Documentation Chapter 1

Introduction:-

The rapid growth of e-commerce has transformed the retail landscape, providing consumers with unparalleled convenience and access to a wide array of products from the comfort of their homes. However, this evolution brings forward several challenges that impact customer experience and trust. One of the significant issues faced by online shoppers today is the lack of transparency regarding product pricing and profit margins. Many consumers often wonder about the fairness of the prices they pay and whether they are receiving value for their money.

This project seeks to bridge this gap by creating an innovative e-commerce website that not only functions as a virtual marketplace but also prioritizes price transparency. By allowing users to see the purchase price of items and the profit margins from sales, the platform aims to establish trust and empower consumers to make informed purchasing decisions.

In addition to price transparency, the platform will feature a membership program designed to enhance customer loyalty and provide tangible benefits to regular shoppers. This program will offer tiered membership options, granting members access to exclusive discounts, early promotions, and personalized deals based on their shopping behavior. By incentivizing repeat purchases and creating a sense of belonging, the membership program aims to foster a loyal community of customers who feel valued and rewarded for their engagement with the platform.

This proposal outlines the development of an innovative e-commerce website designed to address these issues. By enabling users to view purchase prices and profit margins, our platform not only fosters trust but also empowers consumers to make informed purchasing decisions. Additionally, our membership program will provide exclusive discounts, enhancing customer loyalty and satisfaction.

The primary objective of this project is to create a user-friendly e-commerce platform that prioritizes transparency and value, ultimately transforming the online shopping experience.

Ultimately, this e-commerce platform aspires to enhance the overall shopping experience by promoting transparency and delivering value through its innovative pricing structure and personalized membership benefits, setting a new standard in online retail.

Problem Statement: -

In today's competitive e-commerce market, consumers are increasingly concerned about the fairness and transparency of pricing practices. The following key issues highlight the challenges that both customers and businesses face:

1. **Lack of Pricing Transparency:** Many e-commerce platforms do not disclose comprehensive pricing information, such as the cost price of products and the profit margins. This lack of transparency can lead to distrust and skepticism among consumers. They may question whether they are being charged excessively or if the prices are justified.

2. **Consumer Distrust:** The absence of clear information on pricing can foster an environment of suspicion where consumers wonder about the retailer's pricing strategy. This distrust can lead to hesitance in future purchases and a preference for competitors that provide clearer pricing structures.

3. **Need for Loyalty Incentives:** With numerous options available, retailers must find ways to cultivate customer loyalty to ensure repeat business. Membership programs that offer tailored benefits and discounts can enhance customer satisfaction and retention but are often underutilized or poorly implemented, leading to inadequate engagement.

4. **Market Differentiation:** In a crowded market, it is crucial for e-commerce platforms to differentiate themselves from competitors. Offering unique features, such as transparency in pricing and a robust membership program, can set a platform apart and attract consumers looking for a trustworthy shopping experience.

Additionally, small business owners often lack the tools to monitor their costs and profits effectively. Without visibility into profit margins, they struggle to price their products competitively and make informed business decisions. This not only impacts their profitability but also limits their ability to foster customer loyalty through targeted marketing strategies.

This website aims to develop an e-commerce platform that addresses these issues directly. By providing transparency in pricing and implementing a membership program that offers personalized

discounts, the platform not only enhances consumer trust but also fosters loyalty and engagement. In doing so, it positions itself as a market leader in customer satisfaction and trustworthiness.

Proposed System: -

The proposed system Our E-commerce website designed to enhance the online shopping experience through two core features: price transparency and a rewarding membership program. By integrating these elements, the platform aims to build consumer trust while fostering loyalty and increasing customer engagement. The proposed system consists of the following key components:

1:Price Transparency Dashboard:

- **Cost Price Display:** Each product listing will include the purchase price of the item, allowing users to see how much the retailer paid for the product. This transparency helps customers understand the breakdown of pricing and fosters trust in the retailer.

- **Profit Margin Information:** Alongside the cost price, this website will display the profit margin for each item, giving users insight into how much the retailer earns from each sale. This feature enhances customer confidence, as it demonstrates the retailer's commitment to honesty in pricing.

2. Membership Program:

- **Tiered Membership Structure**: The platform will offer multiple membership levels—such as Basic, Medium, and Pro levels each providing different benefits. Customers can choose a membership tier that fits their shopping habits and discounts**.**
- **Early Access to Sales and Promotions:** Members will be granted early access to special sales, promotions, and new product launches, making them feel prioritized and giving them a reason to engage with the platform frequently.

3. User-Friendly Interface:

- **Intuitive Design:** The platform will feature a clean and user-friendly interface that facilitates easy navigation. Consumers should be able to quickly find products, view pricing information, and access their membership benefits with minimal effort.
- **Mobile Compatibility:** Recognizing the increasing trend of mobile shoppingthe website will be fully optimized for mobile devices, ensuring a seamless shopping experience across platforms.

4. **Secure Payment Gateway:**

    - Thiswebsite will implement a secure and reliable payment gateway to facilitate safe transactions. Various payment options will be available, including credit cards, digital wallets, and online banking, ensuring convenience for users.

5. **Customer Feedback Mechanism:**

    - A customer review and rating system will allow consumers to share their experiences with products. This feedback will not only enhance engagement within the community but also assist future customers in making informed decisions.

Survey Analysis: -

Websites	**Sign in/Sign up**	**Membership and Discount Program**	**Price transprancy**	**Inventory preview**	
Metroonline.pk	✓	✕	✕	✕	
Farmtohome.com	✓	✕	✕	✕	
Grocerapp.pk	✓	✕	✕	✕	
Naheed.pk	✓	✕	✕	✕	
Cartpk.com	✓	✕	✕	✕	

Modules and Sub-Modules: -

1: User Management Module

- **User Registration and Authentication:** Functionality for new users to sign up, verify their accounts, and log in. Includes options for social media login.
- **Profile Management:** - Users can view and edit their personal information, including contact details, delivery addresses, and payment information.
- **Membership Management:** Allows users to enroll in different membership tiers and manage their subscriptions.

2:Product Management Module

- **Product Catalog:** Upload and manage product listings, including descriptions, images, and specifications.
- **Price Transparency Features:** Display the cost price and profit margin for each product prominently.
- **Inventory Management:**Track inventory levels, manage stock availability, and set alerts for low stock.

3: Shopping Cart Module

- **Cart Management:** Allow users to add, remove, or modify the quantity of items in their shopping cart.
- **Price Calculation:** Automatically compute the total cost, include applicable discounts, and display membership-specific pricing.

4: Checkout Module

- **Payment Gateway Integration:**Securely process various payment options, including credit cards, digital wallets, and bank transfers.
- **Order Summary and Confirmation:** Provide a summary of the order before final submission and send order confirmation via email.

5: Membership Program Module

- **Tier Management:**Define different membership levels (e.g., Basic, Medium, Pro) with associated benefits.

7: Promotions and Discounts Module

- **Discount Management:**Create, manage, and apply various promotional offers and discount codes.
- **Seasonal Promotions:**Schedule and automate holiday or seasonal promotions to engage customers.

