

Travel Management System

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Title: Travel Management System

Project Summary: A travel management system to enable a traveller to book flight tickets and manage other aspects of his journey such as food, accommodation and commute on the same platform. The customer books for all the services required together. If he so wishes, he could also cancel the booking on the same application.

Framework: Spring

Data Storage: MySQL Database

Project Requirements:

User Requirements

ID	DESCRIPTION	PRIORITY
US01	As an Airline vendor, I want to add a new flight to the system by providing the details about the particular flight.	Medium
US02	As the system admin, I need to check the details of the newly added route by an airline vendor so that I can decide whether to approve	High
US03	As an Airline vendor, I want to remove any selected route	Medium
US04	As the system admin, I need to decide whether to approve the removal of a route based on passenger and business commitments so that inconvenience to passengers is minimized	High
US05	As a customer, I wish to reserve plane tickets by providing source, destination	High

	and dates of travel	
US06	As a customer, if I prefer to use the accommodation service, I should be able to select from a list of suggested hotels based on my destination	High
US07	As a customer, I should be able to pay for the services I have opted for using my credit/debit card	High
US08	As a customer, I should be able to cancel a reservation by specifying my reservation details	High
US09	As the admin, I need to determine the percentage of refund based on the reason given for cancellation by the customer	High
US10	As a payment gateway operator, I need to process the assigned refund to the customer's credit/debit card	High
US11	As a customer, I should receive a confirmation message after completing the booking process	Medium
US12	As a customer, I should have an option of reserving a taxi from the destination airport	Medium

Business Requirements

ID	DESCRIPTION
BU01	Airline provides accommodations for special circumstances in case of senior citizens
BU03	For Airline and Hotel Accommodation vendors, cancellations can only be done 48 hrs prior to departure

