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# AIRLINE RESERVATION SYSTEM

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## CS401 – MPP – PROJECT PROPOSAL

### Project Title: Airline Reservation system

#### Goal

The goal of this project is to have practical experience with OO analysis and design. By design this First small System

#### Project Team:

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#### Working as a team

As required to work as team to create this project. We need to work together and share responsibilities and workload, and experience working on team same as company project.

#### Airline Reservation System

We are trying to create an “Airline Reservation System”. A full list of use-cases can be found in the following pages.

#### Problem Statement / Description

**Air travel** can be stressful, as the demand of travelling is getting higher, we need to provide the best solution for the airline and the potential guest to book, monitor and manage their own details on their convenience. Manual booking is prone to error and can lead also for double rebooking. In many occasions manual booking is very impractical and may cause big waste of time if it was not being monitored real time. It might lead with jammed passenger or have not enough empty space.

An airline booking system is a very reliable solution to track the growth of the business real-time, avoid double bookings, track the agent commissions, see the staffs/pilot of the flights, and connect with other airline in terms of scheduling for the flights or any activities. It is also very useful to check your inventory with regards to number of seats and sales and will allow you to track the staff individual activities. Most of all this is a faster and most convenient technology to gather details about your guests before they arrive in preparation for their flight.

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## Requirements

- An **Airline** has an id, code ("UA"), name ("United Airlines") and history (brief history of airline).
- An **Airport** has an id, a three-letter code (e.g., CID), name ("Eastern Iowa Airport") and **Address**
- An **Address** has an id, street, city, state, and zip code.
- A **Flight** has an id, number ("1248"), capacity (number of seats), belongs to an Airline and is between a departure Airport and an arrival airport. Also, has a departure & arrival time.
- A **Flight Instance** is an instance of a Flight on a particular date. It has an id, date, list of passengers, list of crews (flight staff), list of pilots (usually there are at least two or more)
- An **Agent** can manage multiple passengers. Agent ID is mentioned in the reservation record.
- A **Passenger** has an id, first name, last name, date of birth, email address and residence address.
- A **Reservation** connects a passenger to multiple flight instances to get from point A to B.
- A **Ticket** has an id, number (twenty-digit -random- number), reservation code (6 character alphanumeric), flight instance and connects a passenger to a single flight.

## Use-cases.

Main functions for the flight System:

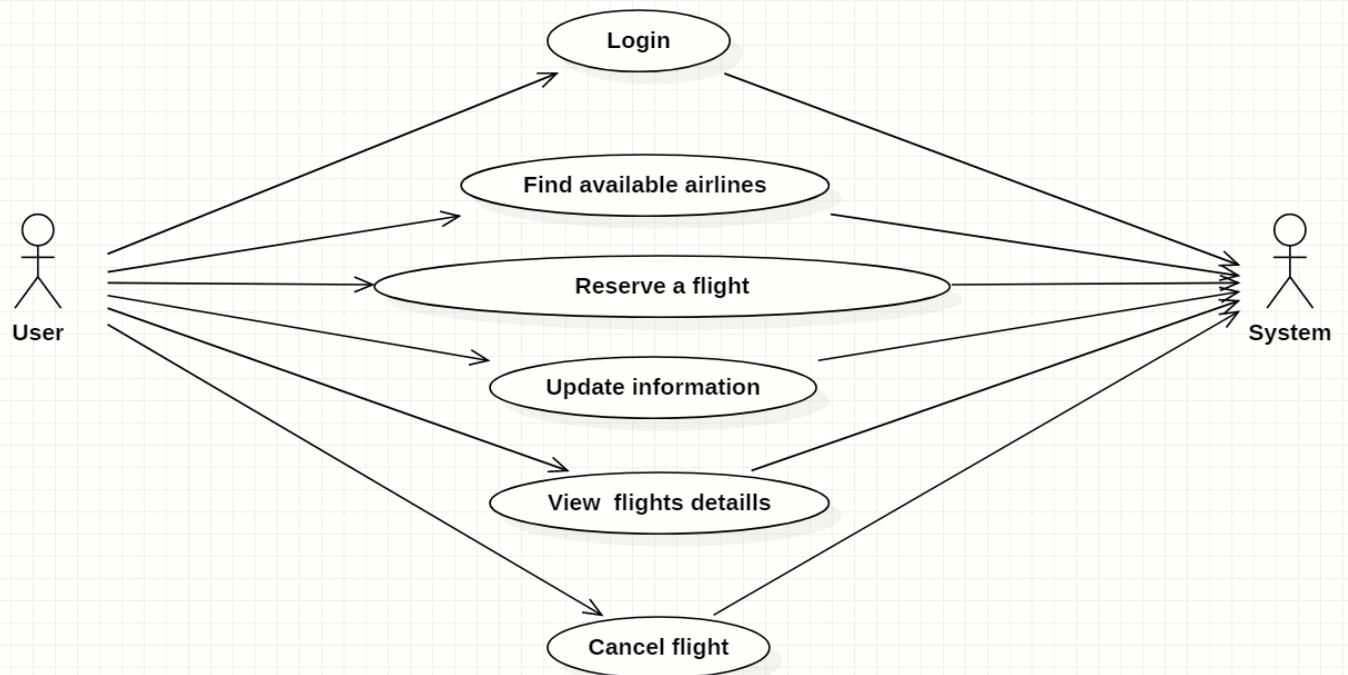
1. **Login:**
  - a. User **passenger** login into the system to see List of flights.
  - b. User **admin** sign in system to perform CRUD operations on all resources.
  - c. User **agent** login into the system to check out passenger's information.
2. **Reserve a flight.**
  - a. User reserves a flight using passenger information and country city of destination.
3. **Cancel flight.**
  - a. Users cancel a flight.

Beside of main functions above, our system would support some optional use case:

1. **View and update passengers' information.**
  - a. User **Admin** or agent update list of passengers.
  - b. Admin, **agent**, or passenger update flight information.
2. **View flights details**
  - a. Users view reserved list of flights.
  - b. User view flight details by clicking on the list or using passenger information.

## Use Case Diagram

User Diagram for Flights System



## Class diagram

