EAST WEST UNIVERSITY

PROJECT PROPOSAL

ON

Airline Management System

Submitted in partial fulfillment of the requirement for the semester Spring2025

COURSE CODE: CSE412; SECTION:02

Of

BACHELOR OF SCIENCE

IN

COMPUTER SCIENCE AND ENGINEERING

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TABLE OF CONTENT

TEAM MEMBERS & ROLES

Name	*Student ID*	*Roles*
Seaum Insaniat Swapnil	2021-2-60-016	Requirement Analyzer & Documentation Manager
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PROJECT OVERVIEW

Airline Management System is a web-based application that automates airline operations. It has two modules:

1. **Passenger Module:** Users can search flights, book tickets, make payments, receive e-tickets, and manage reservations.
2. **Admin Module:** Airline staff can efficiently manage flights, schedules, and passenger records.

Purpose: Enhances customer experience, streamlines operations, and reduces manual errors.

Problem Solved: Eliminates inefficiencies, minimizes errors, and improves overall efficiency and customer satisfaction.

OBJECTIVES

- To develop a **user-friendly interface** for passengers to book and manage their flights.
- To create an **admin dashboard** for managing flight schedules, ticket bookings, and passenger details.
- To automate **ticket booking, cancellations, and modifications** to improve efficiency.
- To provide a **secure and reliable system** for managing airline operations.
- To integrate **payment gateways** for secure transactions.
- To ensure **role-based access control**, distinguishing between passengers, airline staff, and administrators.
- To maintain a **well-structured database** for handling airline-related information.

SCOPE

In Scope:

- **User Registration & Authentication:** Secure login system for users and admins.
- **Flight Search & Booking:** Users can search flights based on date, destination, and airline.
- **Real-Time Seat Availability:** Display available seats for each flight.
- **Payment Integration (for Simulation):** Secure payment options for ticket booking.
- **Admin Dashboard:** Manage flights, bookings, and passenger records.
- **Check-in & Boarding Pass Generation:** Passengers can check in and get a boarding pass.
- **Cancellation & Refund Management:** Users can cancel tickets with refund policies.
- **Notifications & Alerts:** Email or SMS notifications for booking confirmation and flight status.

Out of Scope:

- **Real-time Flight Tracking:** The system will not provide real-time tracking of flights.
- **Third-party Airline Integration:** No integration with external airline systems.
- **Advanced Security Features:** No biometric authentication or blockchain implementation.

Proposed Methodology

The project will follow the **Agile Software Development Model**, ensuring iterative and flexible development. Key phases include:

1. **Requirement Analysis & Planning:** Understanding system requirements, preparing documentation, and setting up a development plan.
2. **Design & Prototyping:** Creating wireframes, database schema, and system architecture.
3. **Development:** Implementing the frontend, backend, and database.
4. **Testing & Debugging:** Conducting unit testing, integration testing, and user acceptance testing.
5. **Deployment & Evaluation:** Deploying the system on a local server for evaluation and feedback.

Expected Technologies

- **Frontend:** HTML, CSS, JavaScript (Bootstrap for styling) / React js
- **Backend:** PHP / Express js
- **Database:** MySQL/ MongoDB
- **Other Tools:** AJAX, jQuery, GitHub for version control, XAMPP for local testing

Tentative Timeline

TASKS	Timeline (week)						
	1	2	3	4	5	6	7
Requirement gathering & UI design							
Database schema design & backend setup							
Implement flight booking & admin panel							
Payment gateway & user management							
Testing & debugging							
Deployment & final presentation							

Expected Deliverables

- A fully functional **web-based Airline Management System**.
- **Project documentation** including requirement specifications, system design, and user manuals.
- **Admin and passenger user guides** for smooth operation.
- **Final report** covering project objectives, challenges, and solutions.
- **Presentation slides** for project demonstration.
- **Test Cases & Reports** outlining test scenarios and results.

Potential Risks

- **Security Risks:** Data breaches or unauthorized access.

  (Solution: Implement secure authentication and data encryption**.)**

- **Technical Challenges:** Issues with integrating payment gateways.

  (Solution: Use well-documented APIs like PayPal Sandbox.)

- **Time Constraints:** Meeting deadlines with limited resources.

  (Solution: Follow Agile methodology and set achievable milestones.**)**

- **User Acceptance Issues:** Complexity in system usage.

  (Solution: Implement an intuitive UI with proper documentation.**)**

- **Scalability Issues:** Managing large datasets if user base increases.

  (Solution: Optimize database queries and use indexing.**)**