Primary Actors: -

Primary Actors refer to the main users or entities that interact with the system to achieve specific goals.

1: Customers

- **Description:** The end-users who browse, select, and purchase products on the platform.
- **Goals and Activities:**
- Search for and view products.
- Add items to the shopping cart.
- Complete the checkout process.
- Access and manage their user profiles, including viewing order history and tracking shipments.
- Provide feedback and reviews on purchased products.

3. **Admin/Platform Administrators**

- **Description:** Admins responsible for maintaining the website.

Goals and Activities:

- Manage and oversee user accounts.
- Monitor and manage inventory levels across the platform.
- Configure and manage promotional campaigns and discounts.
- Respond to customer support inquiries and address any issues that arise.
- Monitor sales performance and analytics.

- Participate in promotional activities and manage discounts.

4. Warehouse Staff

- **Description:** Personnel responsible for processing and fulfilling orders from the inventory.

Goals and Activities:

- Receive and stock merchandise.
- Pick, pack, and ship orders to customers.
- Update inventory levels based on shipping activities.
- Handle returns and restocking of products.

5. Customer Support Representatives

- **Description:** Support staff dedicated to assisting customers with inquiries, issues, and feedback.

Goals and Activities:

- Respond to customer questions through various channels (e.g., chat, email, phone).
- Assist customers with order modifications, returns, and refunds.
- Gather customer feedback for continuous improvement of services.

Tools & Techniques Used: -

We will usetailwind CSS for the frontend and Django for the backend provides a solid foundation for developing a robust and modern e-commerce website.

Tools

1. Frontend Development

- **HTML/CSS:** Standard markup and styling languages for structuring and designing webpages. HTML forms the backbone, while CSS adds styling.
- **Tailwind CSS:** A utility-first CSS framework that allows for rapid UI development with pre-defined classes, promoting a clean and efficient design process.

2. **Backend Development**

- **Django**: A PHP framework designed for developing web applications with a focus on elegance and simplicity. Django provides a robust toolkit.
- MVT (Model-View-Controller) architecture for organized code structure.
- Eloquent ORM for database interactions.
- Built-in authentication and routing functionality.

3. **Database Management**

- **MySQL:** A popular relational database management system that pairs well with Django for storing product information, user data, and order details.

4. **Development Environment**

- **Local Development Tools:** Use tools like **XAMPP**,**Visual Studio Code**to set up a local environment for running Django applications smoothly.

Techniques

1. Responsive Design

- Use Tailwind CSS's utility classes to create a responsive design that adjusts seamlessly across different device sizes and resolutions.

- Implement Django’s built-in authentication system to manage user registration, login, and role-based access control to different parts of the application.

- Structure your frontend using reusable components, leveraging Tailwind CSS to style them consistently, which enhances maintainability and scalability.

Process Model & Design Approach Used: -

Process Model

1.Agile Development

- **Description:** Agile is an iterative and incremental approach to software development. It focuses on collaboration, customer feedback, and small, rapid releases to adapt to changing requirements.
- Why Agile for E-commerce?
- **Flexibility:** Customer needs and market trends can change quickly, and Agile allows you to adapt your features and priorities based on feedback and testing results.
- **Continuous Delivery:** Frequent iterations support regular updates, ensuring that your e-commerce platform can evolve continuously with new features and improvements.
- **Stakeholder Collaboration:** Agile encourages regular communication with stakeholders, which ensures that the product aligns with business objectives and user needs.

2. **Responsive Web Design**

- **Description:** A design approach that ensures your e-commerce website is accessible and functional across a range of devices, screen sizes, and orientations.

Implementation with Tailwind CSS:

- Use Tailwind's utility classes to create a fluid layout that adjusts based on viewport size.
- Utilize responsive design techniques, such as flexible grid systems and media queries, to ensure a consistent user experience.
- Why Responsive Design? Given the increasing use of mobile devices for online shopping, a responsive design approach is essential for reaching a broader audience and providing a seamless shopping experience.

3. **Model-View-Controller (MVT) Architecture**

- **Description:** The MVT architecture separates application logic into three interconnected components:
- **Model:** Represents the data and business logic (handled by Django’s Eloquent ORM).
- **View:** The user interface created with HTML, CSS, and Tailwind CSS.
- **Controller:** Manages user input and interacts with the model and view to render responses.

Project Plane: -

Project Goals:

- Develop a responsive and user-friendly e-commerce website.
- Optimize for performance and conversion rates.

Scope of the Project- Inclusions:

- User account management (registration, login, profile management).
- Product catalog with search functionalities.
- Shopping cart and checkout process.
- Secure payment gateway integration.
- Order management and admin dashboard.
- User reviews and ratings system.
- Responsive design for mobile and desktop users.

Tools:

- Development tools (HTML, CSS, Django, etc.)
- Project management tools (e.g. Visual Studio Code ,MyphpAdmin,MySQL)

Stakeholders- Project Manager:

- Frontend Developer: [Aman Ullah Shakoor]
- Backend Developer: [Muhammad Yousaf]

Budget- Personnel costs:

- Software and tools (development, design, testing)
- Hosting and server costs- Marketing expenses for the launch phase Risk Management

Potential Risks:

- Delays in development due to technical challenges.
- Scope creep from multiple feature requests.
- User dissatisfaction impacting post-launch performance.

Documentation Chapter 2

Functional Requirements

1. Introduction ;

1.1 Purpose: The purpose of this document is to define the functional and non-functional requirements for the Nexa Traders e-commerce platform. The platform will prioritize transparency and customer loyalty, offering features such as price transparency, membership programs, and a secure, user-friendly shopping experience.

1.2 Scope : The Nexa Traders platform is an innovative e-commerce website aiming to enhance the online shopping experience through price transparency and a tiered membership program. Users will be able to view cost prices, profit margins, and enjoy personalized discounts.

1.3 Definations:

- **SRS:** Software Requirement Specification
- **UI:** User Interface
- **MVT**: Model-View-Controller architecture
- **ORM:** Object-Relational Mapping

1.4 Overview: This document outlines the functional and non-functional requirements for the Nexa Traders platform. It includes use cases, system features, and architectural considerations.

2.1 Overall Description:

2.2 Product Functions:

- Price transparency dashboard displaying cost prices and profit margins.
- Tiered membership program with exclusive benefits.
- User management system with secure registration and login.
- Product catalog with real-time inventory updates.
- Secure payment gateway integration.

2.3User Classes and Characteristics

- **Customers:** End-users purchasing products and availing membership benefits.
- **Admins:** Manage products, inventory, and user accounts.
- **Support Staff:** Address customer inquiries and feedback**.**

2.4 Operating Environment

- **Frontend:** Tailwind CSS
- **Backend:** Django framework
- **Database:** MySQL
- **Devices:** Desktop, tablet, and mobile

3 System Features and Functional Requirements

3.1 Security Management

3.1.1 Register

SRS ID	Description
SRS-1	The user can register an account by providing their email address and password.
SRS-2	The system will send an email verification to ensure the user's identity.