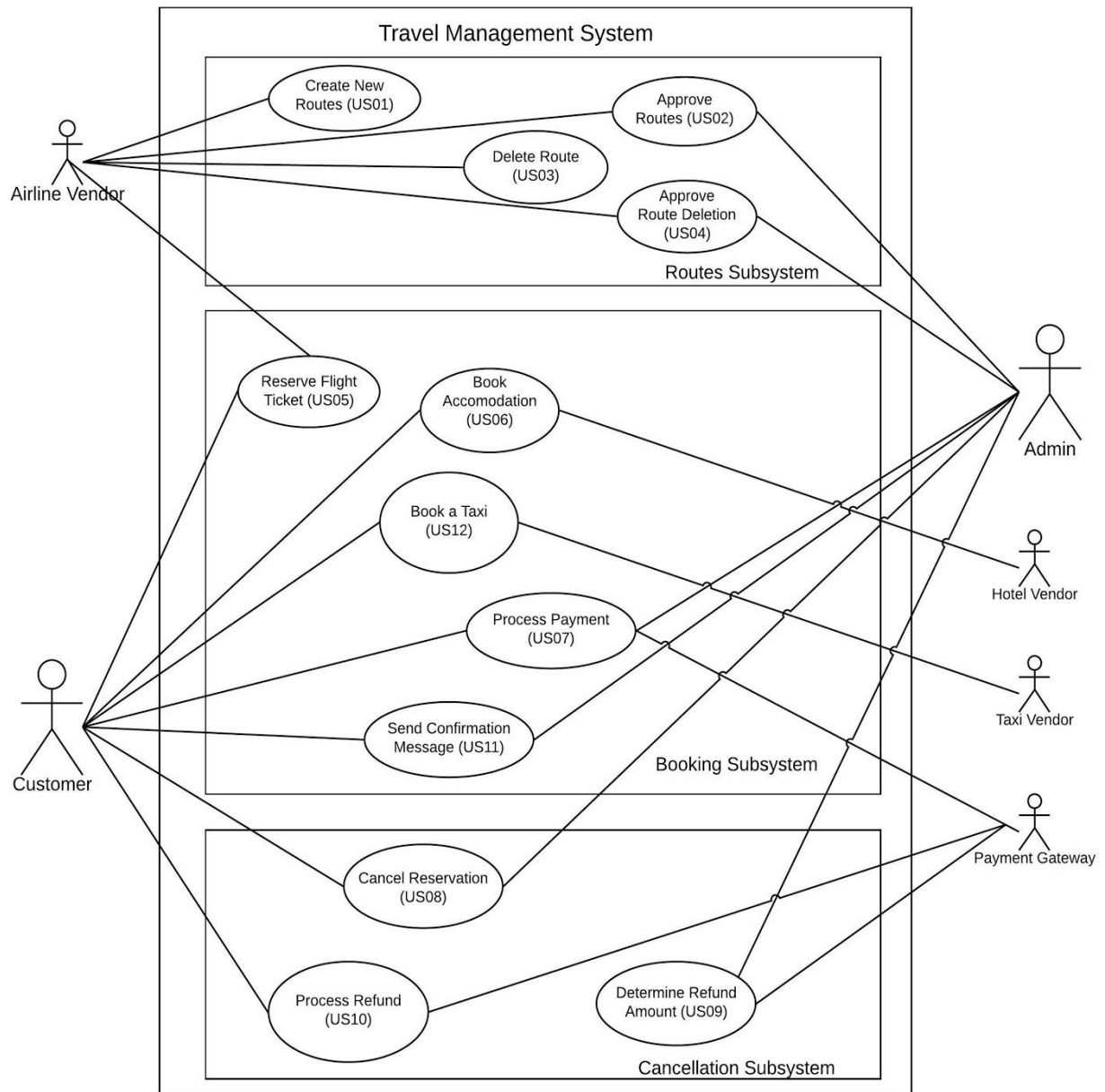
Functional Requirements

ID	DESCRIPTION
FR01	Display confirmation details after booking is complete so that customer has the confirmation number.
FR02	Display message with refund amount after cancellation is complete.
FR03	A unique confirmation number should be generated for each customer.

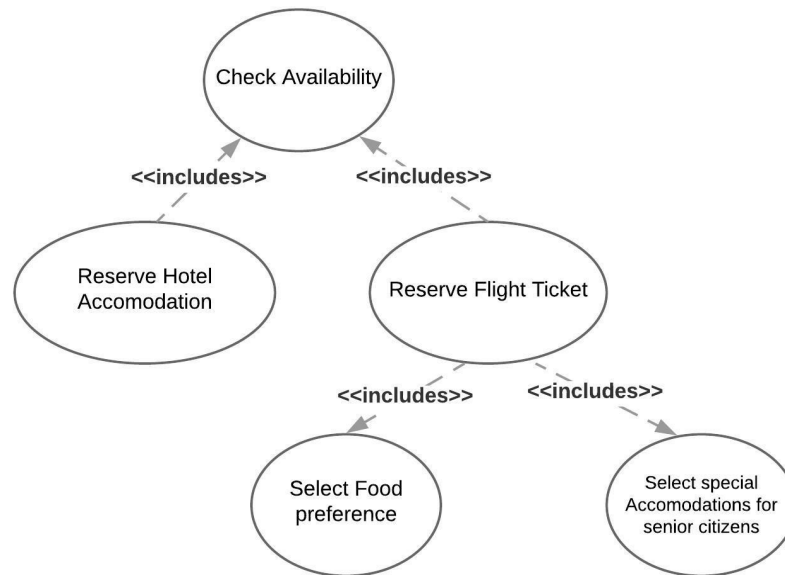
Non-Functional Requirements

ID	DESCRIPTION
NF01	The payment gateway should process the transaction in less than 3 seconds, else a timeout would occur on the website
NF02	Confirmation message should contain the confirmation number, Name, flight details and payment information

