



## AMERICAN INTERNATIONAL UNIVERSITY–BANGLADESH (AIUB)

Dept. of Computer Science  
Faculty of Science and Technology

### CSC2210: OBJECT ORIENTED PROGRAMMING 2

Spring 2024-2025

Section: F

Group No: 06

### Project Report On Eclips Aviation: An Airline Management System

Supervised By  
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Submitted By:

Name	ID
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3. Shadat Ahmed Shovon	23-50196-1
4. Shadin Kumar Mohonto	23-50119-1

**CO2:** Display and verify the mean of a real-life Project using the concepts of C# Graphical User Interface based environment with database integration to depict a desktop-based application.

Assessment Criteria	Not Attended/ Incorrect (0)	Inadequate (1-2)	Average (3)	Good (4)	Excellent (5)
Evaluation Criteria	Evaluation Definition				Total =
Requirement fulfillment	Properly demonstrate a real-life scenario-based project with proper functional requirement identification for the Object-Oriented Programming project development activities.				
Validation	Ensuring the ability of students' proper demonstration on validation forms in their system in terms of dealing with the data.				
Verification	Identifying if the students can verify the system data along with proper functional requirements in terms of data flow.				

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## **Introduction:**

Our Airline Management System is designed to manage and coordinate operations among three types of users: Passengers, Admins, and Crew members. Each user has core attributes including username, name, password, email, address (comprising city, area, and country), passport number, and phone number. Passengers, identified by a unique passenger ID, can book tickets containing details such as ticket price, quantity, total cost, destination, and airline name. Admins oversee both Flight Management and Crew Management. Flight Management involves handling flights with attributes like flight ID, flight name, destination, schedule, and pricing. Crew Management allows the admin to search for crew by ID, assign them roles, and link them to specific flights and schedules. Crew members have their crew ID and assign roles determined by the admin. All user activities are backed by dedicated database connections for secure and efficient data handling. Additionally, users can view contact details through a user interface specifically designed for support and communication purposes.

## **User Story:**

**Student Name:** Raid Ibney Hasan Arnob

**Student ID:** 22-48357-3

**Contribution:** 25%

### **Detailed Contribution:**

I was responsible for developing the user registration form, login page, and the contact details form as part of the system's front-end interface. I ensured that each form was user-friendly, visually consistent, and functionally integrated with the overall design of the system.

Additionally, I contributed to improving the overall user interface by assisting in the refinement and enhancement of design elements to ensure better usability and aesthetic quality. I also established the connection between the user registration form and the database named "Table", enabling data to be stored securely and efficiently. This involved writing the necessary backend code and testing the database operations to ensure reliability and performance.

**Student Name:** Satadru Barua Jeet

**Student ID:** 23-52224-2

**Contribution:** 25%

### **Detailed Contribution:**

My responsibilities included the design and development of the Admin Panel, Flight Management Module, and the preparation of the project report. I worked on building and integrating the user interfaces for these modules while ensuring seamless connectivity with the backend database named "FLIGHT".

In the Flight Management interface, I implemented a functional GridView that displays flight data directly from the database and allows the admin to update flight details efficiently. I made sure all operations were accurately reflected in the database to maintain data consistency and integrity.

Additionally, I took full ownership of writing the complete project report, which was organized according to the instructions and topics covered in the lecture

sessions. The report includes all required content and presents the project in a clear and professional format.

**Student Name:** Shadat Ahmed Shovon

**Student ID:** 23-50196-1

**Contribution:** 25%

**Detailed Contribution:**

I contributed to the development of the Passenger Interface, Ticket Booking System, and Ticket Purchase History Module. I designed and implemented the user interface for these components, focusing on usability and functionality. To ensure data persistence and accuracy, I connected these interfaces to the backend database named "Ticket\_Info", enabling the system to store and retrieve records for both single and multiple ticket purchases.

In the Ticket Purchase interface, I integrated a GridView to display a list of sold tickets, which also allows users to view and delete ticket entries as needed. Additionally, I applied logical validation and calculations to accurately handle ticket quantities and pricing, ensuring the system reflects real-time updates and maintains data consistency throughout the purchase process.

