

USER REQUIREMENTS

- **User Registration** : Users can create accounts and register and log out securely.
- **User Authentication** : Implement a secure authentication mechanism to verify the identity of users during login and protect their account information.
- **Product Catalog Browsing and Searching** : Provide a user-friendly interface to browse and search for products, including categories, filters, and sorting options.

USER REQUIREMENTS

- **Product Details :** Display detailed information about each product, including images, descriptions, prices, availability, and customer reviews.
- **Shopping Cart :** Enable users to add products to a virtual shopping cart, view the cart contents, modify quantities, and proceed to checkout.
- **Checkout Process:** Implement a seamless and intuitive checkout flow, including multiple payment options, shipping address input, and order confirmation.

ADMIN REQUIREMENTS

- **Admin Dashboard** : Provide a centralized dashboard for administrators to manage the e-commerce platform, including product management, order processing, and user management.
- **Product Management** : Allow administrators to add, edit, and delete products from the catalog, including details such as title, description, pricing, inventory management, and images.
- **Order Management** : Enable administrators to view and process incoming orders, update order status, generate invoices, and handle returns or refunds.

ADMIN REQUIREMENTS

- **User Management :** Provide functionality for administrators to manage user accounts, including account verification, password resets, and user role assignments.
- **Inventory Management:** Allow administrators to track and manage product inventory, receive low stock notifications, and update availability information.
- **Promotions and Discounts:** Implement the ability for administrators to create and manage promotional campaigns, discount codes, and special offers.

ADMIN REQUIREMENTS

- **Content Management** : Allow administrators to manage static content pages, such as the homepage, about us, and FAQs, to keep the website information up to date.

FUNCTIONAL REQUIREMENTS

User Registration and Authentication

- **User Registration :** Users should be able to create an account by providing necessary information such as username, email address, and password.
- **User Authentication:** A secure authentication mechanism should be implemented to verify the identity of users during login, ensuring the protection of their account information.

FUNCTIONAL REQUIREMENTS

Product Search and Browsing

- **Product Search** : Users should have the ability to search for products based on keywords, categories, and filters.
- **Product Browsing** : A user-friendly interface should be provided to allow users to browse through the product catalog, including categories, filters, and sorting options.

FUNCTIONAL REQUIREMENTS

Shopping Cart Management

- **Adding Products** : Users should be able to add products to their virtual shopping cart.
- **Viewing Cart** : Users should have the option to view the contents of their shopping cart.
- **Modifying Cart** : Users should be able to modify the quantities of products in their cart and remove items if needed.

FUNCTIONAL REQUIREMENTS

Order Management

- **Placing Orders** : Users should be able to proceed to checkout and place orders for selected items in their shopping cart.
- **Viewing Order History** : Users should have access to their order history, allowing them to track the status of past orders.

FUNCTIONAL REQUIREMENTS

User Profile Management

- **Updating Profile Information** : Users should be able to update their profile information, such as shipping addresses and payment methods.
- **Managing Account Settings** : Users should have the option to manage their account settings, including password changes and email preferences.

FUNCTIONAL REQUIREMENTS

Email Notifications

- **Order Confirmation:** Users should receive automated email notifications upon successful order placement, confirming their purchase.
- **Shipment Tracking:** Users should receive email notifications with tracking information once their order has been shipped.
- **Account Activities:** Users should receive email notifications for account-related activities, such as password resets and account verifications.

FUNCTIONAL REQUIREMENTS

Guest Checkout

- **Guest Purchases:** Guests should have the option to make purchases without creating an account, streamlining the checkout process for users who prefer not to register.

FUNCTIONAL REQUIREMENTS

Admin Management Operations

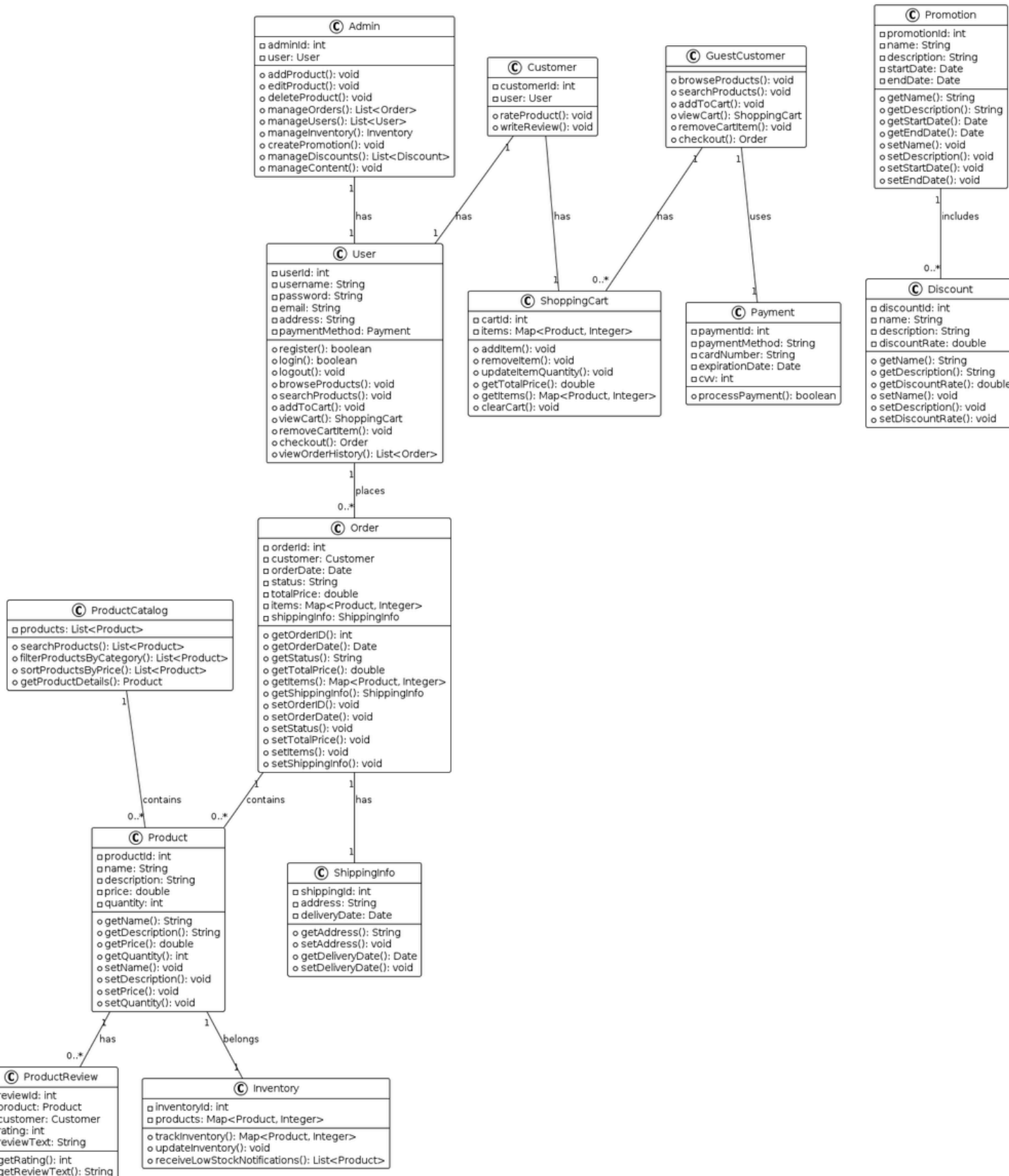
- **User Management** : Administrators should be able to manage user accounts, including adding, deleting, and updating user information.
- **Product Management** : Administrators should have the ability to manage products in the catalog, including adding new products, editing existing ones, and removing outdated ones.
- **Order Management** : Administrators should be able to view and process incoming orders, update order statuses, generate invoices, and handle returns or refunds.