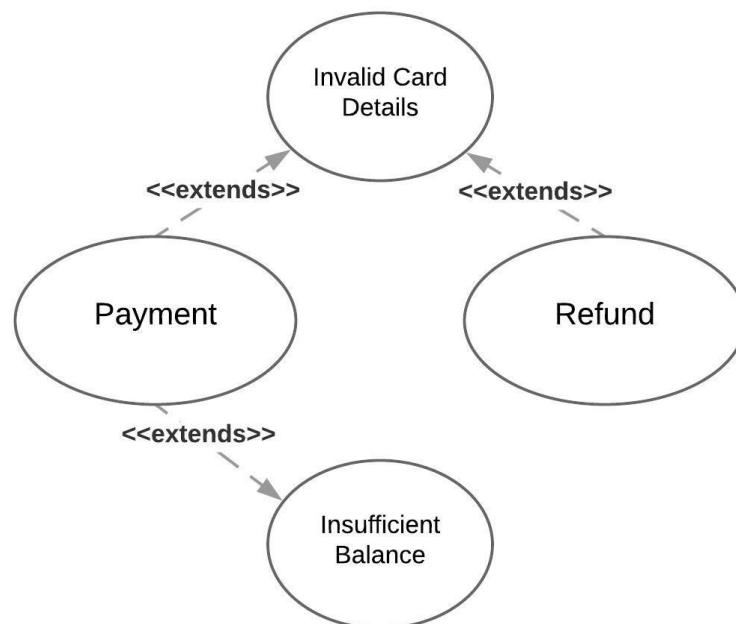
Use Case Diagram:



Sub-Diagrams:



Sub-Diagram 1: US05 (Reserve Flight ticket) and US06 (Reserve Hotel Accommodation)



Sub-Diagram 2: US07 (Make Payment) and US10 (Process Refund)

Use Case Documents:

Use Case ID:	US05
Use Case Name:	Reserve Flight Ticket
Description	Customer reserves flight tickets from list of suggested routes given source, destination and dates of travel