**Student Name:** Shadin Kumar Mohonto

**Student ID:** 23-50119-1

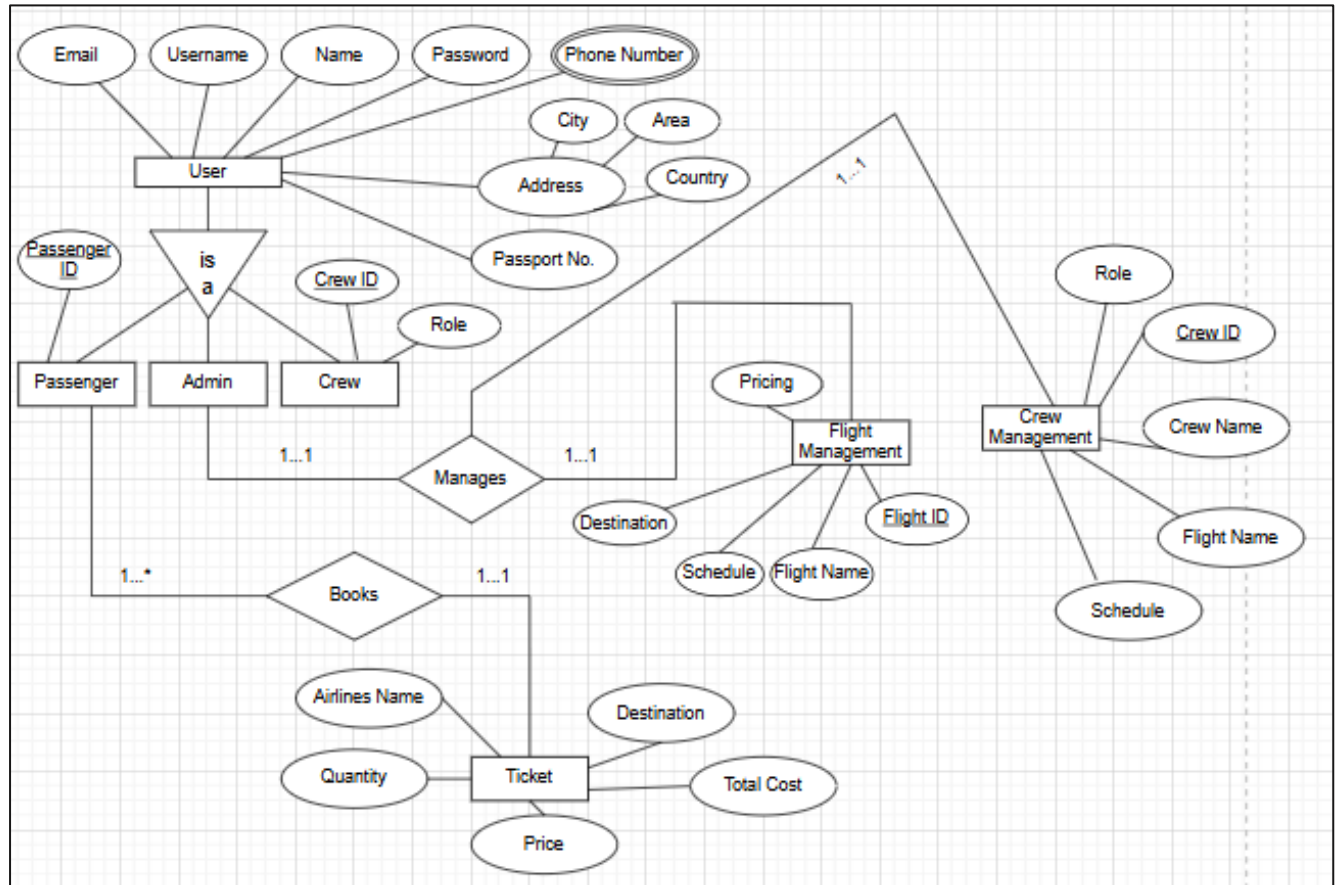
**Contribution:** 25%

**Detailed Contribution:**

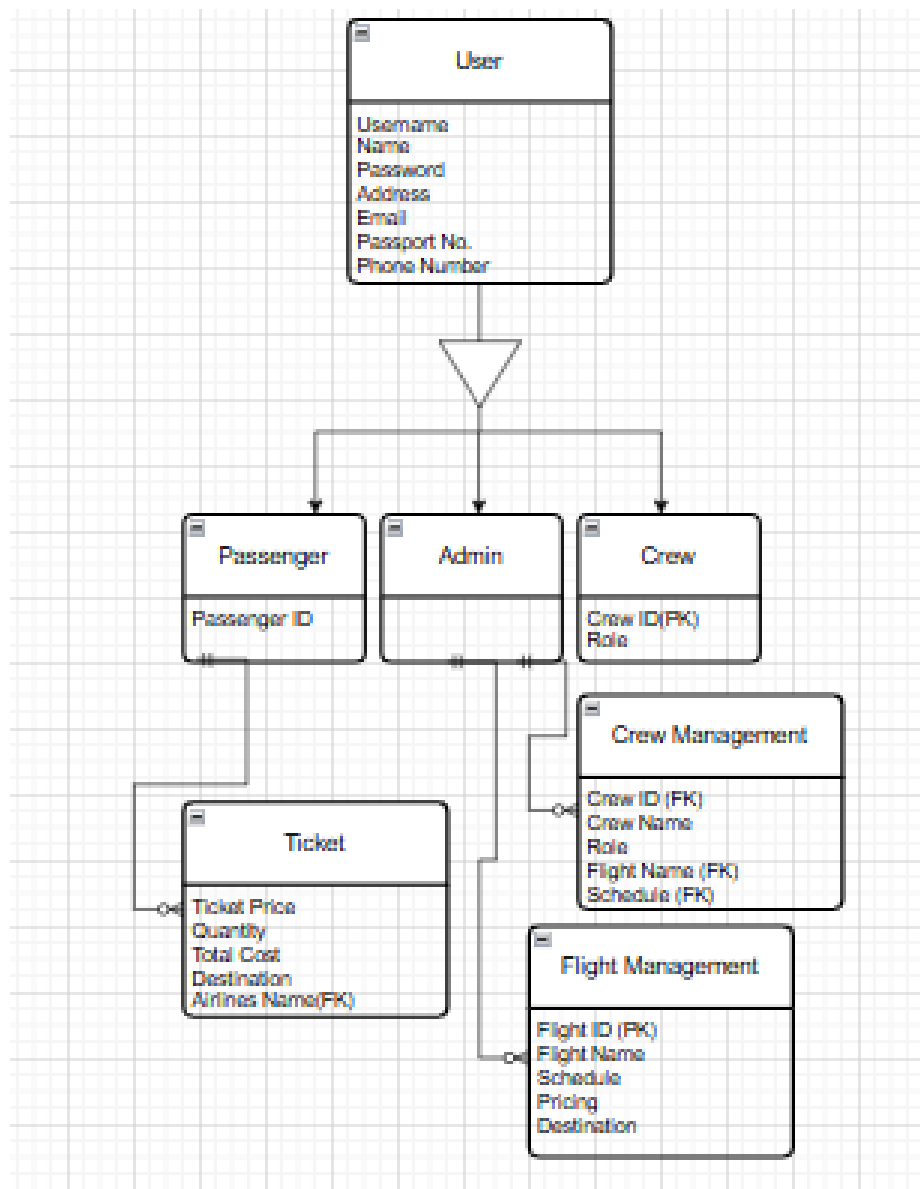
I contributed by developing the Crew Interface and the Crew Management Module. These interfaces were designed to be user-friendly and were fully integrated with the backend database named "crew" to ensure accurate and efficient data handling.

