CMPE 232 – Sections 01/02/04

Database Systems

Group 14

Flight Booking System Database

Project Proposal Abstract

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# Introduction

In this report, we focus on the fundamental aspect of the flight reservation system’s database design. Our goal is to establish a structured and efficient data architecture to support flight bookings. Through Entity Relationship Diagrams and Relational Models, we aim to optimize data management and enhance the overall user experience within the database.

The database serves as the backbone of the Flight Booking System, ensuring secure data storage and the seamless operation of airline reservations. This report delves into the specifics of our database design, emphasizing the crucial role of structured data management in the success of the broader Flight Booking System.

# Project Overview

Our project aims to simplify the process of flight reservation by implementing a strong database structure. The main objective is to create a highly efficient and user-centric website that simplifies traveler flight booking experience and empowers airlines to manage reservations seamlessly. The system is composed of a well-organized database of six basic tables, such as **Flight**, **Passenger**, **Airport**, **Ticket**, **Payment**, and **Airline**.

Here is a short description of each attribute of the tables:

* In the Flight Table, **FlightID** uniquely identifies flights, while **FlightNumber** is the flight's code. **Departure** and **Arrival** specify locations, and **DepartureTime** and **ArrivalTime** record the departure and arrival times.
* The Airport Table uses **AirportID** as the unique identifier and **Name** for the airport name. **Country** and **City** represent the geographical details.
* In the Ticket Table, **TicketID** is a unique identifier, **FlightID** connects to flights, and **PassengerID** links to passengers. **SeatNumber** represents the assigned seat, and **BookingDate** is the reservation date.
* The Passenger Table employs **PassengerID** as the unique identifier. FullName combines **FirstName** and **LastName**. **DateOfBirth** captures birthdates, **Gender** records gender, and Email, **PhoneNo**, and **Address** store contact and location details.
* The Payment Table uses **PaymentID** as the unique identifier, **TicketID** links to tickets, and **AmountPaid** records the payment amount.
* In the Airline Table, **AirlineID** uniquely identifies airlines, and **Name** specifies the airline name.

Overall, the project's main objective is to simplify the booking process for travelers by offering complete tools for airlines to successfully manage bookings. We strive to improve the entire airline experience by offering safe and well-organized databases containing a wealth of information about flights, passengers, tickets, payments, and airline details. This database-driven system enables passengers to simply search for flights, make bookings, and finalize payments, while airlines can efficiently manage their schedules and reservations.