FUNCTIONAL REQUIREMENTS

Admin Management Operations

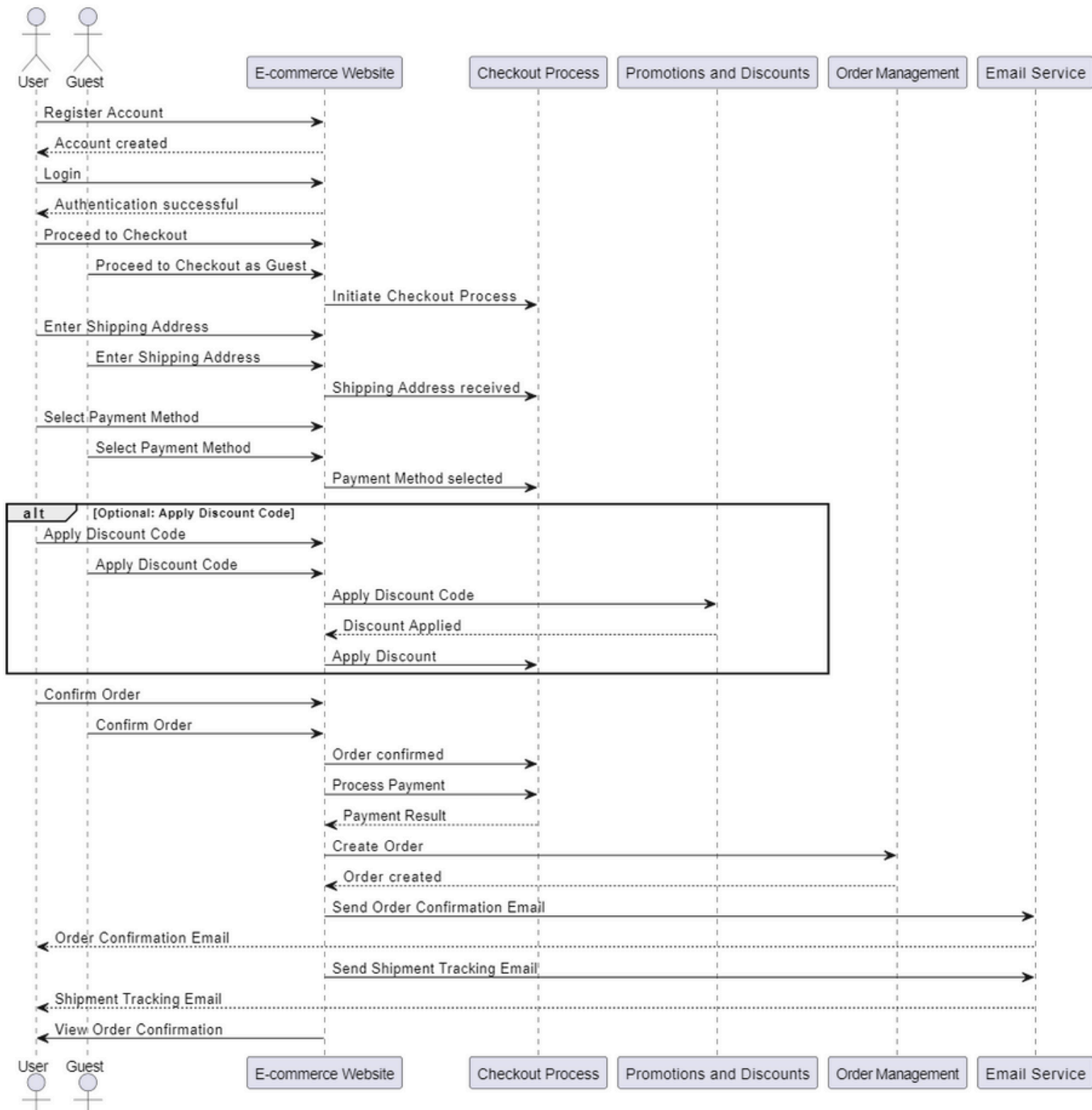
- **Inventory Management** : Administrators should be able to track and manage product inventory, receive low stock notifications, and update availability information.
- **Promotions and Discounts** : Administrators should have the ability to create and manage promotional campaigns, discount codes, and special offers to attract customers.
- **Content Management** : Administrators should be able to manage static content pages, such as the homepage, about us, and FAQs, to ensure that website information is up to date and relevant.