In the Crew Management system, I implemented a search functionality that allows users to retrieve crew information by entering the Crew ID. Upon searching, the system displays the corresponding Crew Name, and enables the admin to assign roles, link flights, and schedule duties for the selected crew member. This functionality plays a critical role in managing operational staff effectively within the system.

## ER Diagram:

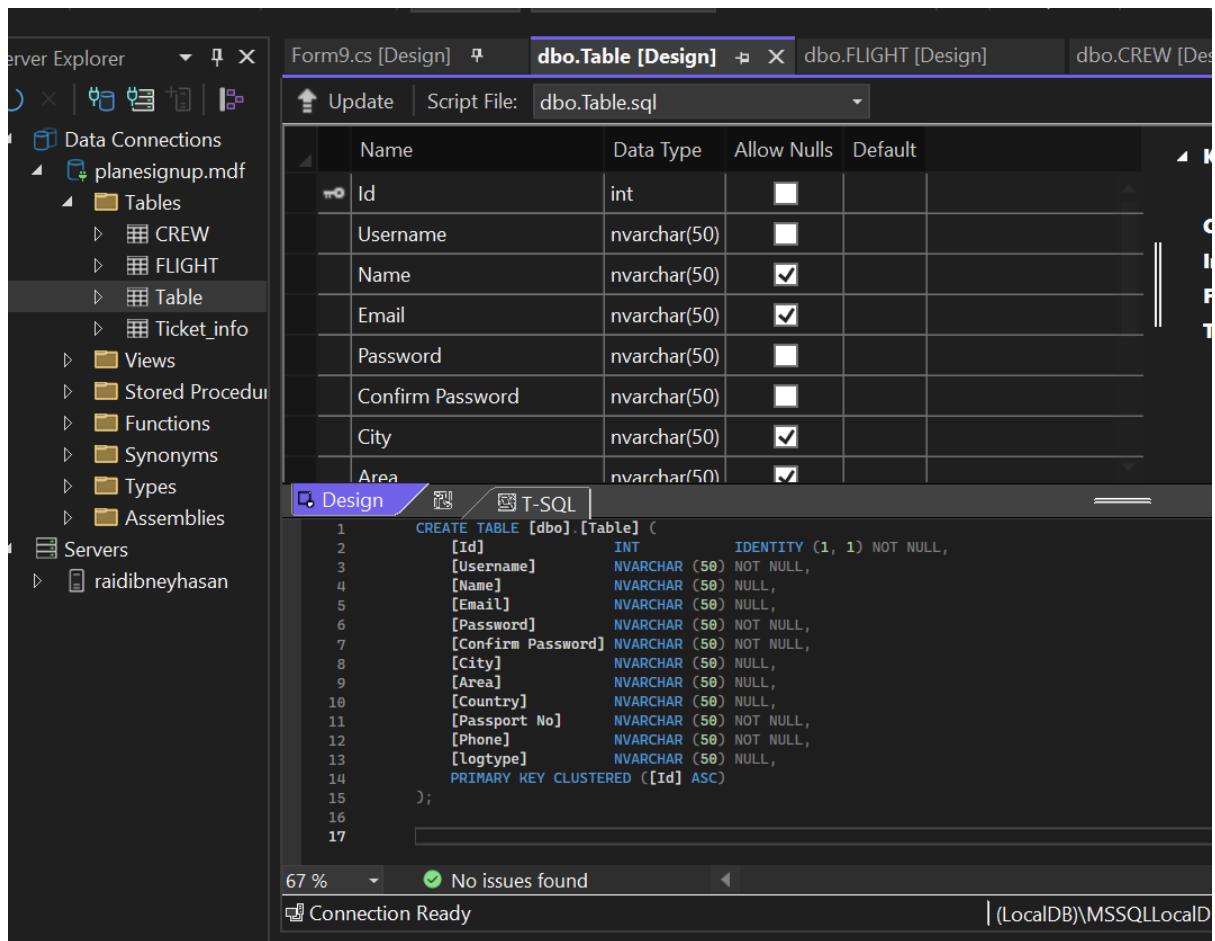


## Schema Diagram:



### Table Query and Table Data:

### User Table Query:



### User Table Data:

[illegible]



## Crew Table Query:

The screenshot shows the SQL Server Enterprise Designer interface. On the left, the 'Data Connections' pane shows a connection to 'planesignup.mdf'. The 'Tables' folder is expanded, showing the 'CREW' table. The main pane displays the 'dbo.CREW [Design]' table design. The table has the following columns:

Name	Data Type	Allow Nulls	Default
Id	int	<input type="checkbox"/>	
NAME	nvarchar(50)	<input checked="" type="checkbox"/>	
ROLE	nvarchar(50)	<input checked="" type="checkbox"/>	
FLIGHT NAME	nvarchar(50)	<input checked="" type="checkbox"/>	
SCHEDULE	nvarchar(50)	<input checked="" type="checkbox"/>	

The 'Design' tab is selected, showing the table structure. The 'T-SQL' tab is also visible, showing the following SQL script:

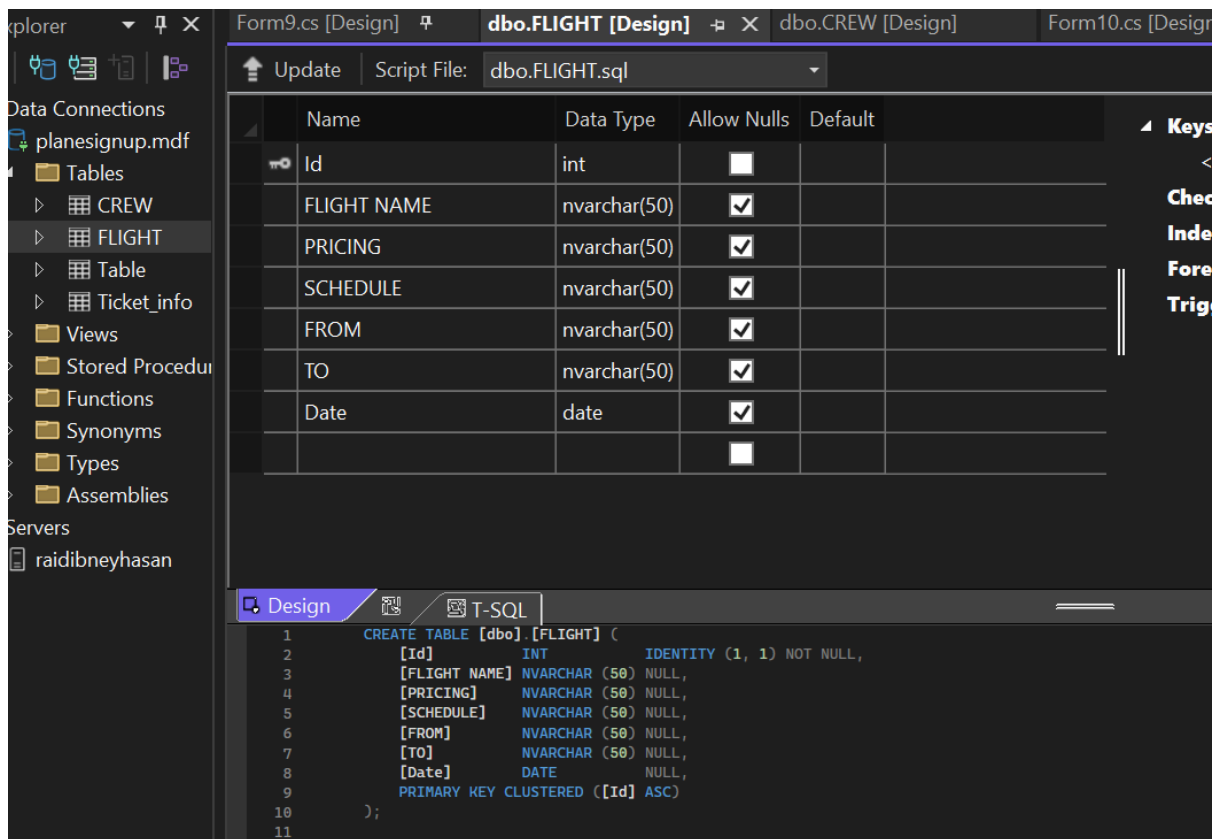
```
1 CREATE TABLE [dbo].[CREW] (
2     [Id] INT NOT NULL,
3     [NAME] NVARCHAR (50) NULL,
4     [ROLE] NVARCHAR (50) NULL,
5     [FLIGHT NAME] NVARCHAR (50) NULL,
6     [SCHEDULE] NVARCHAR (50) NULL,
7     PRIMARY KEY CLUSTERED ([Id] ASC)
8 );
9
10
```

## Crew Table Data:

The screenshot shows the SQL Server Enterprise Designer interface with the 'dbo.CREW [Data]' tab selected. The table data is displayed in a grid. The 'Max Rows' is set to 1000. The data is as follows:

Id	NAME	ROLE	FLIGHT NAME	SCHEDULE
1	raid ibney hasan	Pilot	WEEE	22:00-09:00
8	shadhin	Pilot	Chiine Airlines	22:00-09:00
9	shovon	Pilot	Emirates	09:00-13:00
10	jeet	Pilot	air india	11:00-03:00
1011	Shadat Ahmed ...	Pilot	Qatar Airways	11:00-03:00
1012	Mohonto Kuma...	Air Hostage	us bangla	16:00-23:00
1013	Arafat	Co-Pilot	Turkish Airlines	16:00-23:00
1014	Mursalin	Pilot	Turkish Airlines	16:00-23:00
NULL	NULL	NULL	NULL	NULL

### Flight Table Query:



### Flight Table Data:

[illegible]

The screenshot displays the SQL Server Enterprise Designer interface. On the left, the 'Explorer' pane shows the project structure with folders for 'Tables', 'Views', 'Stored Procedures', 'Functions', 'Synonyms', 'Types', and 'Assemblies'. The 'Tables' folder is expanded, showing a table named 'Ticket\_info'. The main workspace shows the 'Design' view of the 'Ticket\_info' table. The table has the following columns:

Name	Data Type	Allow Nulls	Default
Id	int	<input type="checkbox"/>	
From	varchar(50)	<input checked="" type="checkbox"/>	
To	varchar(50)	<input checked="" type="checkbox"/>	
Quantity	int	<input checked="" type="checkbox"/>	
Date	date	<input checked="" type="checkbox"/>	
Flight_Name	varchar(50)	<input checked="" type="checkbox"/>	
Price	int	<input checked="" type="checkbox"/>	
Total	int	<input checked="" type="checkbox"/>	

The 'Script File' dropdown is set to 'dbo.Ticket\_info.sql'. The 'Design' tab is active, showing the table structure. The 'Script' tab is also visible, showing the following T-SQL code:

```

1  CREATE TABLE [dbo].[Ticket_info] (
2  [Id] INT NOT NULL,
3  [From] VARCHAR (50) NULL,
4  [To] VARCHAR (50) NULL,
5  [Quantity] INT NULL,
6  [Date] DATE NULL,
7  [Flight_Name] VARCHAR (50) NULL,
8  [Price] INT NULL,
9  [Total] INT NULL,
10 PRIMARY KEY CLUSTERED ([Id] ASC)
11 );

```

The status bar at the bottom indicates '67 %' and 'No issues found'.

[illegible]

## Graphical User Interface (GUI):

### User Registration:



The registration form is titled "WELCOME TO ECLIPS AVIATION" and features a background image of an airplane flying over a city skyline at sunset. The form includes input fields for USERNAME, NAME, EMAIL, PASSWORD, CONFIRM PASSWORD, CITY, AREA, COUNTRY, PASSPORT NO, and PHONE. A "REGISTER AS" dropdown menu allows users to select between PASSENGER, CREW, and ADMIN. A link for "ALREADY HAVE AN ACCOUNT" is provided, and a prominent "REGISTER" button is at the bottom center. The Eclips Aviation logo is in the top left, and a red 'X' logo is in the top right.

**WELCOME TO ECLIPS AVIATION**

**REGISTER AS**

- ☐ PASSENGER
- ☐ CREW
- ☐ ADMIN

**USERNAME**

**NAME**

**EMAIL**

**PASSWORD**

**CONFIRM PASSWORD**

**CITY**

**AREA**

**COUNTRY**

**PASSPORT NO**

**PHONE**

**ALREADY HAVE AN ACCOUNT**

**REGISTER**

**eclips AVIATION**

### User Login:



The login form is titled "WELCOME TO ECLIPS AVIATION" and features a background image of an airplane flying over a city skyline at night. The form includes input fields for USERNAME and PASSWORD. A "SHOW PASS" checkbox is located next to the password field. A link for "DON'T HAVE AN ACCOUNT?" is provided, and a prominent "LOGIN" button is at the bottom center. The Eclips Aviation logo is in the top left, and a red 'X' logo is in the top right.

**WELCOME TO ECLIPS AVIATION**

**USERNAME**

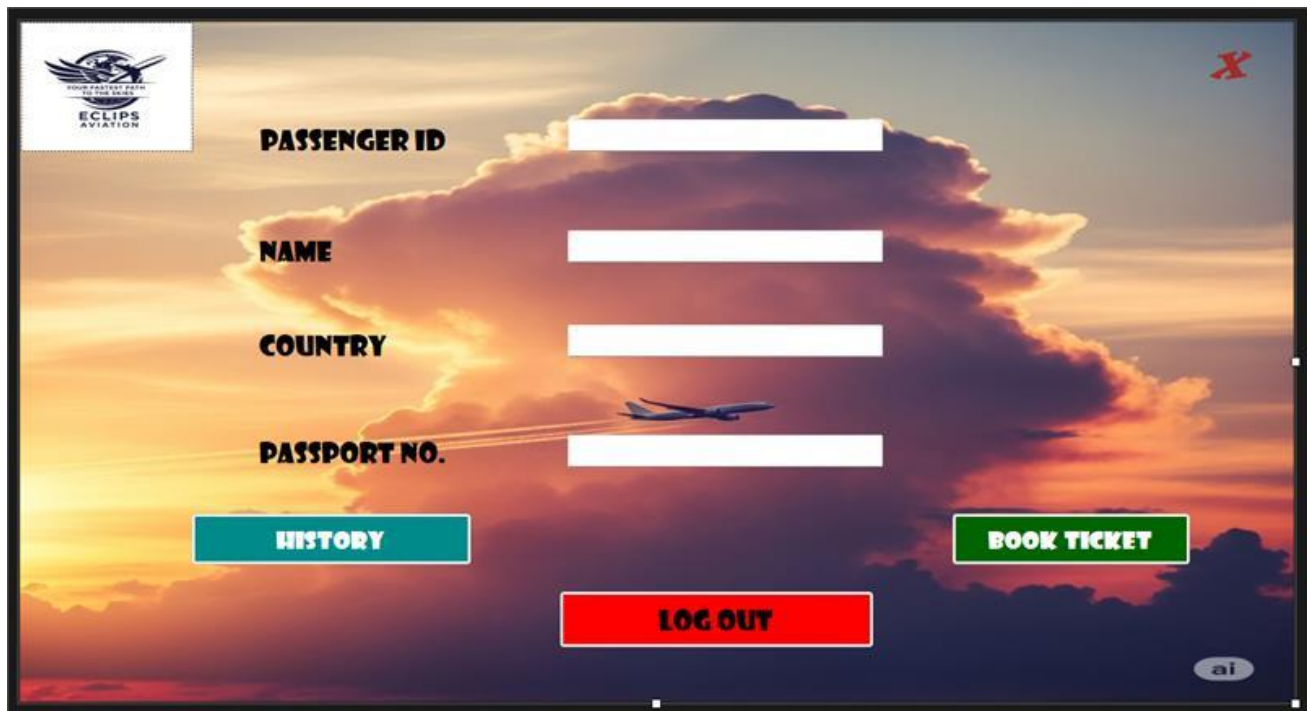
**PASSWORD**

☐ SHOW PASS

**DON'T HAVE AN ACCOUNT?**

**LOGIN**

Passenger:



The Passenger login interface features a sunset background with a small airplane flying across the sky. In the top left corner is the ECLIPS AVIATION logo, and in the top right is a red 'X' icon. The form includes four input fields: PASSENGER ID, NAME, COUNTRY, and PASSPORT NO., each with a white text box. Below these fields are three buttons: a teal 'HISTORY' button, a green 'BOOK TICKET' button, and a red 'LOG OUT' button. A small 'ai' logo is in the bottom right corner.

**PASSENGER ID**

**NAME**

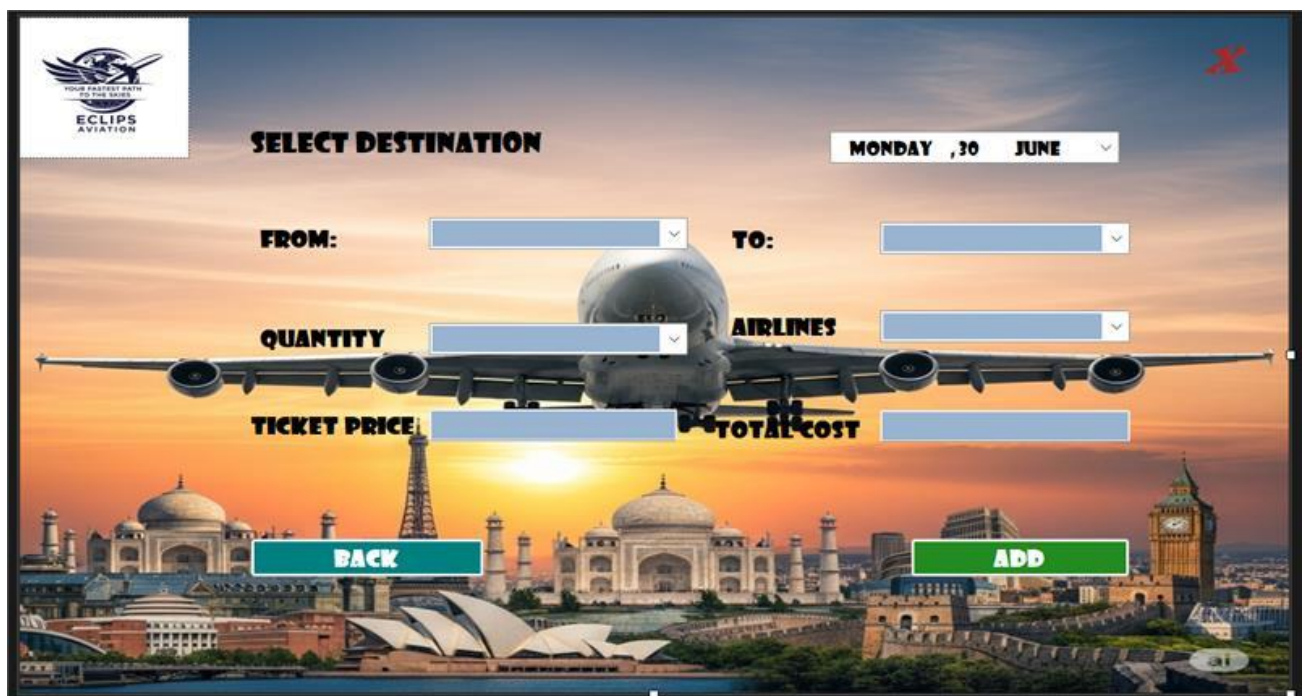
**COUNTRY**

**PASSPORT NO.**

**HISTORY** **BOOK TICKET** **LOG OUT**

ai

Ticket Booking:



The Ticket booking interface features a sunset background with a large airplane flying over a cityscape that includes the Eiffel Tower, the Taj Mahal, and Big Ben. In the top left corner is the ECLIPS AVIATION logo, and in the top right is a red 'X' icon. The form includes a date selector showing 'MONDAY ,30 JUNE' with a dropdown arrow. Below this are 'FROM:' and 'TO:' labels with corresponding dropdown menus. Further down are 'QUANTITY' and 'AIRLINES' labels with dropdown menus. At the bottom are 'TICKET PRICE' and 'TOTAL COST' labels with input fields. Two buttons, 'BACK' (teal) and 'ADD' (green), are positioned at the bottom. A small 'ai' logo is in the bottom right corner.

