# Requerimientos del Sistema

El siguiente documento contiene el formato de la especificación del proyecto de ejemplo, los requerimientos funcionales y las tareas de usuarios que la aplicación de base de datos permitirá. Este documento servirá de guía para elaborar el primer entregable del proyecto y de base para elaborar los modelos de datos del proyecto del curso.

## Introduction In this project

You will design and implement a relational database system to support the operations of an “**online travel reservation system” (change for your project)**. Many resources and recitations will be provided about how to do everything. You are to work in teams of three.

## Project Specification

As you probably know, there are a multitude of online travel reservation systems on the web. Some popular ones are expedia, skyscanner and kayak. I suggest that you visit these web sites to get an understanding of the look-and-feel of a travel web site and how such a system is supposed to function

The basic idea behind your on-line travel reservation system is that it will allow customers to use the web to browse/search the contents of your database (at least that part you want the customer to see) and to make flight reservations over the web. Your web site should allow users to make both domestic and international reservations. It should also allow users to query the database for available flights (direct or indirect) between a pair of cities for a given date and "approximate" time.

## 1 System Users

The users of your system will be the **customers** (passengers) that use your system to make a flight reservation, **customer representatives** who provide customer-related services, and the site's admin You should assume that the computer knowledge of the users is limited, and thus your system must be easy to access and operate. The data items required for the travel reservation database can be classified into six categories: airlines, aircrafts, airports, flights, tickets, customers and employees

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## 2 Functional Requirements

Every airline company owns a number of aircrafts and it is associated with a number of airports from where it operates. Each airline has a two-letter ID from which it is being identified uniquely For example, the ID for American Airlines is AA, and the ID for United Airlines is UA. Similarly, each airport has a three-letter ID. For example, EWR, LGA, and JFK are well known local airport codes.

A flight is operated by an airline and a specific aircraft, and operates on a given set of days of the week (e.g. every Monday, Wednesday). Flights can either be domestic or intemational. For every flight, it must be recorded its flight number (unique only within that airline), the departure and destination airports, as well as the departure and arrival time.

Customers should be able to make reservations, buy tickets and if there are not available seats for a specific flight, they should be able to get into the flight's waiting list. Customers should first be able to search for specific flights by providing information about the departure and arrival airport as well as the date they wish to fly. The flight ticket can either be one-way, round-trip and they should be able to set if they are flexible about flight dates (+-3 days).

A flight ticket has a unique number and is for just a single passenger. Each ticket is associated with a sequence of flights. For example a ticket might be associated with just one flight if it is one-way and direct or with 2 flights if it is direct and round-trip or more than 2 if it has stops (either for one-way or round-trip). Each ticket must include all the associated flights and include: from airport, to-airport, flight numbers (along with its airline), departure date and time, special meal ordered, seat number, and class (economy/business/first). It also has the following attributes: total fare, and date and time when ticket was purchased. In case the class of the ticket is economy, the customer should not be able to change/cancel their ticket unless a fee is paid. For business/first class, customers should be able to change their ticket with no fee. Finally, a flight ticket also has an associated booking fee, which is how your company makes money.

A customer may partake in any number of flight transactions and s/he is associated with one account which includes a reservation portfolio, indicating all the flight history held in this account (past flights and upcoming)

Your online reservation system should have the following:

**Task of users**

### Admin-Level Functionality

The admin should be able to

Add, Edit and Delete information for a customer representative or customer

* Obtain a sales report for a particular month
* Produce a list of reservations by flight number or by customer name
* Produce a summary listing of revenue generated by a particular flight, airline or customer
* Determine which customer generated most total revenue
* Produce a list of most active flights (most tickets sold)
* Produce a list of all flights for a given airport

### Customer-Representative-Level Functionality

Customer Representatives should be thought of as reservation agents and should be able to:

* Make flight reservations on behalf of users
* Edit flight reservations for a customer
* Add, Edit, Delete infomation for aircrafts, airports and flights
* Retrieve a list of all the passengers who are on the waiting list of a particular flight .

### Customer-Level Functionality

Customers should be thought of as online airline ticket buyers and should be able to easily browse your online travel reservation system on the web and buy flight tickets. In particular, they should be able to search and make the following types of reservations:

* One-Way
* Round-Trip
* Flexible Date/time

A customer should also be able to:

* sort flights by different criteria (price, take-off time, landing time)
* filter the list of flights by various criteria (price, number of stops, airline)
* cancel their flight reservations (if it is business or first class)
* enter the waiting list if the flight is ful
* view all the past reservations with their details
* view all the upcoming reservations with their details

## 3 User Access Control

Your database system should provide controlled access to the data by distinguishing between the different types of users: admin, customer representatives, and customers.

* Customer Representatives should not be able to perform manager-level transactions;
* A customer should not be allowed access to other customers' account information, or to any employee information

It only has to work! Good luck!