COEN 6312

Model Driven Software Engineering

Project Deliverable 2

Domain Description & Requirements

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Project Title: Airline Reservation System

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Domain Description

Airline reservation system is a medium of communication between airline authorities and Customer(end user). Now-a-days online reservation system is vital for any kind of airline business. The airline reservation system helps Customers and admins to book, cancel, postpone, prepone flight ticket booking and to check the status of the flight. We have some addition modules that are represented in the use case diagram below. Customer should be able to book any kind of ticket(Economy, Premium economy, Business class etc.,) that they wish to. To book a ticket the customer should have some prerequisites such as passport(or authorized proof of identity), visa if applied etc.

Firstly, the customer should pass through the authentication/login page. After successful login, customer can use the services provided by the airlines business. Secondly, customer uses the reservation module(the soul purpose of the airline reservation system), where customer searches for the flights by giving the mandatory fields like 'flying from', 'flying to', journey dates, number of tickets and class type of the ticket. After searching, customer selects the flight as per their requirements and reserves the ticket.

Customers sometimes wants to cancel their ticket. So, after successful authentication, customer should be able to cancel the reservation they made and the refund option follows. Terms and conditions of cancelling the reservation are provided to customer while reserving the ticket. Customers are also able to check the flight status of the journey and etc. These are mandatory modules that any airline reservation system should posses.

Some additional features for a user friendly nature of the application is added and represented in the Use case diagram below. Every airline develops their online reservation system as per their business needs. But, every system has customer as a key stakeholder and each development we made is end user centric.

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<u>Use Case Diagram</u>
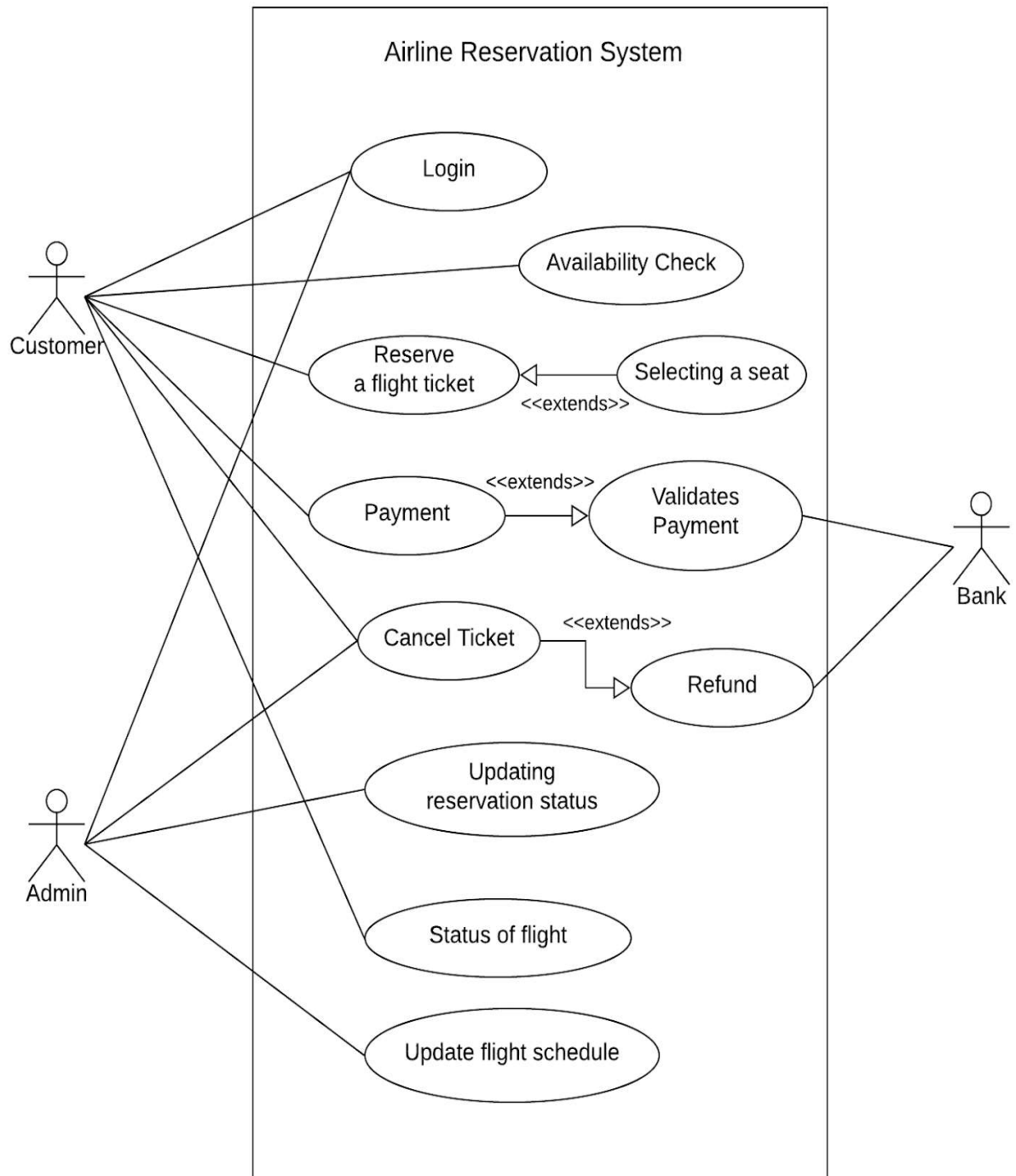
Use Case Description