**SELECT DESTINATION** **MONDAY ,30 JUNE**

**FROM:**  **TO:**

**QUANTITY**  **AIRLINES**

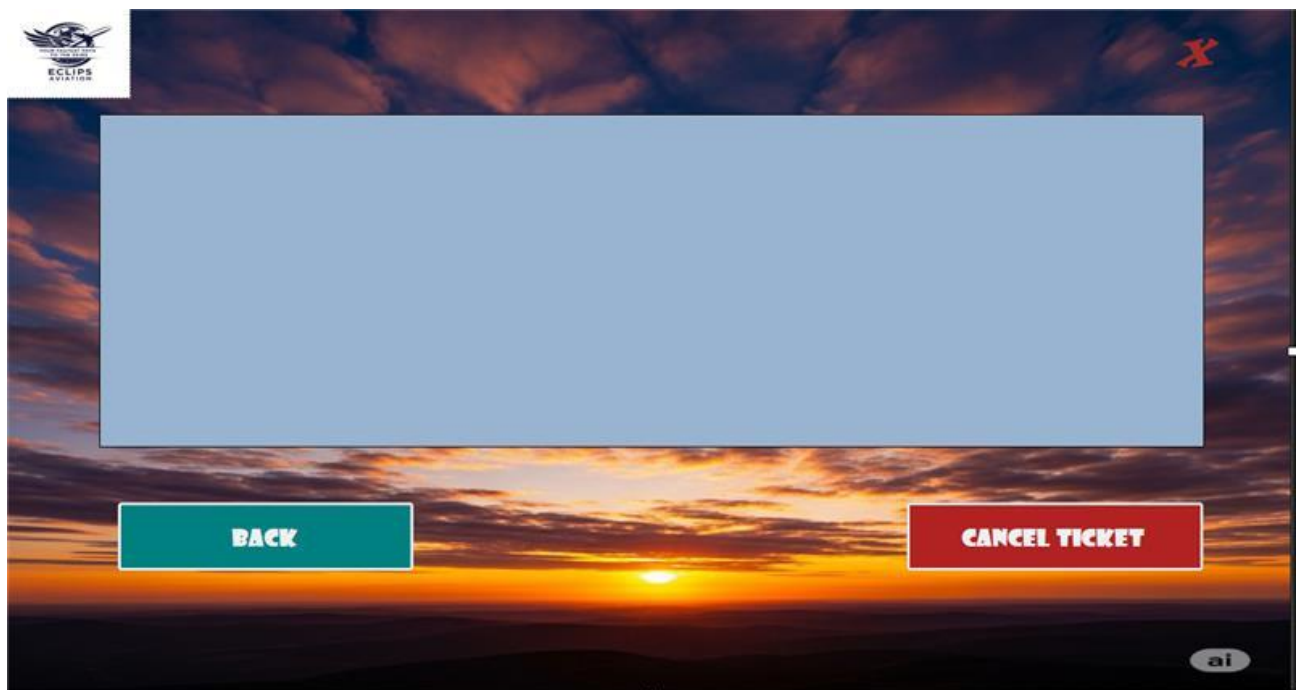
**TICKET PRICE**  **TOTAL COST**

**BACK** **ADD**

ai

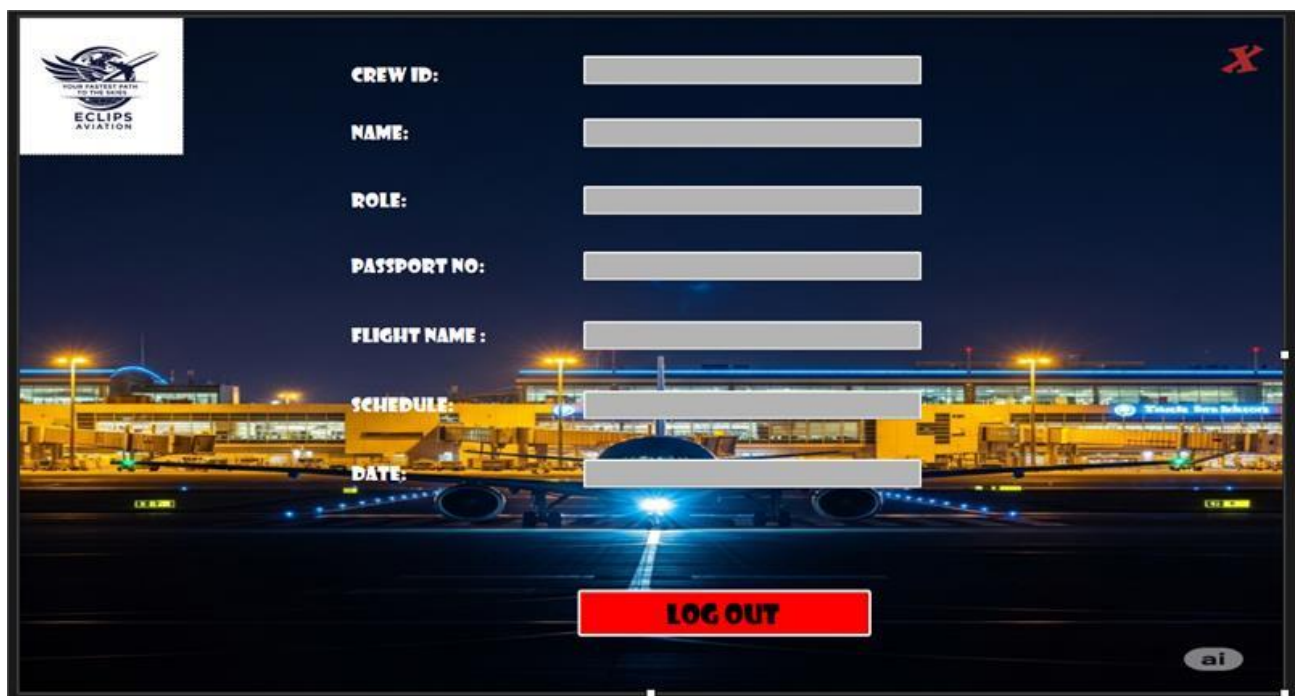


## Ticket Booking Grid View:



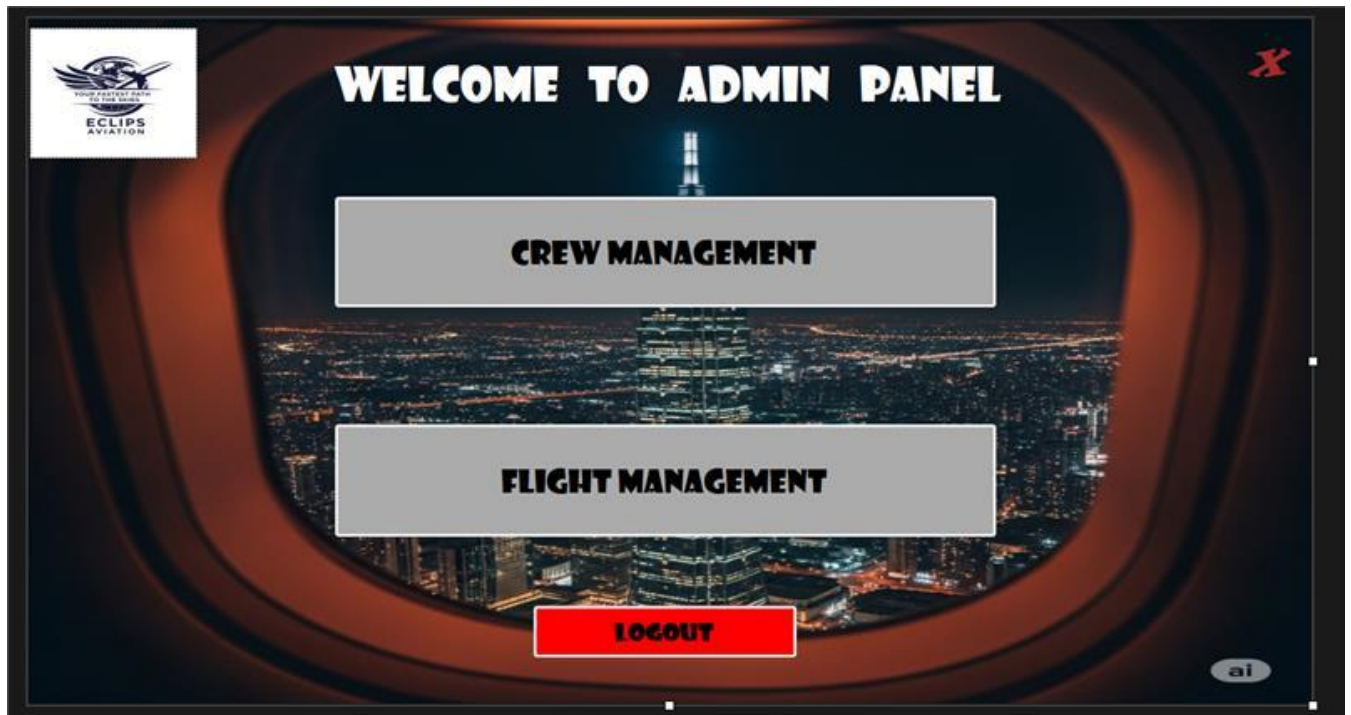
A screenshot of a web application interface for ticket booking. The background is a sunset over a horizon. In the top left corner is the ECLIPS AVIATION logo. In the top right corner is a red 'X' icon. A large, empty light blue rectangular box occupies the center of the screen. At the bottom, there are two buttons: a teal button labeled 'BACK' on the left and a red button labeled 'CANCEL TICKET' on the right. In the bottom right corner, there is a small circular icon with the letters 'ai'.

## Crew:



A screenshot of a web application interface for crew login. The background is a night view of an airport tarmac with a plane. In the top left corner is the ECLIPS AVIATION logo. In the top right corner is a red 'X' icon. The form contains the following fields and labels: 'CREW ID:' with a text input field, 'NAME:' with a text input field, 'ROLE:' with a text input field, 'PASSPORT NO:' with a text input