIVAL	CLASS	NAME
TABUK	DAMMAM	10485	15:35 AM, FEB 25, 2024	11:25 AM, FEB 26, 2024	E11 CLASS BUSINESS	MHMD PAD
ABHA	AL-BAHA	9960	15:35 AM, FEB 25, 2024	11:25 AM, FEB 26, 2024	FIRST CLASS	MHMD PAD
ABHA	AL-BAHA	9960	15:35 AM, FEB 25, 2024	11:25 AM, FEB 26, 2024	E1 CLASS FIRST CLASS	MHMD PAD
ABHA	NAJRAN	9954	10:34 AM, FEB 26, 2024	2:49 PM, FEB 26, 2024	B1 CLASS FIRST CLASS	MHMD PAD
MEDINA	TAIF	6783	11:45 AM, FEB 14, 2024	7:29 PM, FEB 14, 2024	A3 CLASS FIRST CLASS	MHMD PAD
MEDINA	JIZAN	11067	11:45 AM, FEB 22, 2024	7:20 PM, FEB 22, 2024	B3 CLASS FIRST CLASS	MHMD PAD
MEDINA	JIZAN	11067	11:45 AM, FEB 22, 2024	7:20 PM, FEB 22, 2024	B3 CLASS FIRST CLASS	MHMD PAD
DAMMAM	TABUK	7939	12:43 PM, FEB 17, 2024	3:27 PM, FEB 17, 2024	A4 CLASS FIRST CLASS	MHMD PAD

## 6.7 Change Profile Details Function:

### 6.7.1 Unit Test: Verify Profile Details Update

- Test Case:

1. Log in.
2. Edit and save changes to profile details.
3. Check if the updated information is saved in the profile.

- Result: Updated information should be saved.

The screenshot shows a mobile application interface titled "Update Info". It contains several input fields:

- Username: Mhmd
- Password: (empty field)
- First Name: Mohammed
- Last Name: Aleshawis
- Email: ksa@gmail.com
- Phone Number: 3
- Date of Birth: 07/31/2004

A red button at the bottom right labeled "ADD PROFILE PROFILE IMAGE" is visible. A green arrow points from the "Email" field in the update form to the "Email" section in the "Information" screen below.

The screenshot shows a user profile page titled "Information". It displays the following details:

- Profile Picture placeholder
- Name: Mohammed Aleshawis  
Mhmd
- Email: ksa@gmail.com
- Phone Number: 3
- Projects: (empty)
- Date Of Birth: 2004-07-31
- User Role: ADMIN

A green arrow points from the "Email" field in the "Information" section back to the "Email" field in the "Update Info" form above.

## 6.8 Contact Support Function:

### 6.8.1 Unit Test: Verify Message Submission

- Test Case:

1. Log in.
  2. Send a message or query through the support interface.
- Result: Support has received the message.

Get Here

**Contact Us**

Location  
Riyadh , SA

Phone Number  
920000090

Email Address  
info@riyadhair.com

example.com  
info@example.com

Available 24/7

**Get In Touch**

Test@gmail.com

Test

Test for report

Send Message

SELECT * FROM `contact_submissions` ORDER BY `contact_submissions`.`id` DESC					
<input type="checkbox"/> Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]					
<input type="checkbox"/> Show all	Number of rows:	25	Filter rows:	Search this table	Sort by key: None
Extra options					
id	subject	email	message	submitted_at	
8	Test	Test@gmail.com	Test for report	2024-01-29 21:17:42	<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete

## **7. Conclusion**

### **7.1 Project Achievements**

The development of the Riyadh Airlines flight reservation website was successful for us and educational to a very great degree, as we learned new things that we had not experienced during the academic stage, especially on the back-end side. We have achieved the goals of this project, such as successfully implementing basic functions such as user authentication, flight reservation, seat selection, and positive ratings and comments that... The feedback received from users during testing was a testament to the ease of using the system in a basic and initial way.

### **7.2 Lessons Learned**

Throughout the development process, we faced many challenges and problems, and we learned from them valuable information and new ways to handle errors. Among the mistakes that we encountered and learned about were database problems, user interface problems. We understood how to enhance and develop web applications, and there is no doubt that these lessons will contribute to improving future projects.

### **7.3 Future Work**

#### **7.3. 1 Feature Enhancements**

- In the future, Riyadh Airlines could benefit from additional features to enhance user experience. Considerations include.
- expanding the travel toolkit with more useful links
- providing users with more personalized recommendations
- incorporating advanced search options for flights.
- implement additional authentication methods for the login functionality such as multi-factor authentication.

- Enhance user account security by implementing email confirmation and verification steps during the registration process.
- Allow users to review and modify their selected flights before finalizing the booking for improved user experience.
- Provide users with a comprehensive booking summary, including flight details and pricing, before they proceed to the payment stage.
- Integrate real payment gateways for authentic and secure transactions in future implementations.
- Outline and implement robust security measures for handling payment transactions securely.
- Implement real-time notifications to inform users of successful payments, providing a seamless user experience.
- Introduce filtering and moderation mechanisms for user-generated ratings to maintain content quality.
- Implement real-time exchange rate updates to ensure currency information is current and accurate.
- Expand the FAQs section with a search function to help users quickly find relevant information.
- Provide users with the option to unsubscribe from email notifications for increased user control.
- Make the website support multi-language based on region, and preferences (for light and dark mode themes).
- More realistic and dynamic seat selection and flight search.

### **7.3. 2 Security and Performance Enhancements**

Since the development and strengthening of the basic system has arrived, we must focus in future work on improving security and performance, because these regular security operations will contribute to the improvement in data encryption, the access control mechanism, and the comprehensive reliability of Riyadh Airlines. In addition, it will also benefit us in improving the system's performance in order to expand and respond because it is limited. Critical to future development

### **7.3. 3      Integration with External Services**

To provide users with more comprehensive information, we are thinking in the future about integrating real-time weather APIs to obtain more data with very high accuracy and accurate and up-to-date details about the weather, as well as in a currency converter in order to obtain accurate and up-to-date currency rates. We can also form partnerships with affiliated car rental platforms. To external parties with a good reputation, which would enhance the scope of services provided by Riyadh Airlines

### **7.3. 4      Continuous Improvement**

There is no doubt that continuous monitoring and improvement is very, very necessary for our Riyadh Air website to maintain competitiveness, because the market is in a state of very rapid renewal, and continuous updates based on users' comments and opinions, the market trend, and the progress of technology will ensure that the basic system remains relevant and compatible with users' expectations.

## **7.4    Final Remarks**

In conclusion, developing the Riyadh Airlines flight reservation website was a rewarding and very useful experience, and we express our gratitude for the opportunity to work on this project, as well as the support we received from stakeholders(Teachers, Friends). We look forward to the future, God willing, to remaining committed to the continuous improvement and development of Riyadh Airlines.

**THE END**