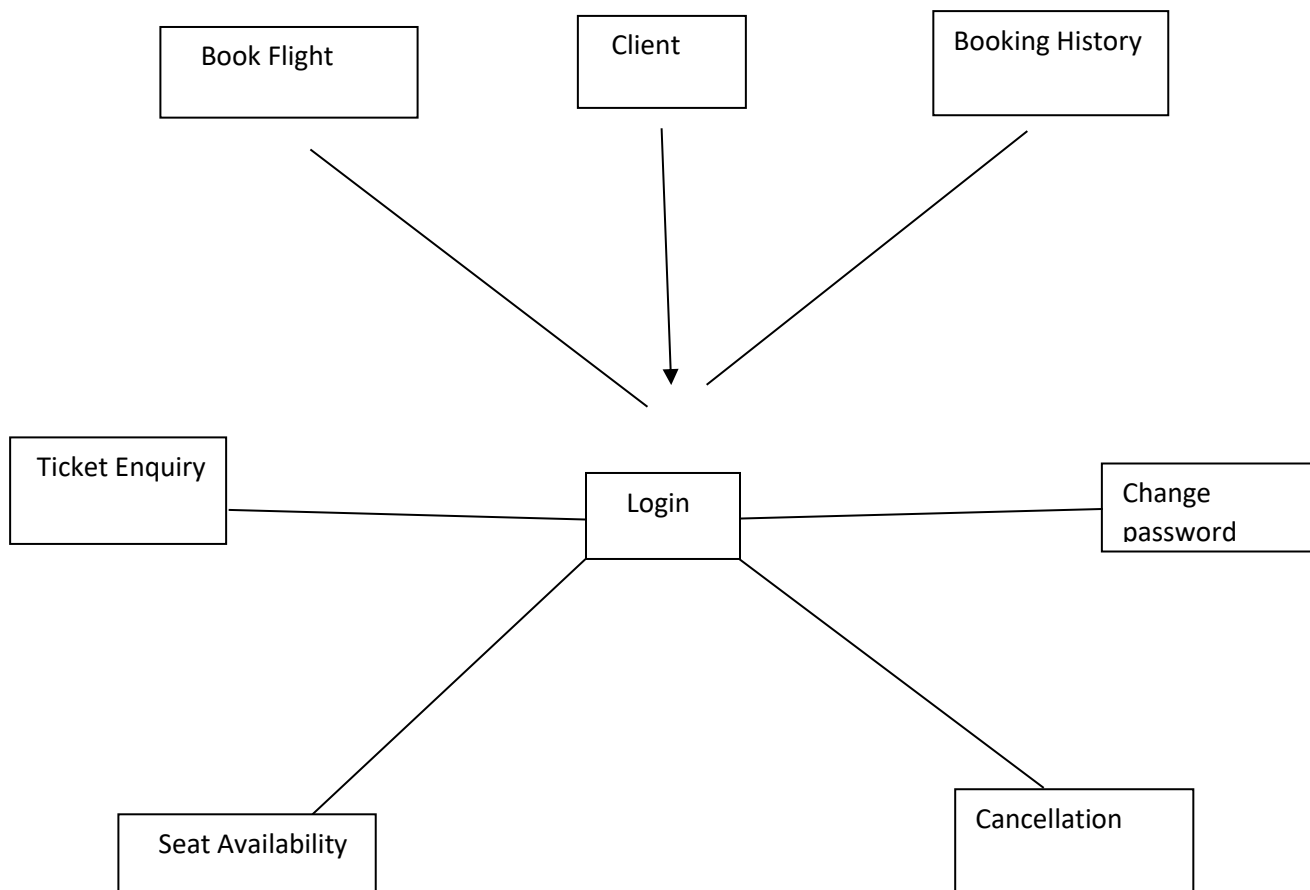


## Statement of the problem

The management of Airline in some country over the years attracted poor patronage as a result of errors inherent in the system. It is no longer a new thing that loss of customers' goods is now the order of the day; the reasons are not far-fetched. Due to this manual procedure involved in Airline management, clients have no other option than to be at the mercy of these error prone procedures. The method of information storage is poor. This limits the number of official documents accessible by the customers because the system is not capable of managing old items of reservations which could be of use to the customer at any time. There is little or no security control system where the customers' goods, document and classified information of the customer could be safe guarded from unauthorized access.