field, 'FLIGHT NAME :' with a text input field, 'SCHEDULE:' with a text input field, and 'DATE:' with a text input field. At the bottom center is a red button labeled 'LOG OUT'. In the bottom right corner, there is a small circular icon with the letters 'ai'.

## Admin Panel:




## Crew Management:

The Crew Management interface features a background image of an airplane on a runway at sunset. The form includes the following fields and buttons:

- CREW ID**: Text input field.
- SEARCH**: Green button.
- NAME**: Text input field.
- ROLE**: Dropdown menu.
- FLIGHT NAME**: Dropdown menu.
- SCHEDULE**: Text input field.
- BACK**: Green button.
- SAVE**: Green button.

The interface also includes a logo in the top left corner and a small "ai" icon in the bottom right corner.

Flight Management:



MONDAY ,30 JUNE 2025

FLIGHT ID

FLIGHT NAME

FROM

TO

PRICING

SCHEDULE

BACK

UPDATE

Contact Details:

ABOUT US



YOUR FASTEST PATH TO THE SKIES.

ECLIPS AVIATION

YOUR FASTEST PATH TO THE SKIES.

SINCE-2024

PARTNERS







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HEAD OFFICE







DUBAI, UAE

NYC, USA

DHAKA, BD

CABIN FEATURES

FIRST CLASS



BUSINESS CLASS



PREMIUM ECONOMY



BACK TO LOGIN