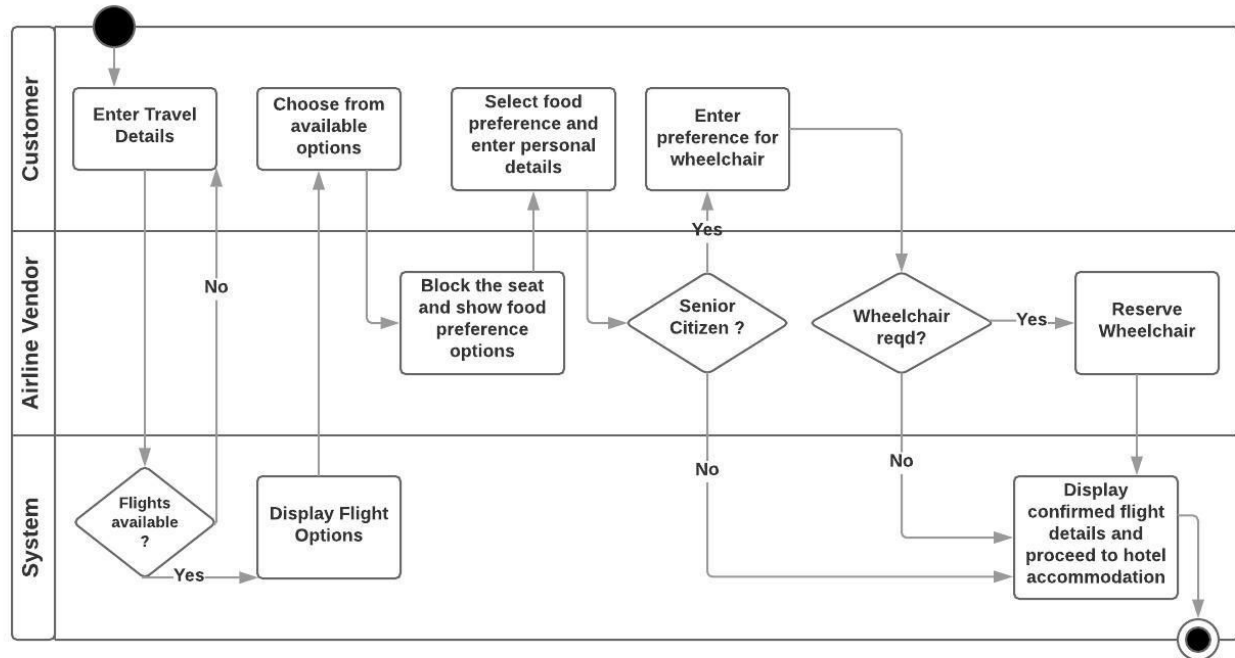
Actors	Customer																
Pre-conditions	Customer needs to have valid identification. Customer has a valid credit/debit card with sufficient balance																
Post-conditions	Customer gets a confirmation for his flight ticket																
Frequency of use	Whenever the customer browses through the website to see the options																
Flow of events	<table><tr><th></th><th>Customer</th><th>System Response</th></tr><tr><td>1</td><td>Enter travel details</td><td>Display a list of available flights with pricing information</td></tr><tr><td>2</td><td>Select an option from the list of available flights</td><td>Calculate the price for the flight ticket and show food preference options</td></tr><tr><td>3</td><td>Select food preference and enter personal details</td><td>Ask for wheelchair arrangement if the person is a senior citizen</td></tr><tr><td>4</td><td>Opt for a wheelchair service if required and confirm the flight booking</td><td>Display the confirmed flight details and direct the customer to opt for accomodation and/or taxi services</td></tr></table>			Customer	System Response	1	Enter travel details	Display a list of available flights with pricing information	2	Select an option from the list of available flights	Calculate the price for the flight ticket and show food preference options	3	Select food preference and enter personal details	Ask for wheelchair arrangement if the person is a senior citizen	4	Opt for a wheelchair service if required and confirm the flight booking	Display the confirmed flight details and direct the customer to opt for accomodation and/or taxi services
	Customer	System Response															
1	Enter travel details	Display a list of available flights with pricing information															
2	Select an option from the list of available flights	Calculate the price for the flight ticket and show food preference options															
3	Select food preference and enter personal details	Ask for wheelchair arrangement if the person is a senior citizen															
4	Opt for a wheelchair service if required and confirm the flight booking	Display the confirmed flight details and direct the customer to opt for accomodation and/or taxi services															
Variations	1. Fetch travel dates from previous searches 2. Opt for flights with a layover instead of a direct connection																
Exceptions	1. No available flights for the selected route																
Developer Notes																	

Use Case ID:	US08
Use Case Name:	Cancel a booking
Description:	The customer can cancel a reservation made by specifying the confirmation number and a reason for cancellation