Class Diagram



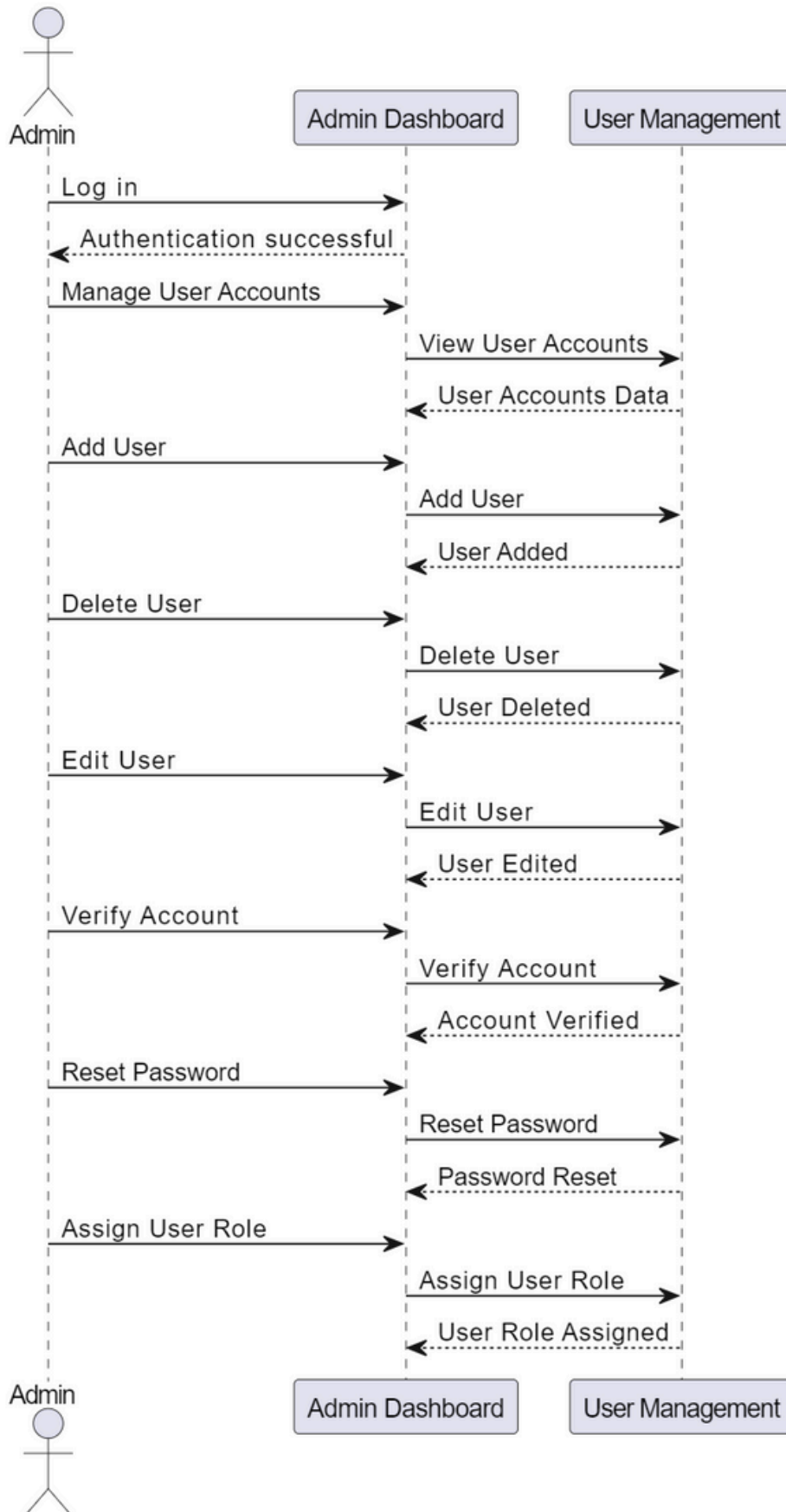
Sequence Diagrams

Check out and Place Order



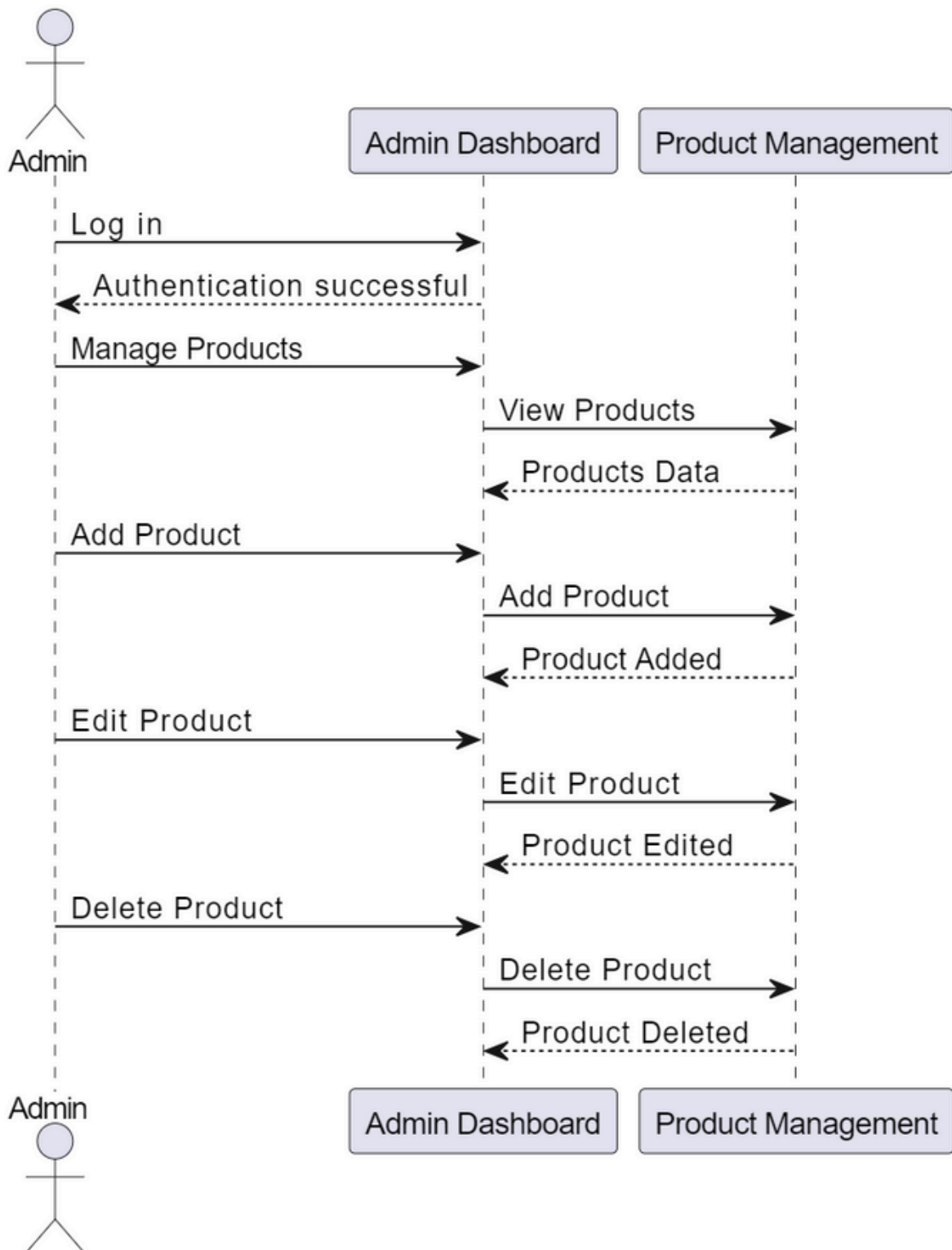
Sequence Diagrams

