NORTH SOUTH UNIVERSITY

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

PROJECT PROPOSAL

"Airline-ticket-management-System"

DATABASE SYSTEM LAB

CSE311L

SECTION: 5

SEMESTER: SUMMER 2024

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Submission Date : 16-09-24

Introduction

Traveling by air is becoming increasingly popular worldwide, and Bangladesh is no exception. However, booking flights online in Bangladesh often lacks the flexibility and information transparency that customers seek. While some online platforms allow users to book flights, they often do not provide detailed information about flight classes or the option to filter airlines. This web application aims to fill that gap, providing customers with the ability to book airline tickets easily and customize their search based on class and airline. Additionally, the platform will offer a secure, password-protected admin interface to manage flight data and prices.

Objective

- **Convenient Booking**: Users will be able to easily search for and book flights from the comfort of their homes.
- **Flight Class Selection**: Users will have the option to choose between Economy, Business, and First Class tickets.
- **Airline Filter**: Customers will be able to filter available flights by their preferred airline.
- **Admin Access**: A secure admin interface will allow the airline or travel agency to manage flights and pricing.
- **User-Friendly Search**: Flight results can be sorted by price to help users find the most affordable options.

Target Customers

- **General Users**: Individuals looking to book flights will be able to search for flights based on departure city, destination city, and travel dates. They can also sort by price, choose a flight class, and filter by airline.
- **Admin Users**: The admin users, typically airline managers or travel agency staff, will be able to log into a password-protected interface to manage flight data, add new flights, and adjust ticket prices.

Value Proposition

This platform will provide a seamless flight-booking experience for users, allowing them to customize their searches with detailed filters and sorting options. Admin users will benefit from the ability to easily manage flight information in a secure, password-protected environment. The addition of flight class selection and airline filtering will differentiate this platform from other basic flight-booking websites, adding more value to the customer experience.

Web Application Features and Descriptions

The web page will open with a general user interface for customers to search for flights. The landing page will showcase all available routes and flights. The key features include:

For General Users:

- **Flight Search**: Users can search for flights by entering their departure city, destination city, and travel dates.
- **Flight Class Selection**: Users can select their preferred flight class (Economy, Business, or First Class).
- **Airline Filter**: Users can filter flights by airline to see flights from specific carriers.
- **Sort by Price**: Users can sort flight options based on ticket prices to find the most affordable or premium options.
- **Booking History**: Users can view their past bookings after creating an account.

For Admin Users:

- **Flight Management**: Admin users can add new flights, update flight details, and set prices.
- **Secure Access**: The admin interface is password-protected, ensuring that only authorized personnel can access it.
- **Flight Status**: Admins can view the current status of available flights.

Tools and Resources

- **HTML**: For structuring the front-end interface.
- **JavaScript**: For interactive elements on the site, including search filters and form validation.
- **MySQL**: For managing the back-end database that stores flight details, bookings, and user data.
- **PHP**: For server-side logic, connecting the front-end to the database.
- **XAMPP (Web Server)**: For local development and hosting the database.

Challenges

- **Data Volume**: Managing a large volume of flight data and user bookings could result in efficiency issues. Efficient database structuring will be necessary to ensure the system scales well.
- **Data Validation**: Ensuring the accuracy of flight information, including prices, routes, and dates, will require robust validation checks.
- **UI Design**: The user interface must be simple and intuitive so that users can easily search and book flights.
- **Security**: Ensuring the security of user information, including admin passwords and flight bookings, will be a critical concern. Data encryption and secure session handling will be required.
- **Interactive Web Design:** Without the proper knowledge of specific languages such as JavaScript, it will prove to be rather difficult to develop an interactive and effective website with all the functionalities we plan on providing.