

Use Case Diagram for the Amazon Online Shopping System

Learn how to define use cases and create the corresponding use case diagram for the Amazon problem.

We'll cover the following

- System
- Actors
 - Primary actors
 - Secondary actors
- Use Cases
 - Admin
 - Authenticated user
 - Guest
 - System
- Relationships
 - Generalization
 - Associations
 - Include
- Use case diagram

Let's build the use case diagram of the Amazon problem and understand the relationship between its different components.

First, we'll define the different elements of Amazon, followed by the complete use case diagram of the system.

System

Our system is the "Amazon shopping system."

Actors

Now, we'll define the main actors of Amazon.

Primary actors

- Authenticated user:** This actor can search for products using the catalog, place or cancel orders, and add new products to sell.
- Guest:** The guest actor can search for products using the catalog, add items to a shopping cart and update it. However, it needs to become a registered/authenticated member to place an order.

Secondary actors

- Admin:** This can add, remove, or update an account as well as add, modify, or delete existing product categories.
- System:** This is responsible for sending out notifications for orders and shipping updates.

Use Cases

In this section, we will define the use cases for Amazon. We have listed down the use cases according to their respective interactions with a particular actor.

Note: You will see some use cases occurring multiple times because they are shared among different actors in the system.

Admin

- Login/Logout:** To log in or log out of your account on Amazon
- Block/Unblock/Update/Delete account:** To block, unblock, or delete an account as well as modify account details
- Add/Modify/Delete product category:** To add, modify, or delete product categories
- Modify product:** To modify the details of any existing product

Authenticated user

- Register account:** To register for an account on Amazon
- Login/Logout:** To log in or log out of your account on Amazon
- Update/Delete account:** To delete an account or modify their own account details
- Add/Modify/Delete product:** To add a new product or modify the details of any existing product that a customer themselves added for selling. A user can also delete a product that they added for selling
- Search product:** To search for any particular product based on the given criteria (name or category)
- Add item to shopping cart:** To add an item to a shopping cart
- Update shopping cart:** To update the item quantities present in the shopping cart
- Checkout shopping cart:** To check out from the shopping cart into the payment section
- Add shipping address:** To add a shipping address
- Add credit card:** To pay the order amount via credit card

Guest

- Register account:** To register for an account on Amazon
- Search product:** To search for any particular product based on the given criteria (name or category)
- Add item to shopping cart:** To add an item to a shopping cart
- Update shopping cart:** To update the item quantities present in the shopping cart

System

- Send order notification:** To send a notification of an order after payment
- Send shipment update notification:** To send a notification of any updates in shipment

Relationships

We describe the relationships between and among actors and their use cases in this section.

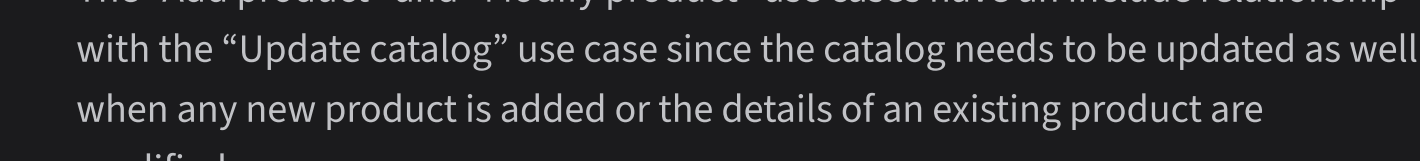
Generalization

- The "Authenticated User" actor has a generalization relationship with the "Guest" actor, as an authenticated user can perform all those tasks that a guest can perform.
- We can search for a product by category and by product name. This shows that the "search product" use case has a generalization relationship with the "By product category catalog" and "By product name catalog" use cases.

Associations

The table below shows the association relationship between actors and their use cases.

Admin	Authenticated User	Guest	Sys
Login/Logout	Register account	Register account	Send order noti
Update/delete account	Login/Logout	Search product	Send shipment notification
Block/Unblock account	Update/delete account	Add item to shopping cart	
Add/modify product category	Add/modify product	Update shopping cart	
Modify product	Search product		
	Add item to shopping cart		
	Update shopping cart		
	Checkout shopping cart		
	Add shipping address		
	Add credit card		



Include

- The "Add product" and "Modify product" use cases have an include relationship with the "Update catalog" use case since the catalog needs to be updated as well when any new product is added or the details of an existing product are modified.
- The "Make payment" use case has an include relationship with the "Send order notification" use case, since once the payment has been made and verified, only then will the system generate a notification.
- The "Cancel order" use case has an include relationship with the "Refund payment" use case, since this is part of the process.

Use case diagram

Here's the use case diagram of Amazon:



The use case diagram of Amazon online shopping system

In the next lesson, we'll discuss the class diagram with a detailed explanation of all classes and their relationship with each other.