3.1.2 Login

SRS ID	Description
SRS-3	The user can log in using their registered email address and password.
SRS-4	The system will validate the provided credentials before granting access.

3.1.3 Change Password

SRS ID	Description
SRS-5	The user can change their password by providing their old password and a new one.
SRS-6	The system will validate the old password before updating it to the new one.

3.1.4 Forget Password

SRS ID	Description
SRS-7	The user can request a password reset by providing their registered email address.
SRS-8	The system will send a password reset link to the registered email address.

3.2 Product Management

3.2.1 Add/Edit/Delete Products

SRS ID	Description
SRS-9	Admins can add new products with details such as name, price, and stock quantity.
SRS-10	Admins can edit product information to keep it up-to-date.
SRS-11	Admins can delete products no longer available for sale.

3.2.2 Inventory Management

SRS ID	Description
SRS-12	The system will automatically update inventory levels when products are sold.
SRS-13	Admins can manually adjust inventory levels if required.

3.3 Price Transparency

SRS ID	Description
SRS-14	Users can view the cost price and profit margin for each product.

3.4 Membership Program

SRS ID	Description
SRS-15	Users can subscribe to Basic or Pro membership tiers.
SRS-16	Members receive exclusive discounts and early access to sales.

3.5 Secure Payment

SRS ID	Description
SRS-17	Users can pay using various methods like credit cards and digital wallets.
SRS-18	The system will confirm the payment status after processing.

3.6 Feedback and Reviews

SRS ID	Description
SRS-19	Users can leave reviews and rate products they have purchased.
SRS-20	Admins can moderate reviews to ensure compliance with guidelines.

3. Shopping Cart and Checkout

- **Cart Management:** Users can add, remove, or adjust item quantities in their cart.
- **Price Calculation:** Display the total cost, applicable discounts, and membership-specific pricing.
- **Order Summary:** Provide a summary before checkout and confirm orders after payment.

4. Membership Program

- **Tier Management:** Define and manage different membership attributes.
- **Membership Tiers:** Offer two distinct membership options:

  Basic Membership (Monthly): A month-to-month subscription providing access to standard membership benefits, such as exclusive discounts on select products and early access to promotions.

  Pro Membership (Yearly): An annual subscription offering enhanced benefits, including higher discount rates, priority access to new product launches, and personalized shopping deals.

5. Payment Processing

- **Secure Payment Gateway Integration:** Enable payments via different methods with secure transaction processing.
- **Order Confirmation:**Display a confirmation message with order details once payment is completed.
- **Order Pickup Option:** Allow users to choose between delivery or in-store pickup when placing orders online.

6. Feedback and Review

- **Product Reviews and Ratings:** Allow users to leave reviews and rate products they have purchased.
- **Query-Based Help Desk Interface:**Allow users to select or type in keywords related to their issues, such as “membership,” “payment,” “order tracking,” etc.

7. Promotions and Discounts

- **Discount Management:** Enable admin to create, manage, and apply various promotional offers.

8. Offline Shops and Order Fulfillment

- **Offline Shop Locations:** Provide addresses and details of offline shops where users can browse and purchase products in person. This includes:
    - Location information for each shop.
    - Contact details and operational hours.

9. Search and Navigation

- **Product Search :** Allow users to search for products by name.
- **Easy Navigation:** Provide a clear, easy-to-navigate site structure for users to browse products and access their membership benefits.

<u>Non-Functional Requirements</u>

1. Performance

- **Load Time:** Pages should load fast.
- **Scalability:** The platform should support increasing numbers of users, products, and transactions without performance degradation.

2. Usability

- **User-Friendly Interface:** Ensure an intuitive, responsive design that is easy to navigate for all users.
- **Mobile Compatibility:** The website should be fully optimized for mobile devices, maintaining full functionality across devices.

3. Security

- **Data Encryption:** Encrypt all user data, especially sensitive data like passwords and payment information.
- **Secure Transactions:**Secure payment gateways to protect transaction data.
- **Role-Based Access Control:** Only authorized admin can manage inventory, promotions, and user accounts.

4. Reliability

- **Availability:** Ensure the platform is available 99.9% of the time, with minimal downtime.

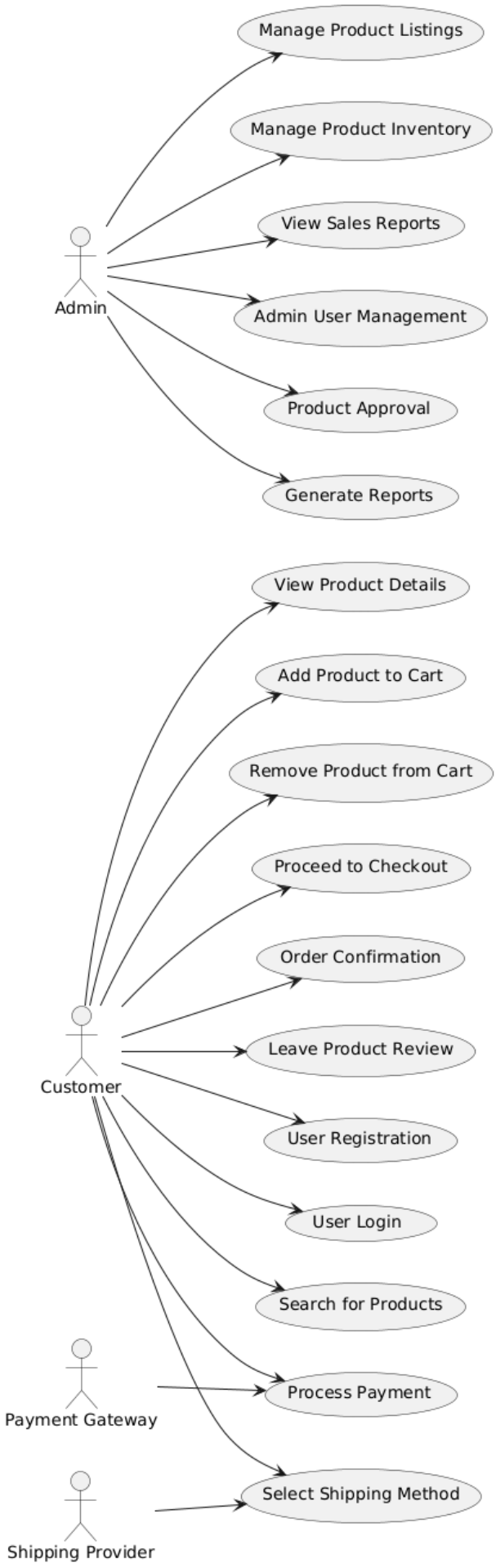
5. Maintainability

- **Code Modularity:** Structure code for easy maintenance, updates, and debugging.
- **Documentation:** Provide clear documentation for code, APIs, and database structures.

6. Compliance

- **Data Privacy Compliance:** Adhere to data privacy regulations for handling user data such as inscription.