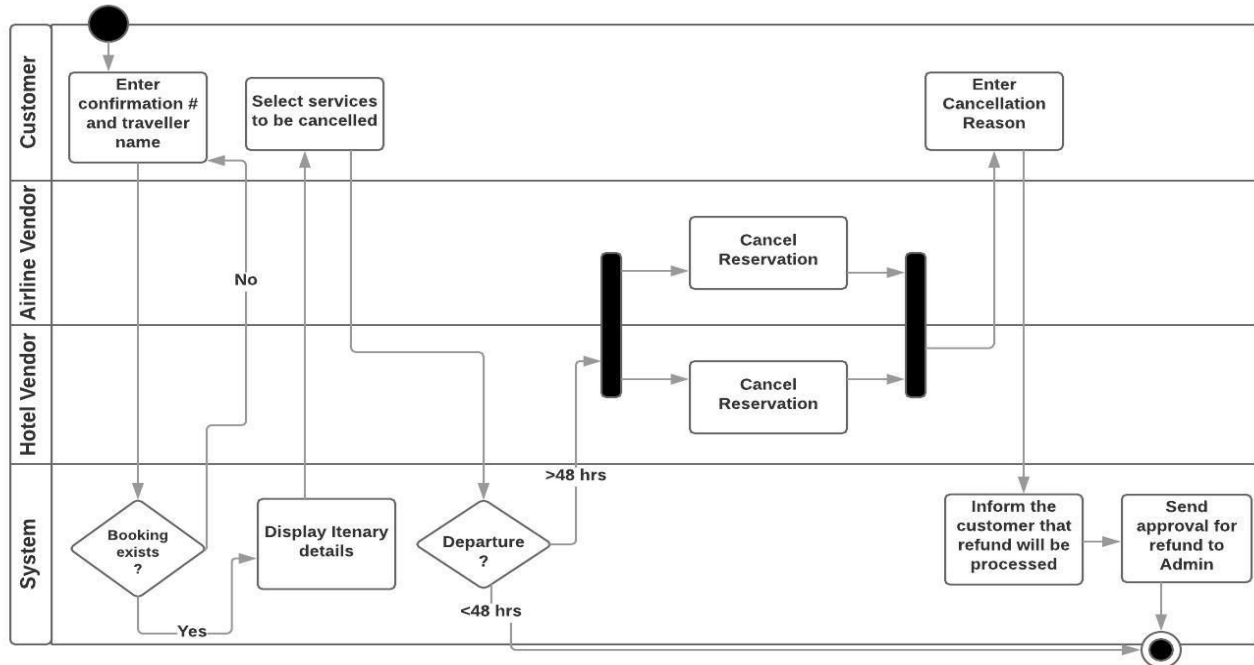
Actors	Customer													
Pre-conditions	Customer needs to have valid confirmation number and a valid credit/debit card for the refund													
Post-conditions	The customer is informed that the refund will be processed													
Frequency of use	Only once per customer if he opts to cancel the complete ticket													
Flow of events	<table> <tr> <th></th><th>Customer</th><th>System Response</th></tr> <tr> <td>1</td><td>Enter ticket confirmation number</td><td>Display the details of the itenary and asks for services to be cancelled</td></tr> <tr> <td>2</td><td>Select the services to be cancelled</td><td>Determine whether the cancellation request is valid based on the date of journey and then ask for a cancellation reason</td></tr> <tr> <td>3</td><td>Provide cancellation reason and confirm the cancellation</td><td>Send the request to admin for refund calculation, and inform the customer that the refund will be processed</td></tr> </table>			Customer	System Response	1	Enter ticket confirmation number	Display the details of the itenary and asks for services to be cancelled	2	Select the services to be cancelled	Determine whether the cancellation request is valid based on the date of journey and then ask for a cancellation reason	3	Provide cancellation reason and confirm the cancellation	Send the request to admin for refund calculation, and inform the customer that the refund will be processed
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2	Select the services to be cancelled	Determine whether the cancellation request is valid based on the date of journey and then ask for a cancellation reason												
3	Provide cancellation reason and confirm the cancellation	Send the request to admin for refund calculation, and inform the customer that the refund will be processed												
Variations	1. Select from a set of cancellation reasons or type in your own													
Exceptions	1. User has an invalid ticket confirmation number 2. Cancellation not possible because time of cancellation is less than 48 hours from departure													
Developer Notes														

Activity Diagrams:

Use Case US05: Reserve Flight Ticket



Use Case US08: Cancel a booking



UI Mockups:

```
>> Enter 1. to a ticket and 2. to cancel a service.
>> 1
>> Enter 1. for a one-way trip and 2. For a round trip.
>> 1
>> Which city are you travelling from?
>> Delhi
>> Enter your destination.
>> Denver
>> What date do you want to travel on? Enter in dd/mm/yyyy format.
>> 03/03/2018
>> These are your flight options.

      Source      Destination      Airline      Cost
1.   Delhi        Denver        United      $1084
2.   Delhi        Denver        Air India    $940
3.   Delhi        Dubai         Air India
      Dubai        Denver        Southwest    $768
Enter the number of the route you wish to travel on?
>> 2
>> Are you a senior citizen? Type yes if you are over 60 years else type no.
>> no
>> Do you require wheelchair assistance? Type yes/no.
>> no
>> Enter 1. for vegetarian and 2. for non-vegetarian food preference.
```

