

FLIGHT RESERVATION SYSTEM - BRIEF DESCRIPTION

A Java Swing desktop application for managing flight bookings with role-based access control.

FUNCTIONALITY:

Customers can search flights, select seats, make reservations, process payments, and view booking history. Flight agents can manage customer accounts and reservations. System administrators can manage flights, aircraft, airlines, airports, routes, and generate reports.

ARCHITECTURE:

3-Tier Architecture:

- Presentation: Swing GUI with ViewManager for navigation
- Business Logic: Service layer (CustomerService, FlightService, ReservationService, PaymentService, AdminService)
- Data Access: DAO pattern with MySQL database

KEY FEATURES:

- Role-based access (Customer, FlightAgent, SystemAdmin)
- Complete booking workflow: Search → Seat Selection → Payment → Confirmation
- Seat availability tracking and management
- Payment processing with multiple methods
- Ticket generation with barcodes
- Membership status tracking (Regular, Silver, Gold, Platinum)

TECHNOLOGY:

Java, Swing, MySQL

DESIGN:

- Views interact only with services, never DAOs directly
- Business logic encapsulated in service classes
- Database operations isolated in DAO implementations
- Dependency injection for service-DAO relationships