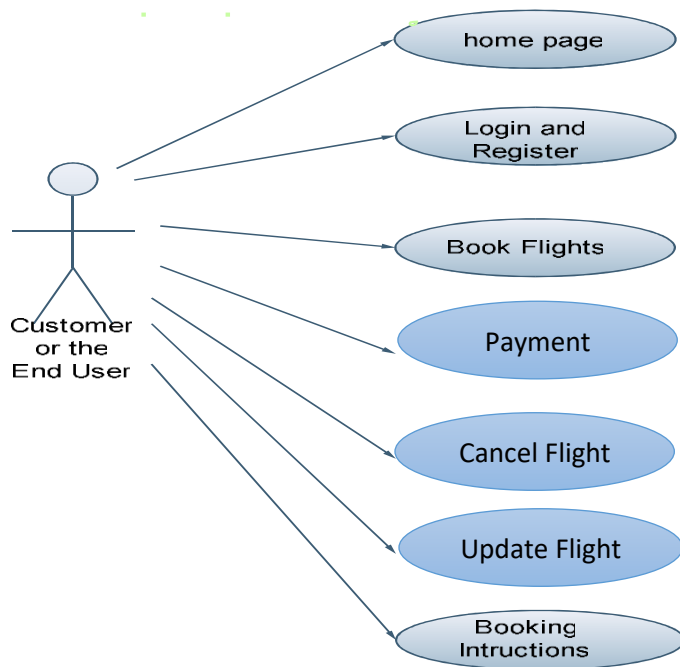
Modules available for Customers

## System Features

The Airline Reservation System has the following features:

This project is mainly intended for two types of audiences. One is the customer or the end user and the other are the administrator of the website. Some of the major functions of the system can be categorized under two different categories that are for the administrator and the user.

### Customer / End user activities



Customer use case diagram

They can be discussed in detail as follows:

**Home Page:** Like all the other airline websites available online, the user can access the user home page of the Airline Reservation System website, after he logs into the system. Here, he can look up information regarding flights schedules.

**Login and Register:** The Airline Reservation System also comes with the customer registration details page, where the customer can enter his details and register. He can also create a username and password. Moreover, he will also be able to modify the registration information in case of a change in his e-mail address or any other information.

**Payment:** The customer can pay for his/her flight ticket using this system by supply in his/her credit card details for transaction.

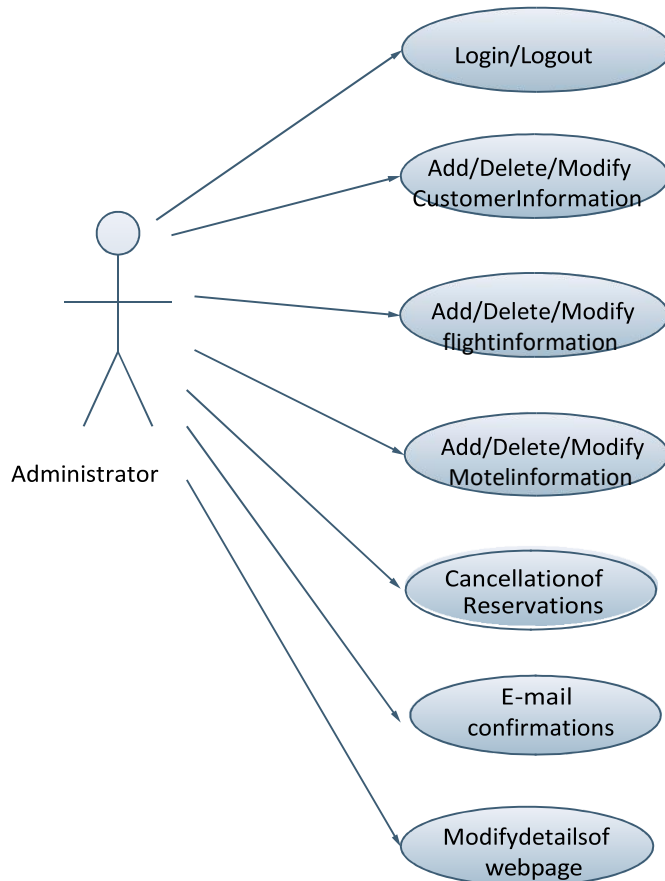
**Cancel Flight:** this is a functional module provided for user to cancel flight in case of any situation that may occur.

**Update Flight:** This functionality is helping the user to modify their flight reservation by changing their departing date date/time or/and arrival date/time.

**Booking Instructions:** The website also provides instructions to the customers on how to book airline tickets or motels along with the different packages.

