Project Report on

Airline Reservation System

Introduction

The Airline Reservation System is a comprehensive database solution designed to manage various aspects of airline operations including flight scheduling, customer information, seat availability, and reservation handling. The primary goal is to streamline the booking process, ensure accuracy in seat allocation, and facilitate efficient data-driven decisions. The system is implemented using MySQL and provides a backend framework that can support a real-time reservation interface for both customers and administrators.

Abstract

This project builds a normalized relational database to store and manage airline-related data. It includes tables for flights, customers, seats, bookings, and payments, all interconnected with appropriate keys and constraints. The use of SQL ensures the implementation of business logic through views, stored procedures, and triggers. Views were used to simplify data access such as real-time seat availability. Stored procedures automate tasks like booking confirmations, while triggers ensure that business rules (e.g., automatic seat status update) are enforced consistently. A set of queries and reports were created to analyze booking trends and generate summaries for administrative review.

Tools Used –

MySQL Workbench: For designing and visualizing database schemas.

- MySQL Server: To store, retrieve, and process data.

- SQL: Structured Query Language used for defining, querying, and manipulating relational data.

Conclusion

The Airline Reservation System project demonstrates how relational databases can effectively manage complex airline operations. The use of a normalized schema ensures that data remains consistent and reliable. The integration of views, stored procedures, and triggers provides advanced capabilities that improve the system's automation, security, and user experience. Additionally, comprehensive reports offer insights that can aid business decisions and operational planning. The system can be enhanced further by integrating a user-friendly frontend interface and real-time payment processing features, making it suitable for commercial deployment.