User Management by admin



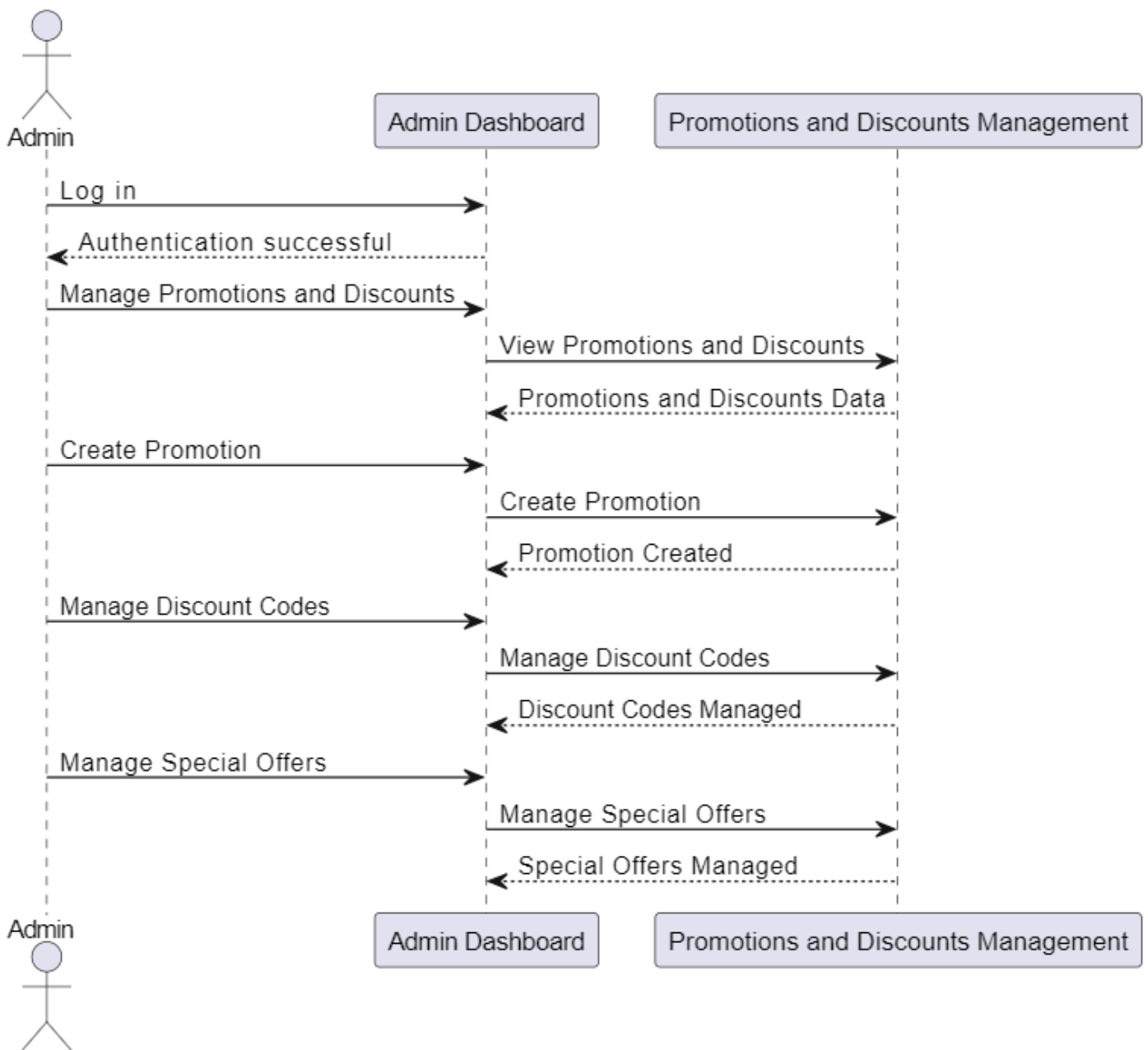
Sequence Diagrams

Products Management by admin



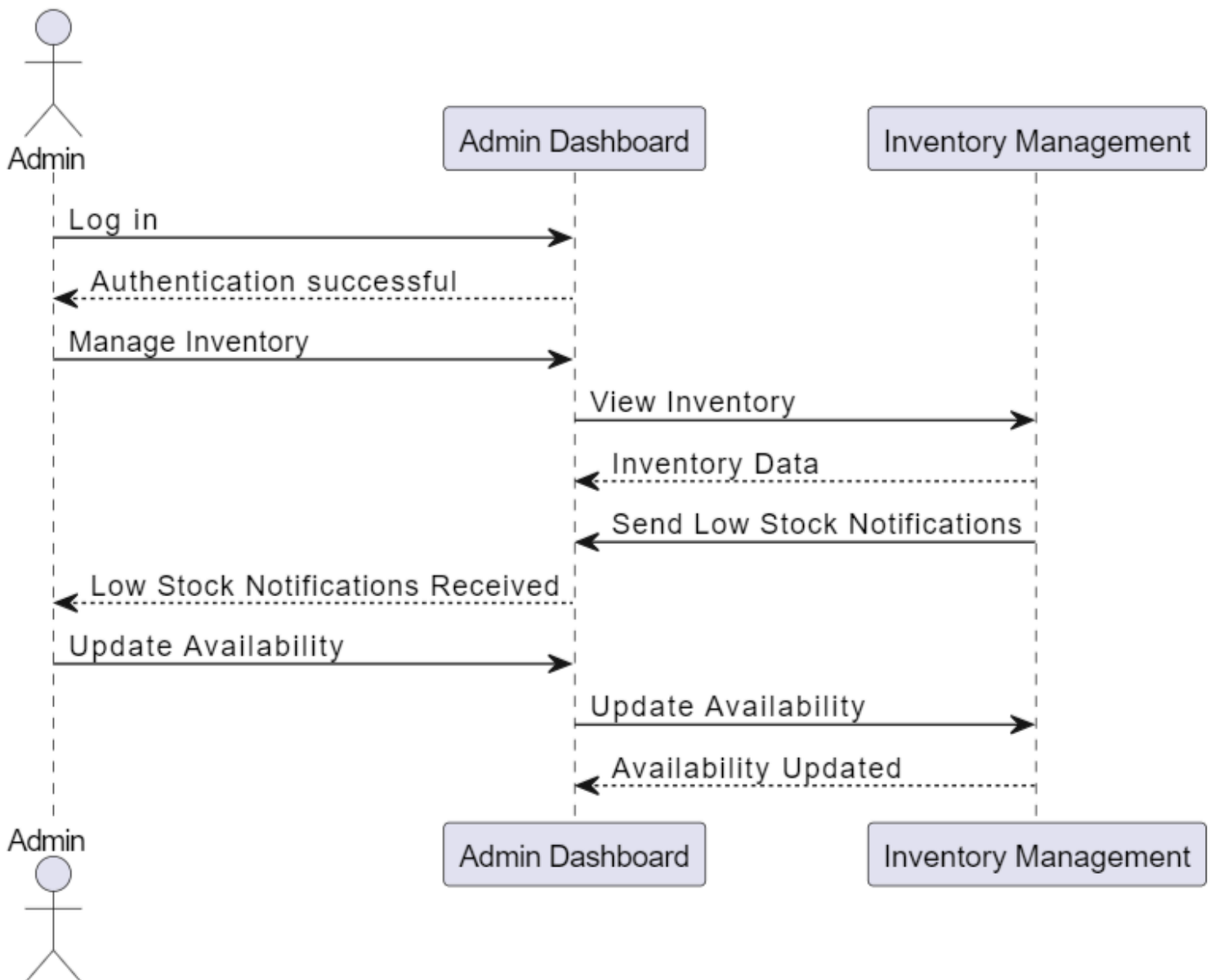
Sequence Diagrams