Fig: UI Mockup for Booking

```
>> Enter 1. for vegetarian and 2. for non-vegetarian food preference.
>> 1
>> Do you require accommodation? Type yes\no and press enter.
>> yes
>> Select a hotel by typing the number from the list provided.

    Hotel      Price
1.  Ramada     $107
2.  The Inn    $200
3.  Motel 6    $63

>> 1
>> Do you need a taxi ride from the airport to your destination? Type yes or
no and press enter.
>> yes
>> The total cost of your trip is $1127. Please tell us your name.
>> Prajnya Satish
>> Enter your credit card number.
>> 1100110010871193
>> Congratulations! Your booking is now complete. Your confirmation number
is DELDENAI01.
>> _
```

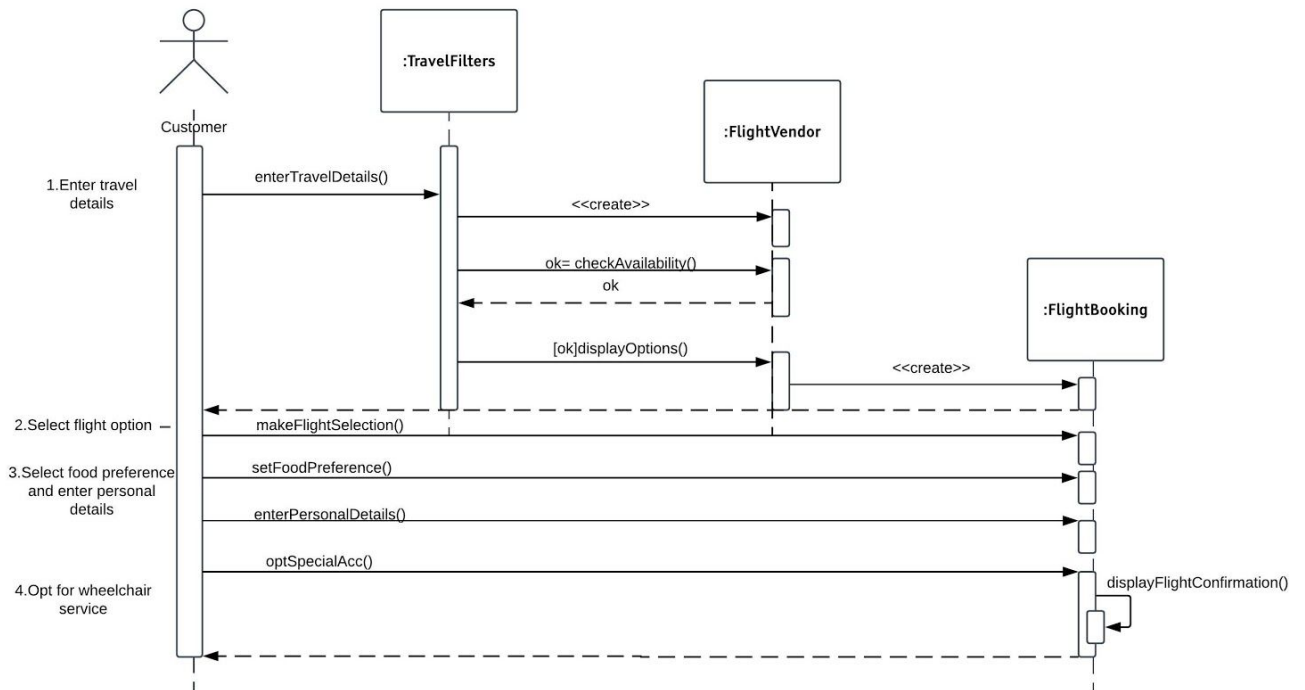
Fig: UI Mockup for Booking (contd.)

```
>> Enter 1. to a ticket and 2. to cancel a service.
>> 2
>> Please enter your confirmation number.
>> DELDENAI01
>> What is the name of the passenger who wishes to cancel services?
>> Prajnya Satish
>> The following services are booked for Prajnya Satish:
1. Flight from Delhi to Denver with Air India.
2. A room in Motel 6 at Denver.
3. A taxi ride.
Please select the service you wish to cancel by typing the number
associated with it.
>> 123
>> What is your reason for cancellation?
>> Family emergency.
>> You have successfully cancelled the services. You will receive a
refund of $997.
>> _
```