Fully Dressed Class Diagram


Manage Product Listings
Manage Product Inventory
View Sales Reports
Admin
Admin User Management
Product Approval
Generate Reports
View Product Details
Add Product to Cart
Remove Product from Cart
Proceed to Checkout
Order Confirmation
Customer
Leave Product Review
User Registration
User Login
Search for Products
Payment Gateway
Process Payment
Select Shipping Method
Shipping Provider

Fully Dressed Use Case Diagram:

Use Case ID: UC-01

Use Case Name	**Register**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	21 Nov,24
Description	Users register on the platform to create a secure account.
Primary Actors	User
Stakeholders & Interests	• **User**: Wants to create an account securely. • **Admin**: Ensures secure registration.
Pre-Conditions	The system is operational, and the user has a valid email.
Main Success Scenario	
Customer Action	**System Response**
1. User navigates to the registration page.	1. System displays a registration form with required fields (e.g., email, password).
2. User fills in the registration form and submits it.	2. System validates the entered details (e.g., email format, password strength).
3.User receives a confirmation email.	3. System sends a confirmation email to the user's provided email address.
4.User clicks the link in the confirmation email.	5.System activates the account and displays a success message.
Post-Condition	User account is successfully created and activated.
Priority	High
Cross-References	SRS-1, SRS-2

Use Case ID: UC-02

Use Case Name	**Login**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Users log into the platform to access their account.
Primary Actors	User
Stakeholders & Interests	• **User**: Wants to securely access their account. • **Admin**: Ensures authentication is secure.
Pre-Conditions	User is registered and has valid credentials.
Main Success Scenario	
Customer Action	**System Response**
1. User navigates to the login page.	1. System displays login fields (email, password).
2. User enters their credentials and submits.	2. System validates the credentials against the database.
3.User is granted access.	3. System redirects the user to their dashboard.
Post-Condition	User is logged in successfully.
Priority	High
Cross-References	SRS-3, SRS-4

Use Case ID: UC-03

Use Case Name	**Change Password**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Users can securely change their password to maintain account security
Primary Actors	User
Stakeholders & Interests	• **User**:Wants to update their password securely.. • **Admin**: Ensures password change is safe and valid.
Pre-Conditions	The user is logged in
Main Success Scenario	
Customer Action	**System Response**
1. User navigates to the Change Password option in their account settings.	1. System displays a form requiring the current password and a new password.
2. User enters their current password and the new password.	2. System validates the current password against the database.
3. User confirms the new password by re-entering it	3.System updates the password and displays a success message.
Post-Condition	User has successfully updated their password.
Priority	High
Cross-References	SRS-5, SRS-6

Use Case ID: UC-04

Use Case Name	**Forgot Password**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Users can reset their password if they forget it
Primary Actors	User
Stakeholders & Interests	• **User**: Wants to regain access to their account. **Admin**: Ensures password recovery is secure**.**
Pre-Conditions	The user has a registered email address, and the system is operational
Main Success Scenario	
Customer Action	**System Response**
1. User clicks on Forgot Password on the login page.	1. System displays a form to enter the registered email address.
2. User enters their email and submits the form.	2. System sends a password recovery link to the provided email address.
3. User clicks on the recovery link and sets a new password.	3. System updates the password and notifies the user of a successful reset
Post-Condition	User has successfully reset and updated their password
Priority	High
Cross-References	SRS-7, SRS-8

Use Case ID: UC-05

Use Case Name	**Add/Edit/Delete Products**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Admins can manage product listings in the system.
Primary Actors	Admin
Stakeholders & Interests	**Admin**: Wants to maintain an up-to-date product catalog.
Pre-Conditions	The user has a registered email address, and the system is operational
Admin Action	
• Admin selects "Manage Products" from the dashboard. • Admin chooses to add a new product and fills in details (name, price, stock quantity). • System validates the product information. • Admin can also edit existing product details or delete products. • System updates the product catalog accordingly.	
Post-Condition	Product listings are successfully added, edited, or deleted.
Priority	High
Cross-References	SRS-9, SRS-10,SRS-11

Use Case ID: UC-06

Use Case Name	**Inventory Management**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Admins can manage inventory levels in the system.
Primary Actors	Admin
Stakeholders & Interests	**Admin**:Wants to maintain accurate inventory records.
Pre-Conditions	Admin is logged into the admin panel.
Admin Action	
• Admin accesses the inventory management section. • System displays current inventory levels for each product. • Admin can manually adjust inventory levels if required. • System automatically updates inventory levels when products are sold.	
Post-Condition	Inventory levels are accurately maintained and updated.
Priority	High
Cross-References	SRS-12, SRS-13

Use Case ID: UC-07

Use Case Name	**View Product Details**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Users can view detailed information about products.
Primary Actors	User
Stakeholders & Interests	**User:** Wants to make informed purchasing decisions.
Pre-Conditions	User is browsing the product catalog.
User Action	
• User selects a product from the catalog. • System displays detailed information, including specifications, pricing, and customer reviews. • System shows cost price and profit margin for transparency. • System automatically updates inventory levels when products are sold.	
Post-Condition	User has all necessary information to make a purchase decision.
Priority	High
Cross-References	SRS-14

Use Case ID: UC-08

Use Case Name	**Membership Subscription**
Prepared By	Aman Ullah Shakoor
Prepared On	20 Nov,24
Updated By	Muhammad Yousaf
Updated On	22 Nov,24
Description	Users can subscribe to membership tiers to access benefits.
Primary Actors	User
Stakeholders & Interests	**User:**Wants to access exclusive discounts and benefits.
Pre-Conditions	User is logged in.
User Action	
• User navigates to the membership section. • System displays available membership tiers. • User selects a tier and proceeds to payment. • System processes the payment through the payment gateway. • Membership module activates the membership and assigns benefits to the user. • User receives confirmation of the membership.	
Post-Condition	User is successfully subscribed to a membership tier.
Priority	High
Cross-References	SRS-15, SRS-16

- **User Registration:**Customers can create an account by providing personal details, enabling them to save preferences and order history for future purchases.

- **User Login:**They log into their accounts to access personalized features, including their order history and saved cart items.

- **Search for Products:**Customers can browse through the product catalog using search features and filters to find specific items that meet their needs.

- **View Product Details:**User can click on product listings to view detailed information, including specifications, pricing, and customer reviews.

- **Add/Remove Product to Cart:**Customers can select products they wish to purchase and add or remove them to their shopping cart for future checkout.

- **Proceed to Checkout:**Once ready to purchase, customers finalize their selections by entering shipping information and selecting payment options.

- **Process Payment:**Customers securely enter payment details through the payment gateway, completing the transaction.

- **Order Confirmation:**Userreceive notifications confirming their order details, including a summary of purchases and expected delivery information**.**

- **Leave Product Review:**After receiving an item, customers can submit feedback and reviews based on their experience, influencing future buyer decisions.

Payment Gateway:

- **Process Payment:**The gateway facilitates the processing of customer payments, integrating with various payment methods (credit cards, digital wallets, etc.) to ensure seamless transactions.