Promotions and Discounts Management by admin



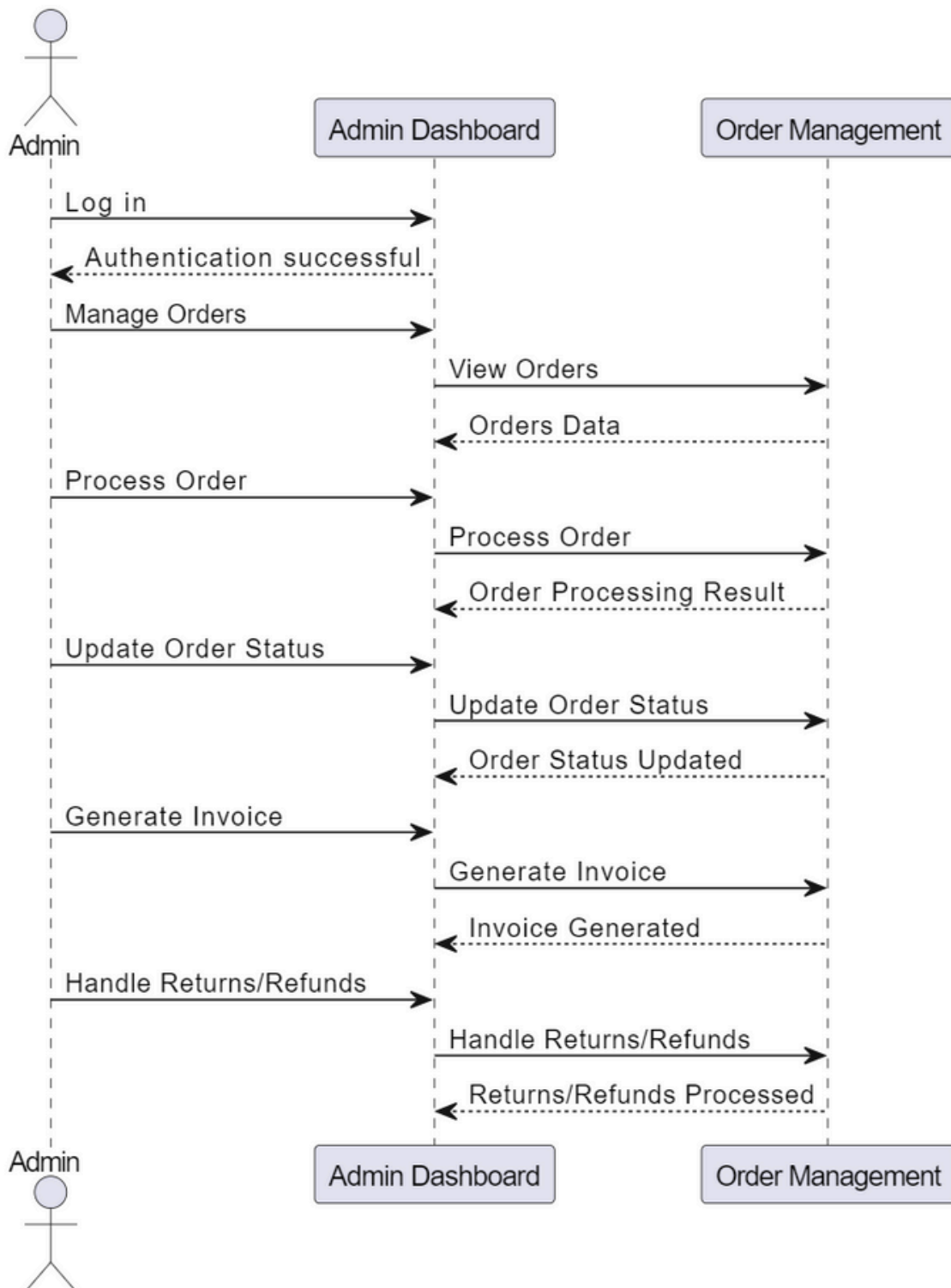
Sequence Diagrams

Inventory Management by admin



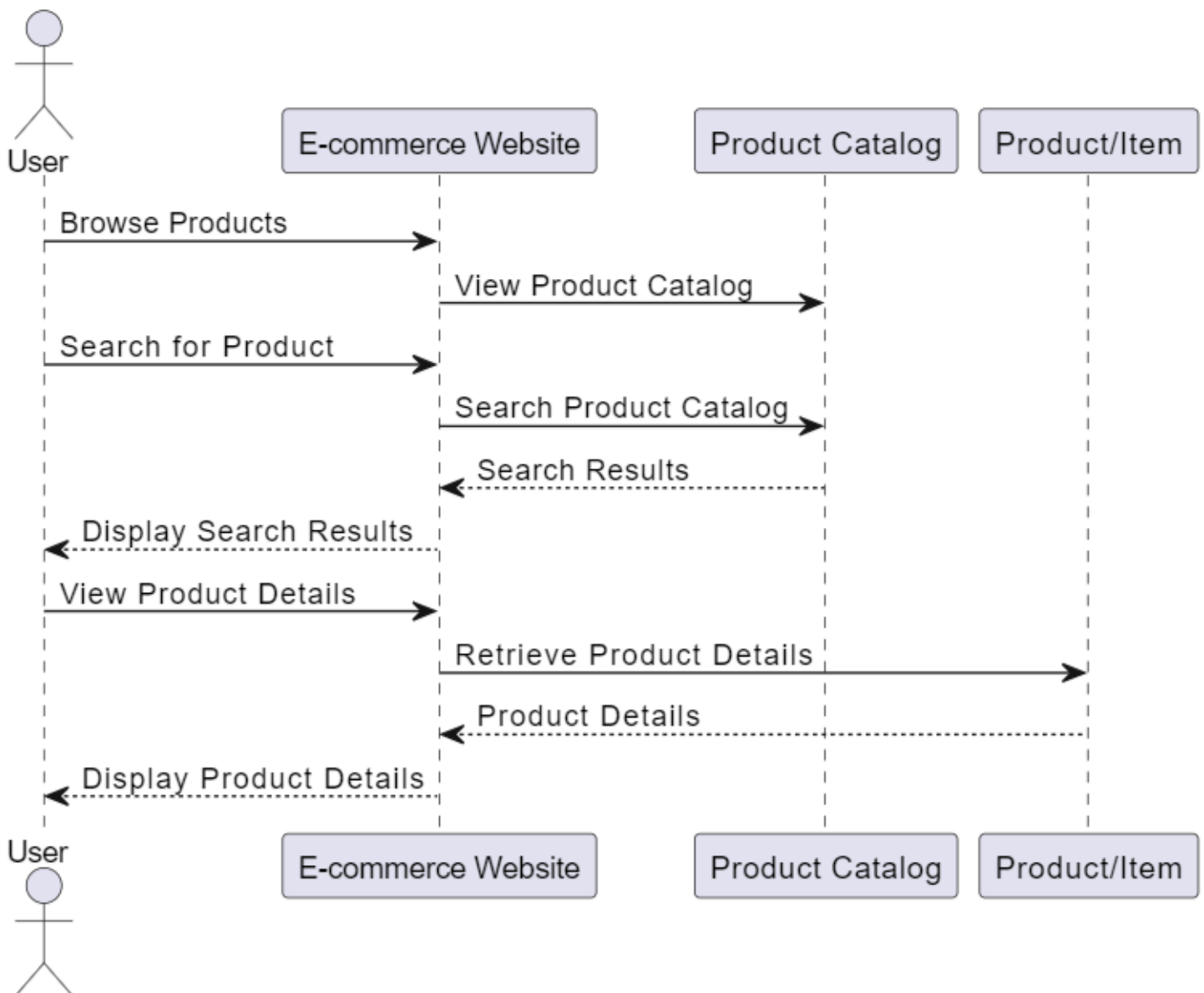