Some of the functions of the Airline Reservation System, such as creating, maintaining and updating the database are available only to the administrator. The functions of the administrator, explained in detail are as follows:

### 3.5.2 Administrator Activities



Administrator use case diagram

**Login/Logout:** The administrator has to login first in order to be able to make changes to the Airline Reservation System, by adding, deleting or modifying the data in the Airline Reservation System database. After making the necessary changes, he then has to logout of the system, in order to prevent misuse of the data.

**Add/Modify Customer Information:** Daily, the Airline Reservation System will have many customers registering with the website and many of them unsubscribing. Only the administrator will have the sole rights to modify the database accordingly.

**Add/Modify Flight Information:** The Administrator also has the sole rights to add, delete or modify the flight information. Sometimes, flights get cancelled for some reason, so such flights would be removed from the list of flights available to the customer. Similarly, whenever any flight information has to be modified or if any new flights need to be added to the database, these operations are performed by the administrator.

**Cancellation of Reservations:** Sometimes, after making a reservation, a customer might cancel the reservation he has made. So, the administrator also handles such special situations and sends the customer an e-mail confirmation after deleting the specific transaction.

**E-mail confirmations:** Whenever a customer makes or cancels a reservation, the administrator is responsible for sending confirmation e-mails to the customer, confirming the transaction.

## **Functional Requirements**

The functional requirements of the Airline Reservation System are divided among the customer and the administrator of the application.

These functional requirements can be explained in detail as follows:

#### Use Case name: User Registration

- **Description:** This use case describes the scenario where the user registers with the application by providing all the necessary details, in order to make reservations or bookings for flights, motels, special packages.
- **Actor:** User or the Customer
- **Input:** The user or the customer will have to provide all the necessary details present in the customer registration form of the application.
- **Output:** All the details entered in the customer registration page will be verified and accepted by the system into the database.

#### Use Case name: User Login

- **Description:** This use case describes the scenario where the user logs into the application, with the username and password he has provided while registering with the system.
- **Actor:** User or the Customer
- **Input:** The user or the customer creates a username and password at the time of registering with the system. He then uses them to logon to the system and make reservations or view any information.
- **Output:** The application then verifies the authenticity of the username and password that the customer has provided and allows the user to view the information available on the system, if the username and password are valid.

#### Use Case name: Contact the company

- **Description:** This use case describes the scenario where the user contacts the company for any information.
- **Actor:** User or the Customer
- **Input:** The customer can contact the airline company, requesting them for any information he needs.

- **Output:** The application verifies the authenticity of the username and password that the customer has provided and allows the user to view the contact information for the company.

#### **User Case name: Booking Instructions**

- **Description:** This use case describes the scenario where the user views the instructions for booking flights, packages, or motels.
- **Actor:** User or the Customer
- **Input:** After the customer logs onto the application with his username and password, he can look up the instructions posted on the website for booking flights, packages or motels.
- **Output:** The application verifies the authenticity of the username and password and displays the how to book instructions page.

#### **Use Case name: Book Flights**

- **Description:** This use case describes the scenario where the user books airline tickets.
- **Actor:** User or the Customer
- **Input:** After logging into the application, the customer looks up the information related to various airlines and checks the availability of seats on flights. If he finds that there are any available tickets, he then purchases them.
- **Output:** The application verifies the authenticity of the username and password and then displays information related to various flights to the customer.

#### **Use Case name: Cancel Flight**

- **Description:** This use case describes the scenario where the user cancels a reserved flight for one case or the other.
- **Actor:** Customer or the user
- **Input:** After logging onto the application, the customer looks up the website navigation, click flight history. The system requires the user to select the reserved flight to be cancelled.

- **Output:** The system deletes the selected flight reservation of a particular user in the user-reservation database.

The administrator activities use cases will be described here:

#### **Use Case name: Login/Logout**

- **Description:** This use case describes the scenario where the administrator of the application, logs into the system and logs out after the work is done.
- **Actor:** Administrator
- **Input:** The administrator of the website logs into the application with the username and password provided to him.
- **Output:** The application verifies the authenticity and displays the home page of the administrator.

#### **Use Case name: Add/Delete or Modify Customer information**

- **Description:** This use case describes the scenario where the administrator adds, deletes or modifies customer information in the system database
- **Actor:** Administrator
- **Input:** The administrator of the applications logs onto the system with his username and password.
- **Output:** The application authenticates the administrator, and then displays the page where the administrator can add new customers to the database, or delete existing customers or modify details of customers in the database.

#### **Use Case name: Add/Delete or Modify flight information**

- **Description:** This use case describes the scenario where the administrator adds, deletes or modifies flight information in the application database
- **Actor:** Administrator



- **Input:** The administrator logs onto the system with the username and password provided to him.
- **Output:** The application authenticates the administrator, by verifying the username and password. Then the application displays the page where the administrator can add new flights to the database, delete the flights that have been cancelled or modify information for the flights.