UC-01 Customer Login	
Use-Case ID	UC-01
Use-Case Name	Customer/Admin login
Actors	Customer and Admin
Description	To verify the credentials
Preconditions	The customer and Admin must be able to access the system.
Post conditions	Successful system login or access to registration tab.
Input	Customer/Admin enters their login details.
Processing	The system verifies whether the customer id and corresponding password entered by the user are valid and correct.
Output	System returns the user to the main page if the credentials are valid.

UC-03 Reserve a Flight Ticket	
Use-Case ID	UC-03
Use-Case Name	Reserve a Flight ticket
Actors	Customer
Description	To book a flight ticket.
Preconditions	The Customer should be logged in to the system.
Postconditions	Customer must be able to reserve a flight.
Input	Customer gives the necessary information to book a flight.
Processing	The system process the information and navigates to the reservation page.
Output	Customer reserves a flight ticket.

UC-05 Payment	
Use-Case ID	UC-05
Use-Case Name	Payment
Actors	Customer
Description	Customer must be able to reserve a ticket by completing the payment successfully.
Preconditions	The Customer must have a valid reservation
Postconditions	The customer successfully makes the payment
Input	The customer makes the payment
Processing	The system process the credit card details of the customer and validates the payment
Output	The customer is now able to book a ticket on completion of successful payment.

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UC-07 Cancel ticket	
Use-Case ID	UC-07
Use-Case Name	cancel ticket
Actors	Customer and Admin
Description	Customer and Admin can be able to cancel a ticket with a proper authentication.
Preconditions	The Customer must have a booking to be cancelled
Postconditions	The Customer and Admin will be able to cancel a flight ticket.
Input	The Customer and Admin provides their authorized information to cancel a flight ticket.
Processing	The system process the information and navigates them to the cancellation page.
Output	The customer and Admin are now able to cancel a ticket by entering the valid details.

UC-09 Updating reservation status	
Use-Case ID	UC-09
Use-Case Name	Updating reservation status
Actors	Admin
Description	Admin must be able to update the status of the reservation of a flight ticket.
Preconditions	The Admin must be validated.
Postconditions	The Admin should be able to update the reservation.
Input	The Admin provides the required information to update the status of a flight reservation.
Processing	The system process the request and updates the information.
Output	The Admin is now able to see the updated status of a reservation.

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UC-10 Status of flight	
Use-Case ID	UC-10
Use-Case Name	Status of flight
Actors	Customer
Description	Customer must be able to check the flight status information after entering the valid details.
Preconditions	The Customer must have a valid reservation to a flight
Postconditions	The Customer should be able to check status of a flight.
Input	The Customer provides the required information of a flight to check its status.
Processing	The system process the information and navigates him to the status page of that flight.
Output	The customer will be able to know the status of the flight..

Functional Requirements of the System

Login/Register:

The Client/admin must be able to enter their details (username, password) and login. Clients who don't have their account can Register.

Availability Check and Reservation:

Client must be able to check required flight for particular month and day. If needed client can also do reservation, so that he won't miss a spot during peak hours.

Payment:

- The Client should be able to make payment for selected flight, as listed in accordance with flight.

- The client will have option to pay either by credit or debit card.

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Cancellation and Refund:

- If the client faces any untoward effects he/she will be able to cancel the flight.
- Cancellation will be done though calling customer service and providing necessary information or submitting online request.
- Cancellation indicates, all the amenities associated with flight will be cancelled.
- Refund will be based on scenario of the each case.
- Actors involved in whole process will be Admin,Client and Bank.

Update Flight Schedule:

- The Admin faculty should be able to update flight schedule depending on cancellation/delay or reschedule of the flight.
- Actor involved will be only Admin.

Update reservation status:

- The Admin must be able to track customer flight status and update them same on his request.
- Admin will be able to process the flight reservation and update status.
- If the client wants to reschedule the flight, admin should be able to cancel and rebook the flight.

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