- **Transaction Security:**The payment gateway adheres to data protection regulations and security protocols (like PCI DSS) to safeguard customer payment information during transactions.

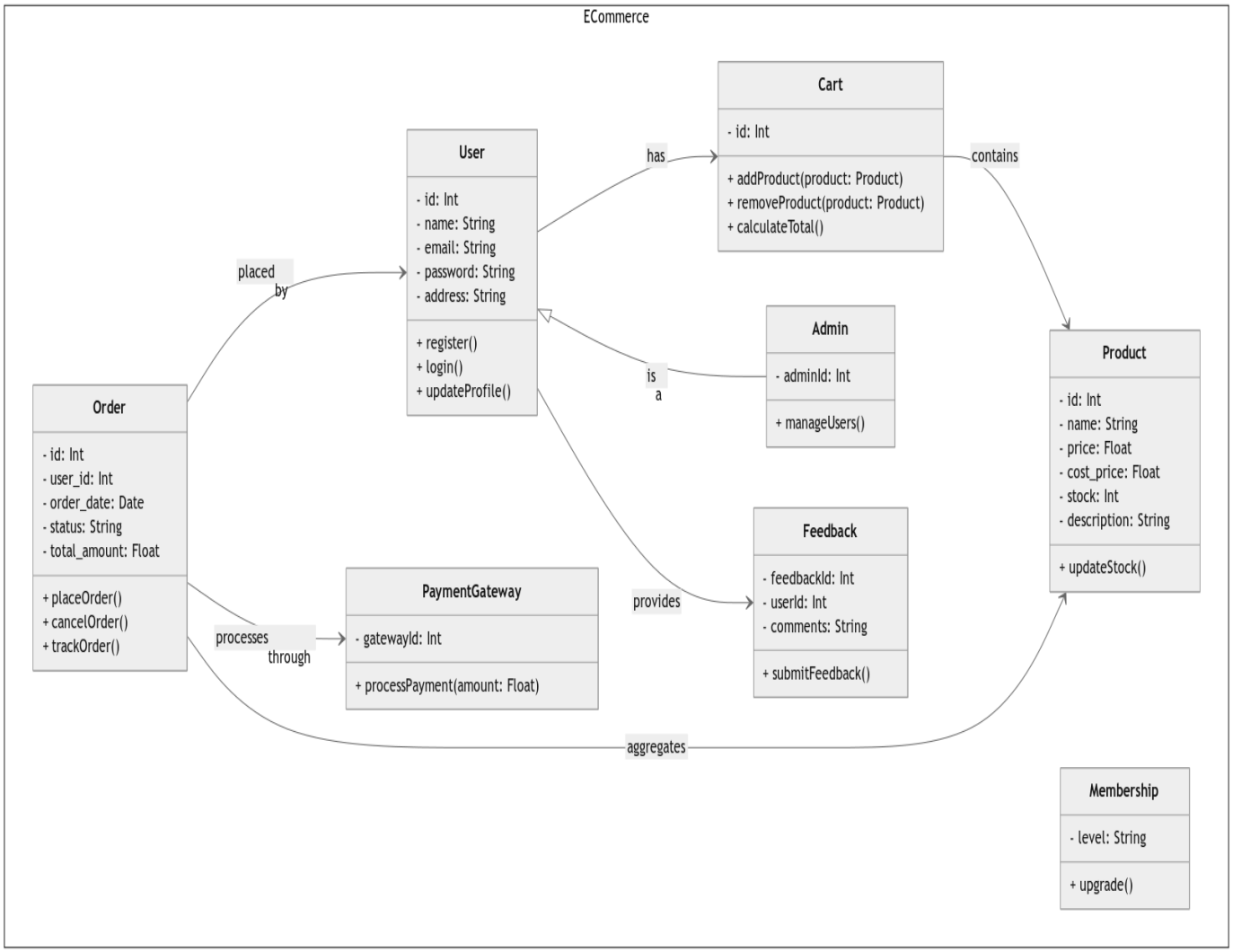
- **Select Shipping Method:**During checkout, customers choose from various shipping options (standard, expedited, etc.) that are made available by the shipping provider.

- **Tracking Shipments:**We provide tracking information that customers can use to monitor the status of their shipments in real time.

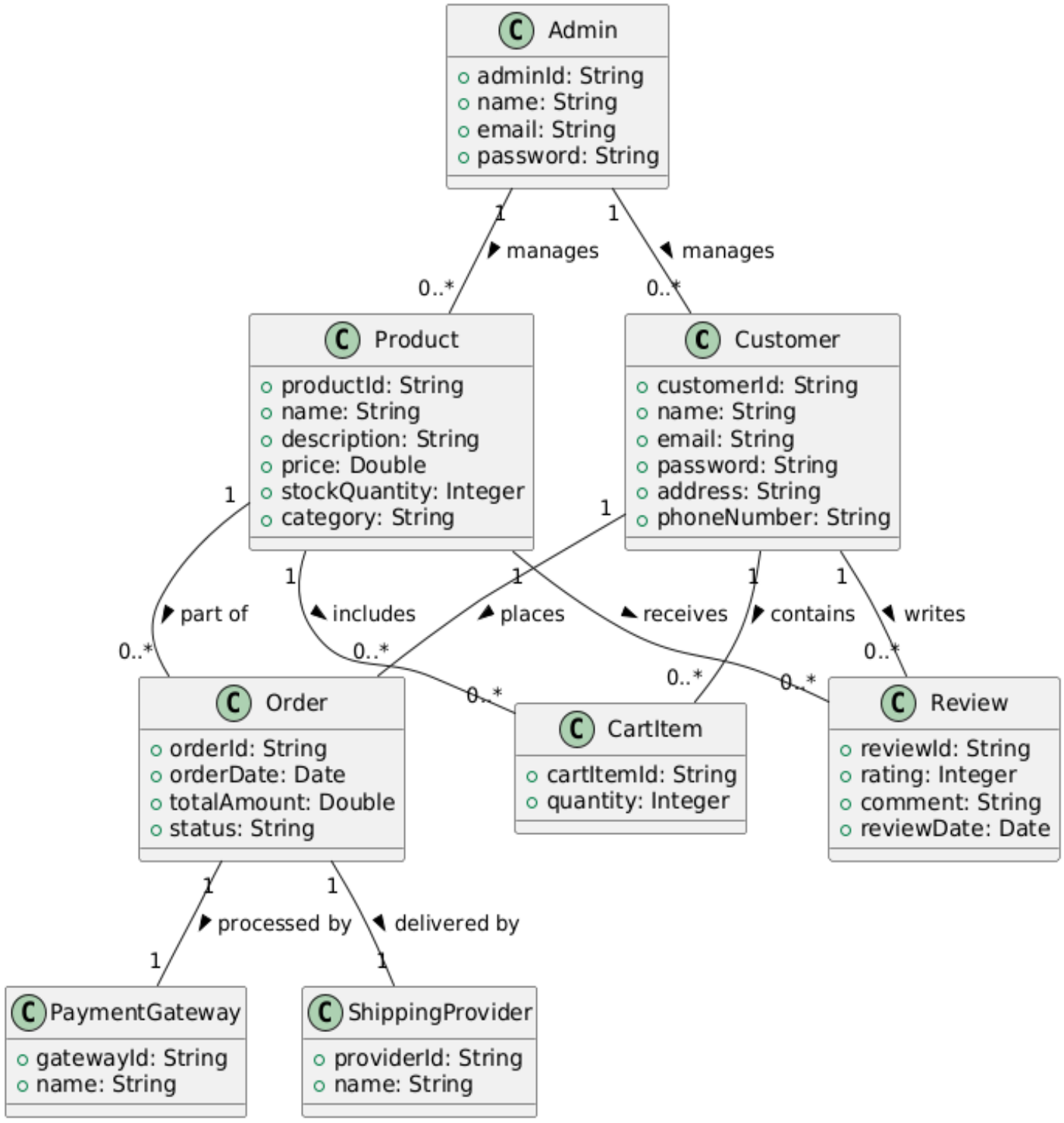
- **Delivery Confirmation:**Shipping providers confirm successful delivery of orders to customers and communicate updates back to the platform.