Sequence Diagrams

Orders Management by admin



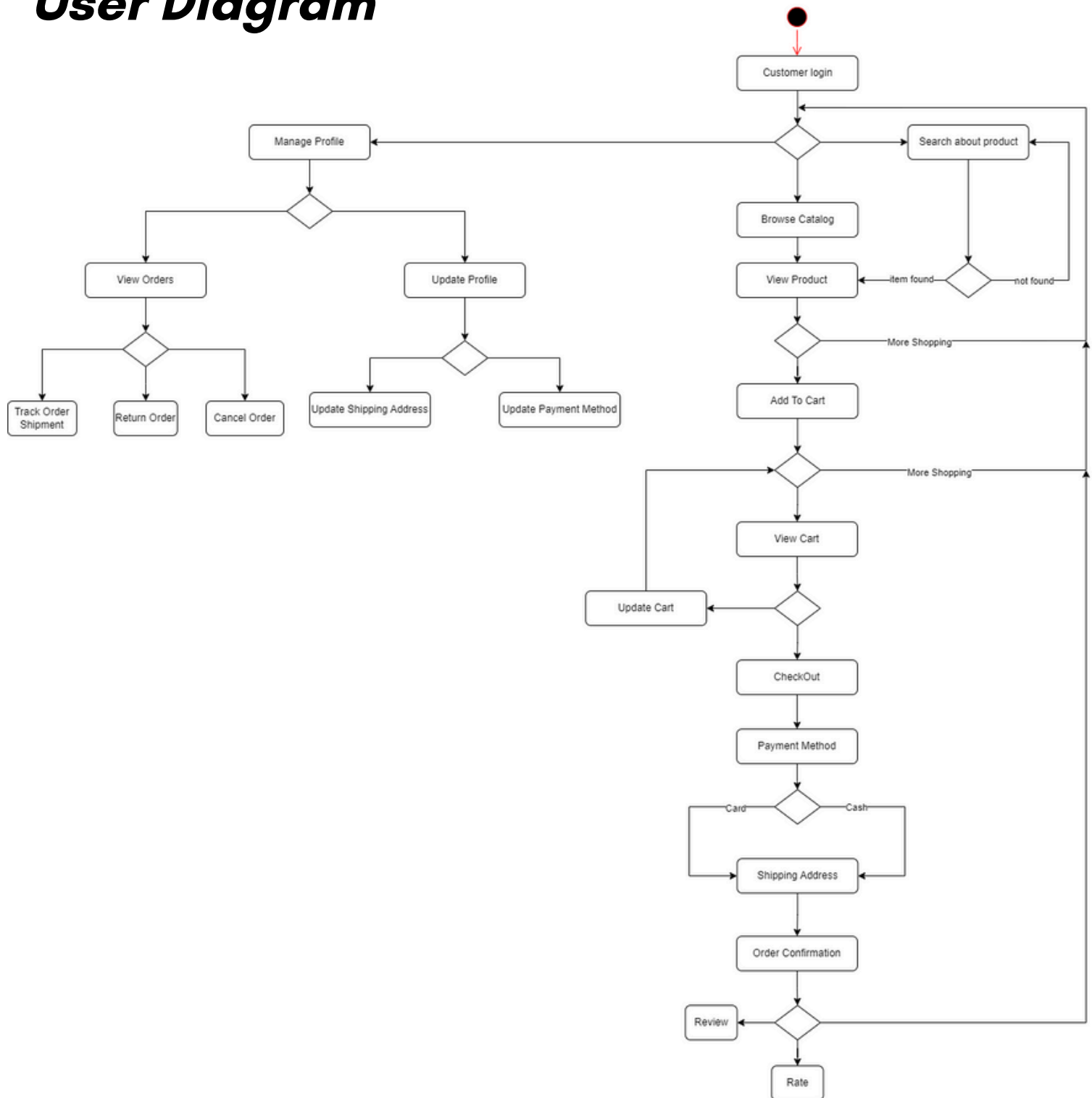
Sequence Diagrams

Browsing about item and catalog searching