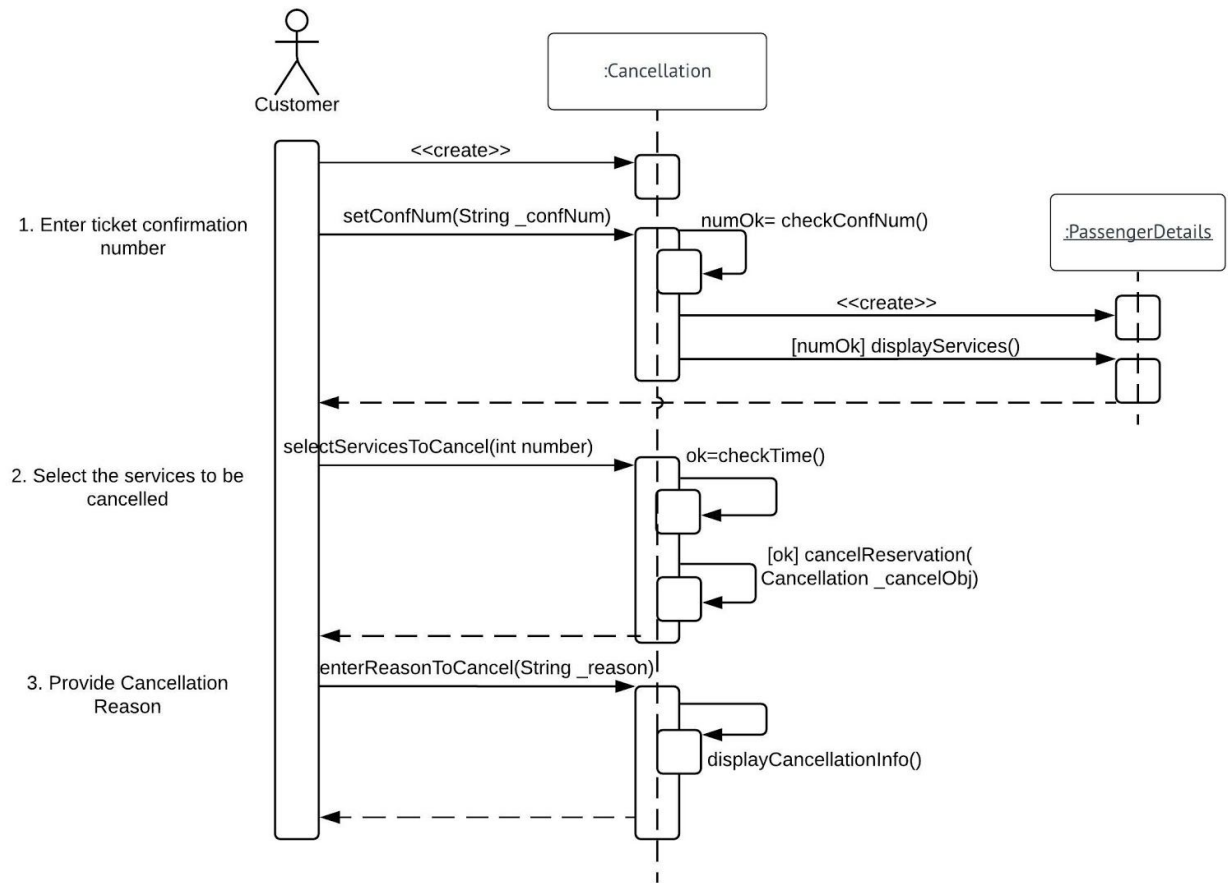
Fig: UI mockup for cancellation

Sequence Diagrams:

Use Case US05: Reserve Flight Ticket



Use Case US08: Cancel a booking



Class Diagram:

