Diagram

Description automatically generated

Robustness (initial design) diagram for the use case

Diagram

Description automatically generated

A sequence diagram based upon the robustness (initial design) diagram

|  |  |
| --- | --- |
| Customer | System |
|  | Creates a Candidate Order object that contains the contents of the Customer's Shopping Cart |
|  | Retrieves the Shipping Addresses associated with the Customer's Account and displays these addresses on the Shipping Address Page |
| Selects an address, and then presses the Use This Address button |  |
|  | The system associates the given Shipping Address with the Candidate Order. Then the system displays the available Shipping Methods on the Shipping Method Page. |
| The Customer selects a shipping method, and then presses the Use This Shipping Method button. |  |
|  | The system associates the given Shipping Method with the Candidate Order. Then the system displays the contents of the Billing Info objects associated with the Customer's Account, on the Billing Information Page. |
| The Customer selects a billing method and presses the Use This Billing Information button. |  |
|  | The system associates the given Billing Info object with the Candidate Order. Then the system displays the Confirm Order Page. |
| The Customer presses the Confirm Order button. |  |
|  | The system converts the Candidate Order to an Order and destroys the Shopping Cart. Then the system returns control to the use case from which this use case received control. |
| If the Customer has not already logged in |  |
|  | the system invokes the Log In user case |
| If the system does not find any Shipping Addresses |  |
|  | The System invokes the Create Shipping Address use case. |
| If the system does not find any Billing Info objects |  |
|  | It invokes the Define Billing Information use case. |
| If the Customer presses the Cancel Order button at any time |  |
|  | The system destroys the Candidate Order and returns control to the use case from which this use case received control. |

Test Case 1: Basic Course - Successful Checkout

Description: Verify that a customer can successfully complete the checkout process with valid shipping address, shipping method, and billing information.

Steps:

Ensure the customer is logged in.

Add items to the Shopping Cart.

Initiate the Check Out use case.

Select a valid shipping address and confirm.

Select a valid shipping method and confirm.

Select a valid billing information and confirm.

Press the Confirm Order button.

Expected Result: The checkout process should be successful, an Order should be created, and the Shopping Cart should be destroyed.

Test Case 2: Invalid Shipping Address

Description: Verify that the system displays an error message when a customer selects an invalid shipping address.

Steps:

Ensure the customer is logged in.

Add items to the Shopping Cart.

Initiate the Check Out use case.

Select an invalid shipping address.

Press the Use This Address button.

Expected Result: The system should display an error message and not proceed to the Shipping Method Page.

Test Case 3: Invalid Billing Information

Description: Verify that the system displays an error message when a customer selects an invalid billing information method.

Steps:

Ensure the customer is logged in.

Add items to the Shopping Cart.

Initiate the Check Out use case.

Select a valid shipping address and confirm.

Select a valid shipping method and confirm.

Select an invalid billing information method.

Press the Use This Billing Information button.

Expected Result: The system should display an error message and not proceed to the Confirm Order Page.