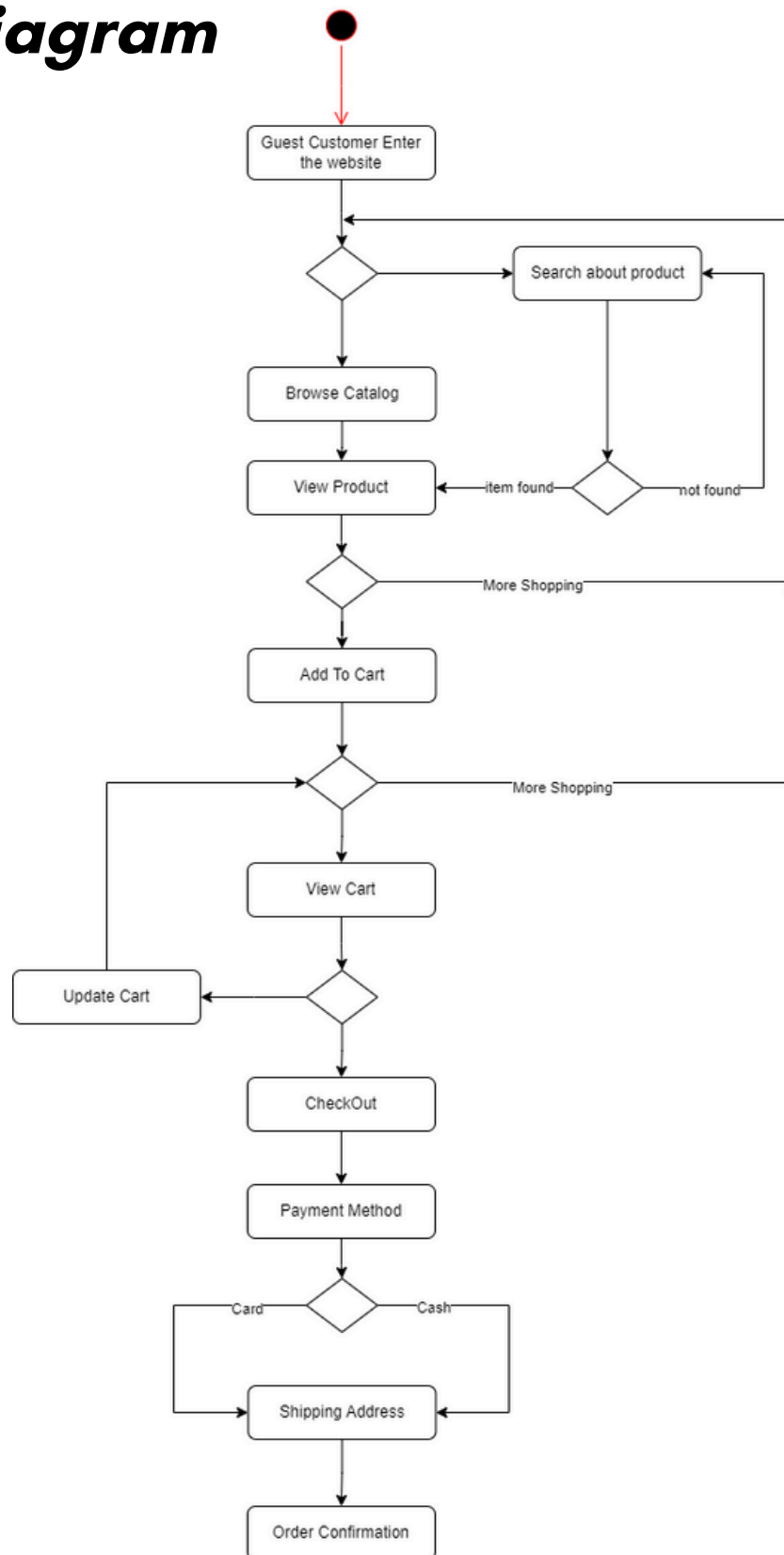
Activity Diagrams

User Diagram



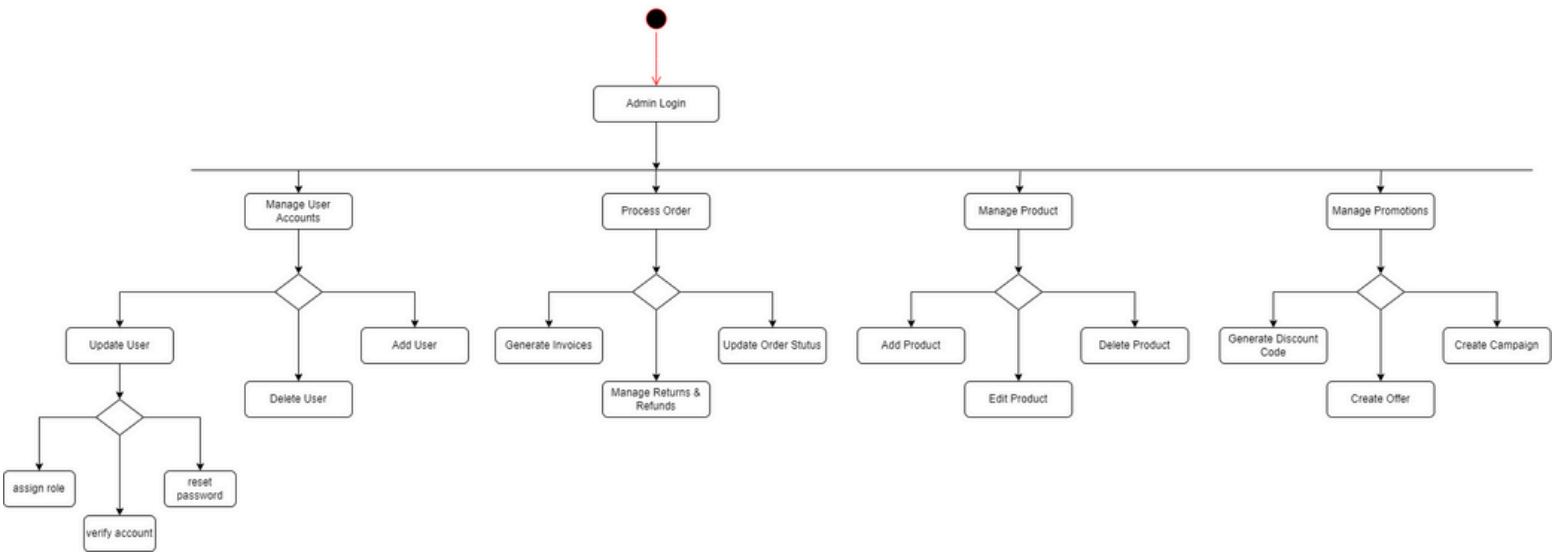
Activity Diagrams

Guest Diagram

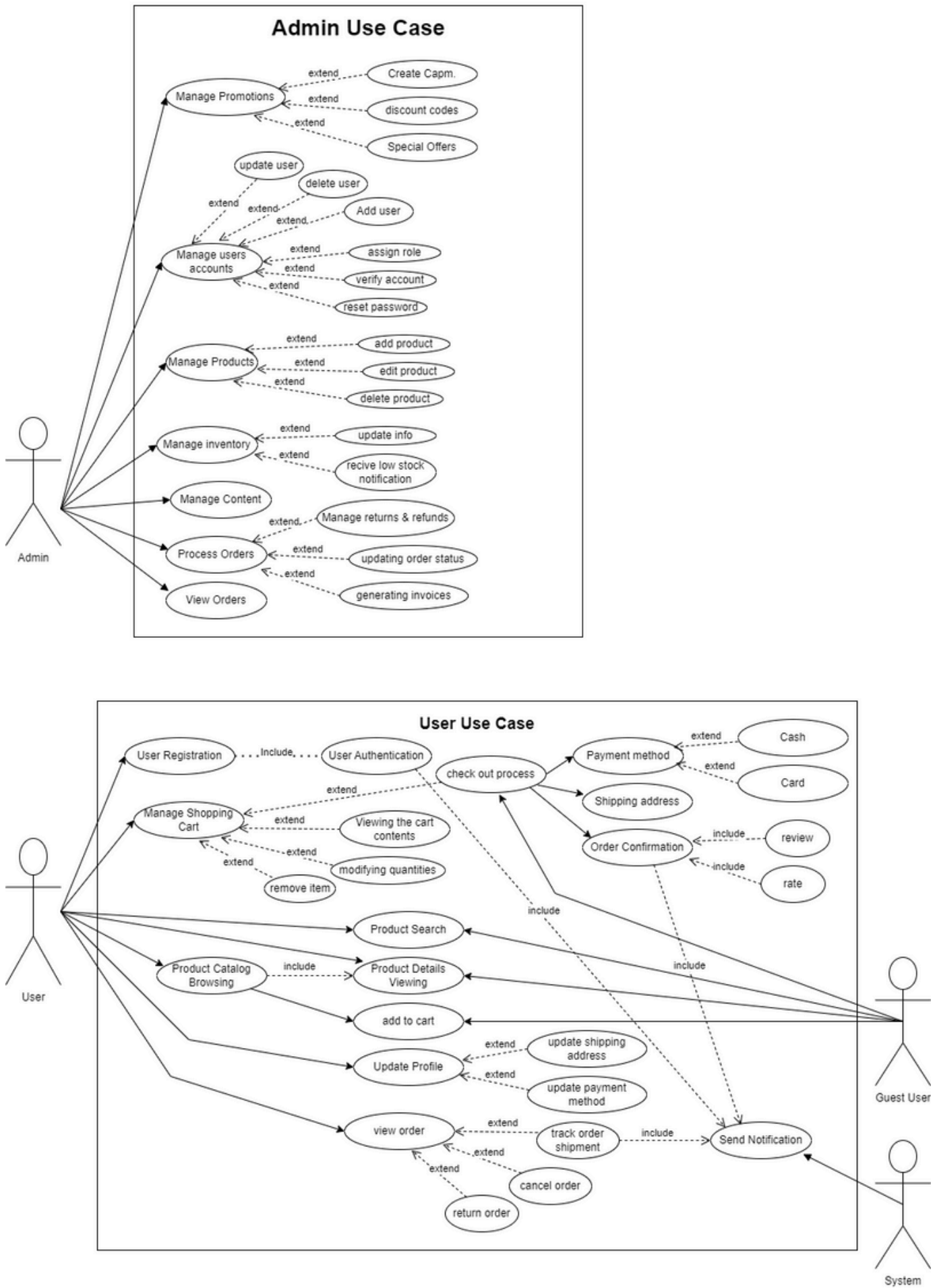


Activity Diagrams

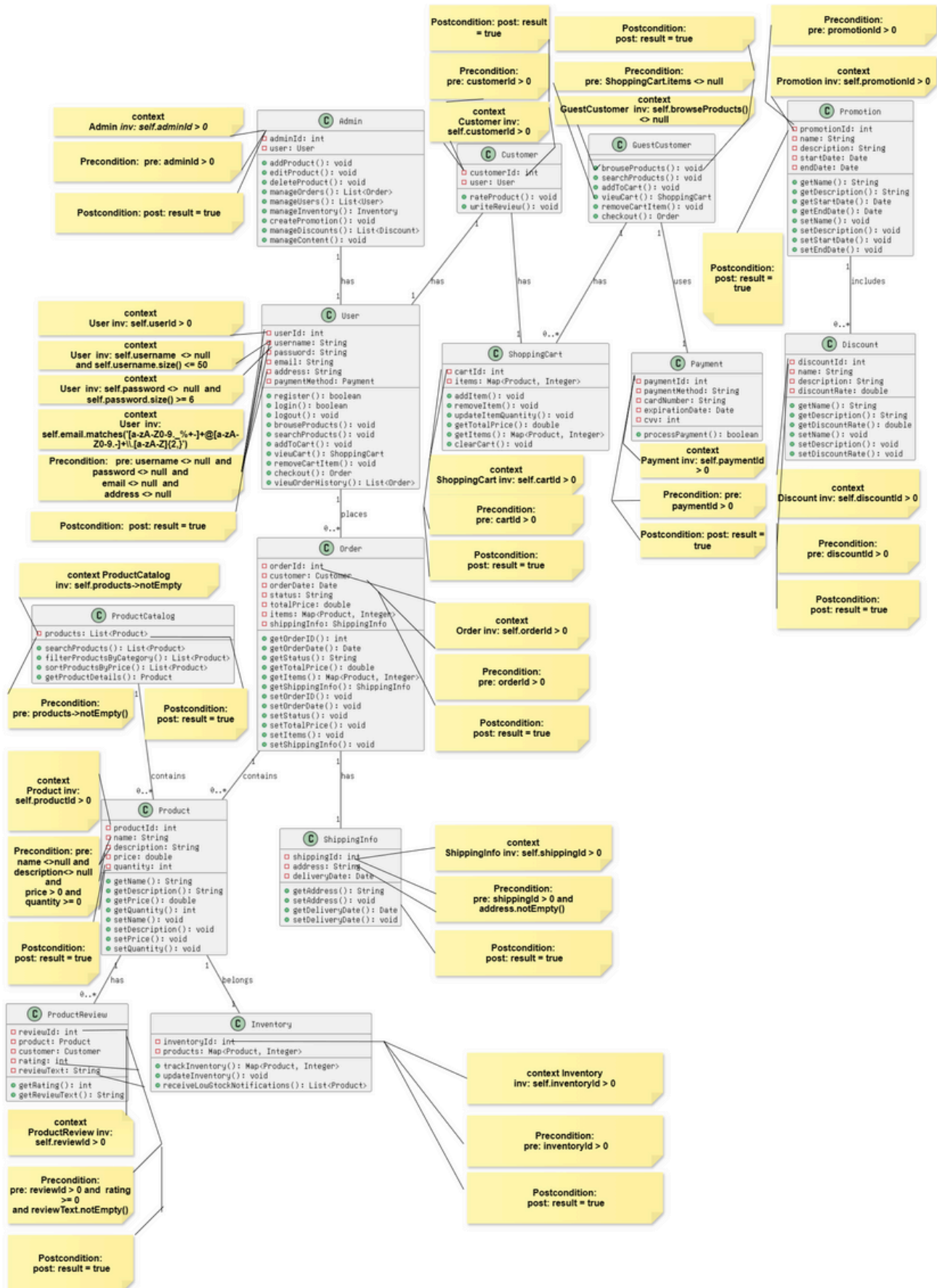
Admin Diagram



Use Case Diagram



Object Constraint Language (OCL)



Entity Relation Diagram (ERD)

