**LAB 5   
  
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1. Identify the Problem**

Problem Description:

The current Publications application lacks advanced features present in e-commerce platforms like Amazon. Users desire an expanded functionality that mimics the features of the Amazon website, including user accounts, product listings, shopping carts, and order processing.

**2. List Nouns and Verbs**

Nouns:

* User
* Product
* Publication
* Order
* Cart
* Review
* Category
* Wishlist
* Payment
* Shipping

Verbs:

* Register
* Log In
* Browse
* Search
* Add to Cart
* Remove from Cart
* Place Order
* Rate
* Write Review
* Track Order

**3. Identify Things Outside the Scope**

Outside the Scope:

* Social Media Integration
  + refers to the process of incorporating social media features or functionalities into a website, application, or platform. It allows users to interact with and share content from the application on various social media platforms.
* Third-party Authentication
  + Is a mechanism where an application allows users to log in using credentials from an external service or platform. Instead of creating a new account, users can use their credentials from a trusted third-party service for authentication.
* Digital Rights Management for Publications
  + Digital Rights Management is a set of technologies and practices aimed at protecting the intellectual property rights of digital content, including publications such as e-books, articles, or other digital documents.

**4. Identify Synonyms**

Synonyms:

Nouns:

* Product - Item, Merchandise
* User - Customer, Member
* Order - Purchase, Transaction
* Cart - Basket, Trolley
* Review - Feedback, Comment

Verbs:

* Register - record, enter
* Browse - Look around, have a look
* Search - explore, look

**5. Identify Potential Classes**

* User
* Product
* Publication
* Order
* Cart
* Review
* Category
* Wishlist
* Payment
* Shipping

**6. Identify Potential Attributes**

* User:
  + UserID
  + Username
  + Password
  + Email
  + Address
* Product:
  + ProductID
  + Title
  + Author
  + Price
  + Stock
* Order:
  + OrderID
  + UserID
  + Products
  + Total Price
  + Status
* Cart:
  + CartID
  + UserID
  + Products
* Review:
  + ReviewID
  + UserID
  + ProductID
  + Rating
  + Comment
* Category:
  + CategoryID
  + Name
  + Description

**7. Identify Potential Methods**

User:

* Register()
* LogIn()
* UpdateProfile()
* ViewOrderHistory()

Product:

* AddToCart()
* RemoveFromCart()
* GetReviews()
* UpdateStock()

Order:

* PlaceOrder()
* TrackOrder()
* CancelOrder()

Cart:

* AddItem()
* RemoveItem()
* ViewCart()
* ClearCart()

Review:

* AddReview()
* EditReview()
* DeleteReview()

**8. Identify Common Characteristics**

Inheritance Hierarchies:

* User (Base Class): The User class serves as the base or parent class, representing common attributes and behaviors shared by all types of users in the system.
* Customer: The Customer class is a subclass that inherits from the User base class, representing users who interact with the system primarily for making purchases, placing orders, and managing their profiles
* Admin: The Admin class is another subclass of the User base class, representing users with administrative privileges who manage and oversee the system.

**9. Refine Design Using CRC Cards**

Example CRC Card:

**Class: User**

**Responsibilities:**

* Register
* Log In
* Update Profile
* View Order History

**Collaborators:**

* Order
* Cart
* Review

**Class: Product  
Responsibilities:**

* Add to Cart
* Remove From Cart
* Get Reviews
* Update Stock

**Collaborators:**

* Cart
* Review

**Class: Publication  
Responsibilities:**

* Publish
* Edit Publication Details
* Categorize
* View Details

**Collaborators:**

* Category
* Review

**Class: Cart**

**Responsibilities:**

* Add Item
* Remove Item
* View Cart
* Clear Cart

**Collaborators:**

* Users
* Product
* Publication

**Class: Review**

**Responsibilities:**

* Add Review
* Edit Review
* Delete Review
* View Reviews

**Collaborators:**

* User
* Product
* Publication

**Class: Category**

**Responsibilities:**

* Create Category
* Edit Category
* View Products
* Assign to Publication

**Collaborators:**

* Publication
* Product

**Class: Wishlist**

**Responsibilities:**

* Add to Wishlist
* Remove from Wishlist
* View Wishlist
* Move to Cart

**Collaborators:**

* User
* Product
* Publication

**Class: Payment**

**Responsibilities:**

* Process Payment
* Verify Payment
* Refund Payment
* View Payment History

**Collaborators:**

* User
* Order

**Class: Shipping  
Responsibilities:**

* Ship Order
* Track Shipment
* Estimate Delivery Time
* Handle Returns

**Collaborators:**

* User
* Order

**10. Elaborate on the classes (Class Diagram)**A diagram of a diagram

Description automatically generated with medium confidence