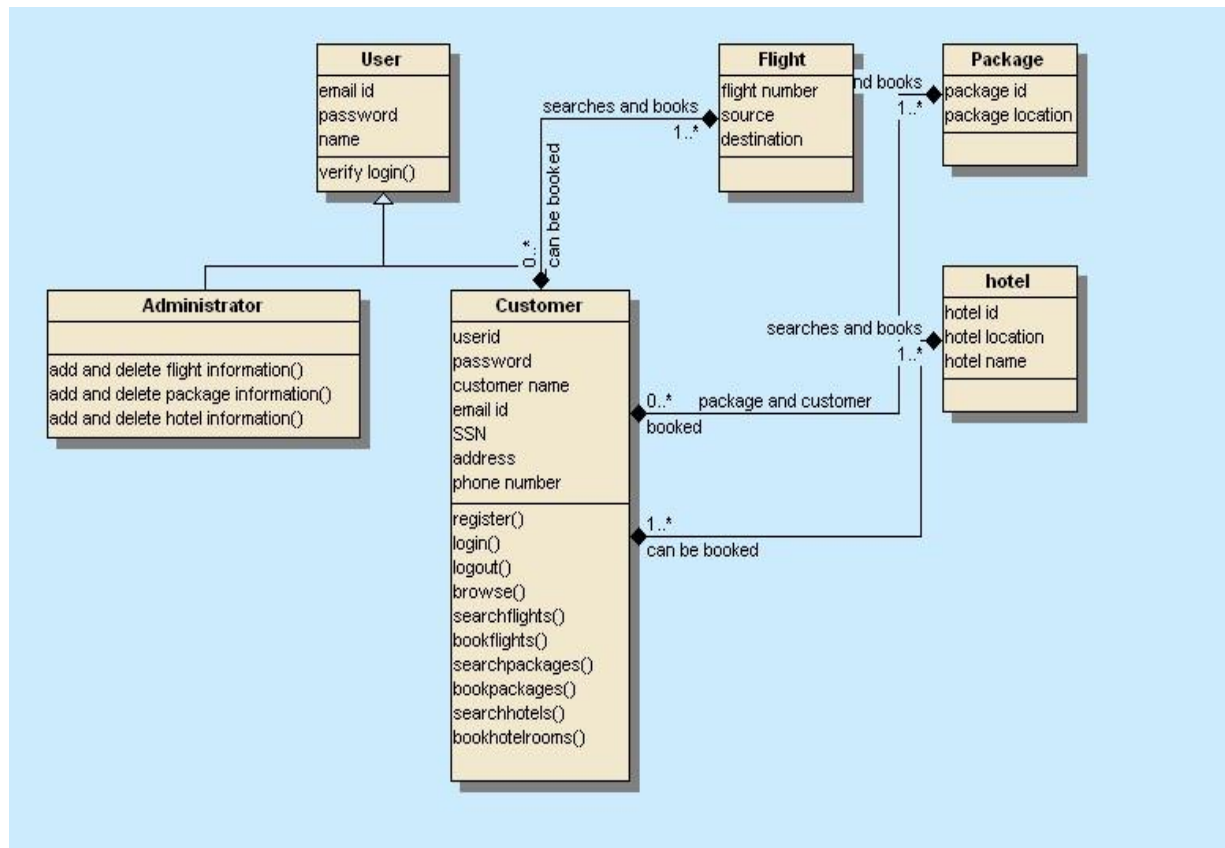
#### **Use Case name: Cancellation of Reservations**

- **Description:** This use case describes the scenario where the administrator handles the cancellation of reservations by the customers.
- **Actor:** Administrator
- **Input:** The administrator logs onto the system with the given username and password.
- **Output:** The application authenticates the administrator and then displays the page where the administrator looks up the id of the customer who has requested cancellation of reservation. After canceling the reservation, the administrator then sends a confirmation e-mail to the customer.

#### **Use Case name: E-mail confirmations**

- **Description:** This use case describes the scenario where the administrator sends e-mail confirmations to the customers of the application.
- **Actor:** Administrator
- **Input:** The administrator logs onto the application with the username and password provided.
- **Output:** The application then authenticates the administrator and displays the page where the administrator can send e-mail confirmations to the customer. These e-mail confirmations may be sent in cases where the customer has cancelled a reservation or changed the personal information available on the website.

## Class Diagram



Airline Reservation System class diagram