Chapter # 3

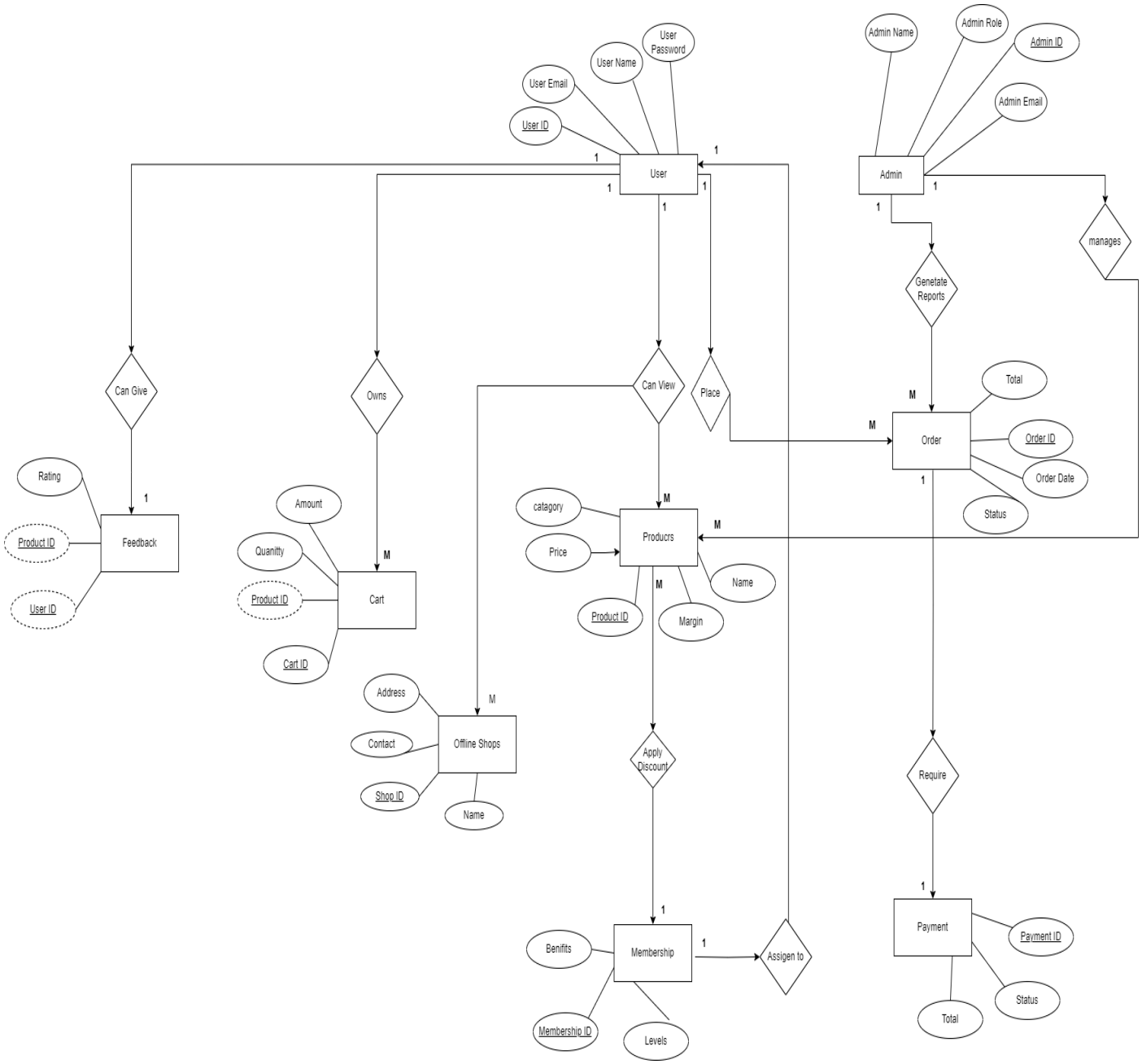
Class Diagram:



Domain Model :



Entity Realationship Diagran:


User Password
User Name
User Email
User ID
User
Admin Name
Admin Role
Admin ID
Admin Email
Admin
manages
Genetate Reports
Can Give
Owns
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Place
Total
Order ID
Order Date
Status
Order
Rating
Product ID
User ID
Feedback
Amount
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Product ID
Cart ID
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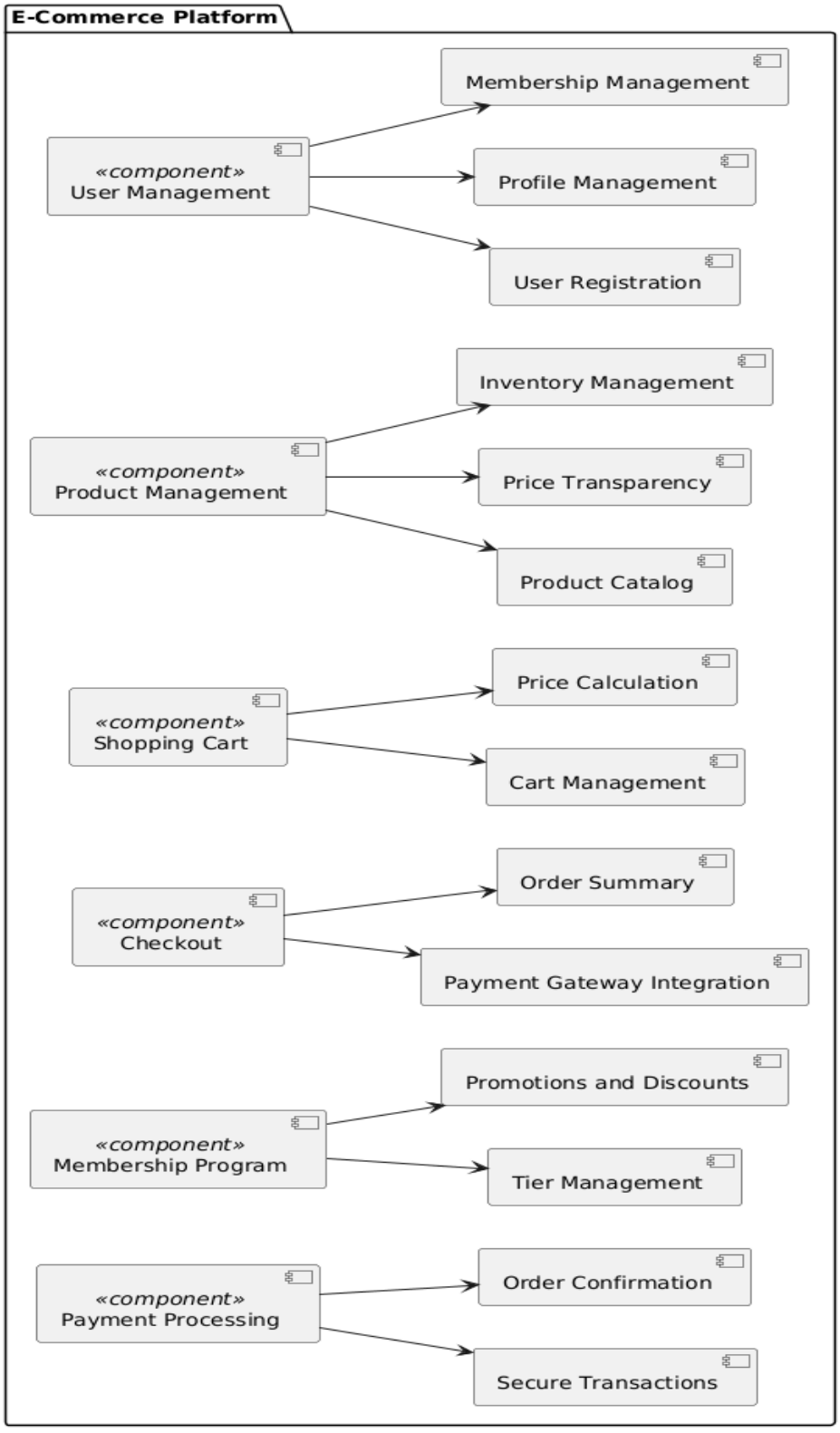
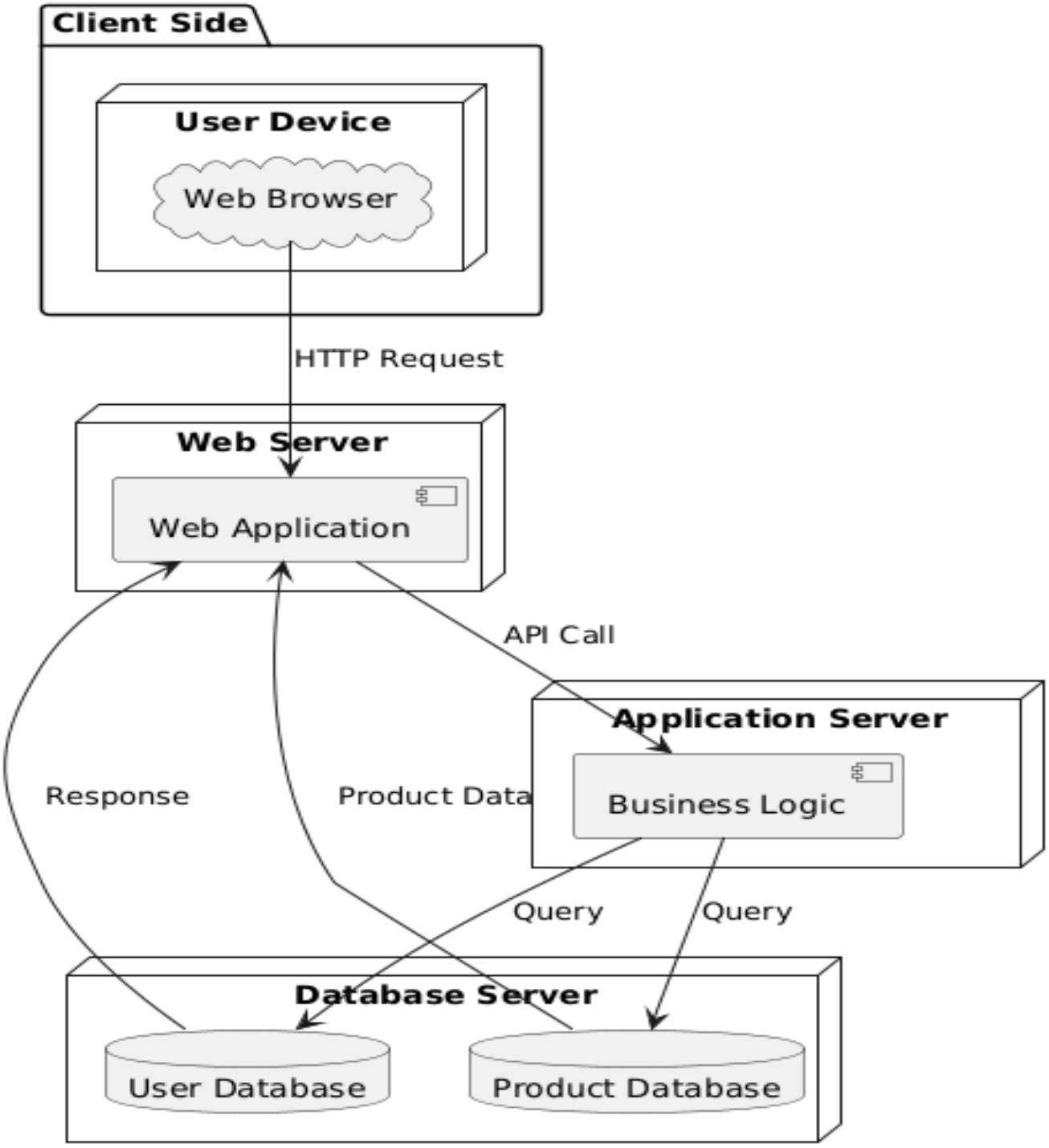
catagory
Price
Producrs
Name
Product ID
Margin
Address
Contact
Shop ID
Name
Offline Shops
Apply Discount
Require
Benifits
Membership ID
Levels
Membership
Assigen to
Payment
Payment ID
Status
Total

Component Diagram :



Deployment Diagram:



Sequance Diagram

Case 1:-User Registration and Login

Actors:

1:Customer

2:Website (User Management Module)

Steps:

1:Customer opens the website.

2:Customer clicks "Sign Up" or "Login."

3:Website prompts for registration/login details.

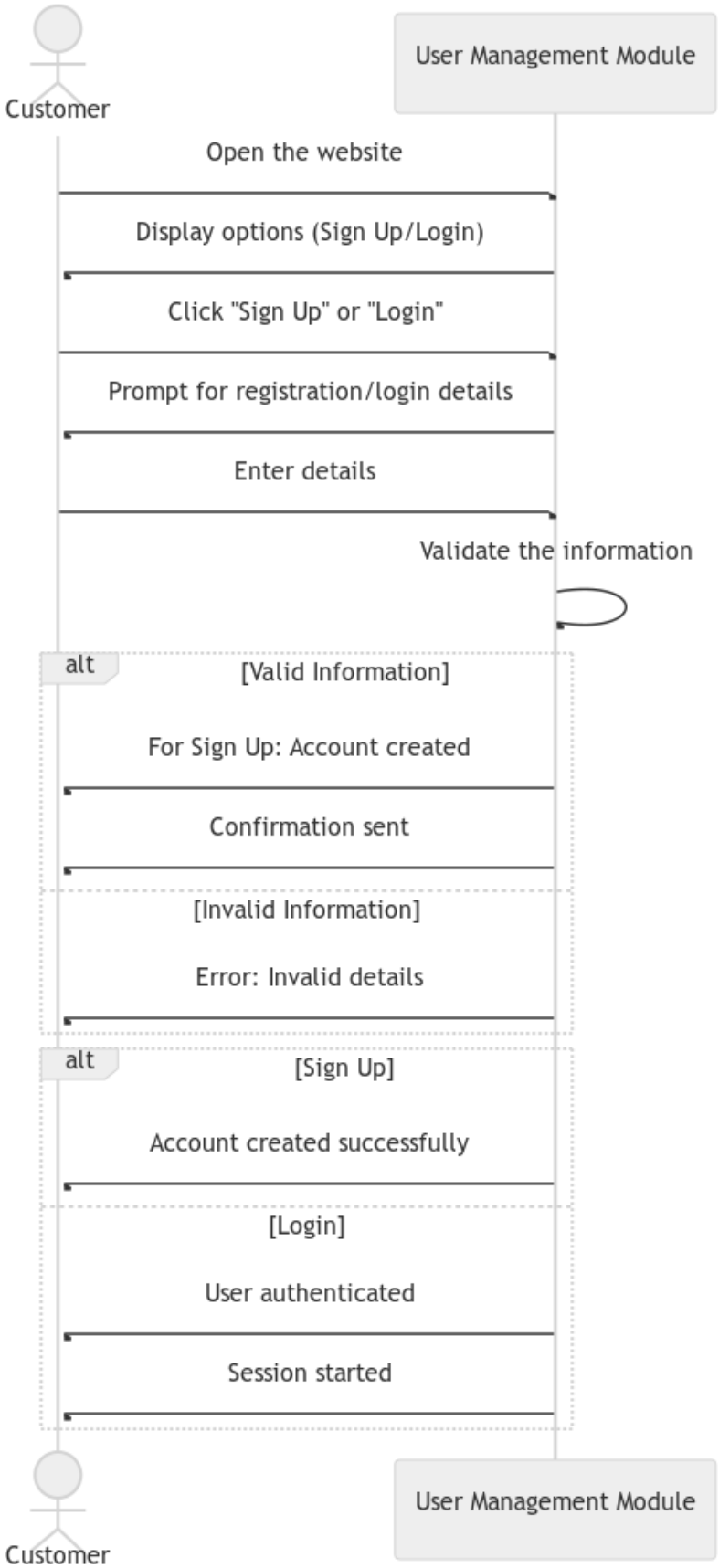
4:Customer enters details.

5:Website validates the information.

If valid:

6:For Sign Up: Account is created, and confirmation is sent.

7:For Login: User is authenticated, and a session starts.


Customer
User Management Module
Open the website
Display options (Sign Up/Login)
Click "Sign Up" or "Login"
Prompt for registration/login details
Enter details
Validate the information
alt
[Valid Information]
For Sign Up: Account created
Confirmation sent
[Invalid Information]
Error: Invalid details
alt
[Sign Up]
Account created successfully
[Login]
User authenticated
Session started
Customer
User Management Module

Case 2:-Browsing and Adding Products to Cart

Actors:

1:Customer

2:Website (Product Catalog, Shopping Cart Module)

Steps:

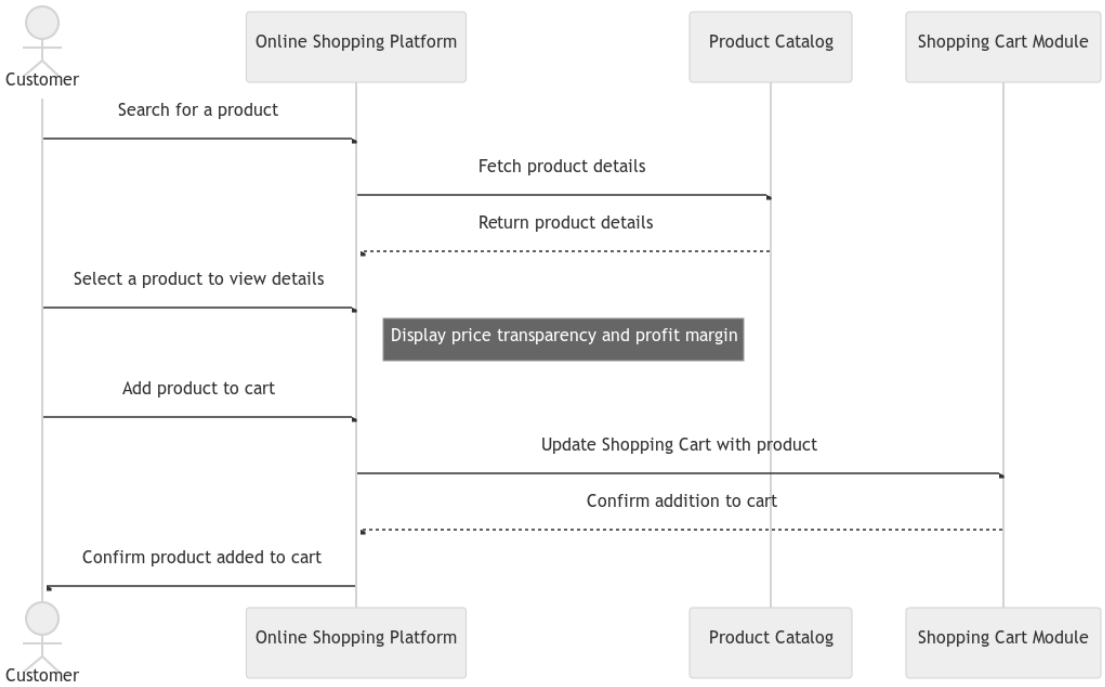
1:Customer searches for a product.

2:Website fetches product details from the Product Catalog.

3:Customer selects a product to view its details (including price transparency and profit margin).

4:Customer adds the product to their cart.

5:Website updates the Shopping Cart with the product and confirms the addition.



Case 3:- Checkout and Payment

Actors:

1:Customer

2:Website (Shopping Cart, Payment Gateway, Admin Dashboard)

Steps:

1:Customer proceeds to checkout.

2:Shopping Cart calculates the total cost, applying discounts or membership benefits.

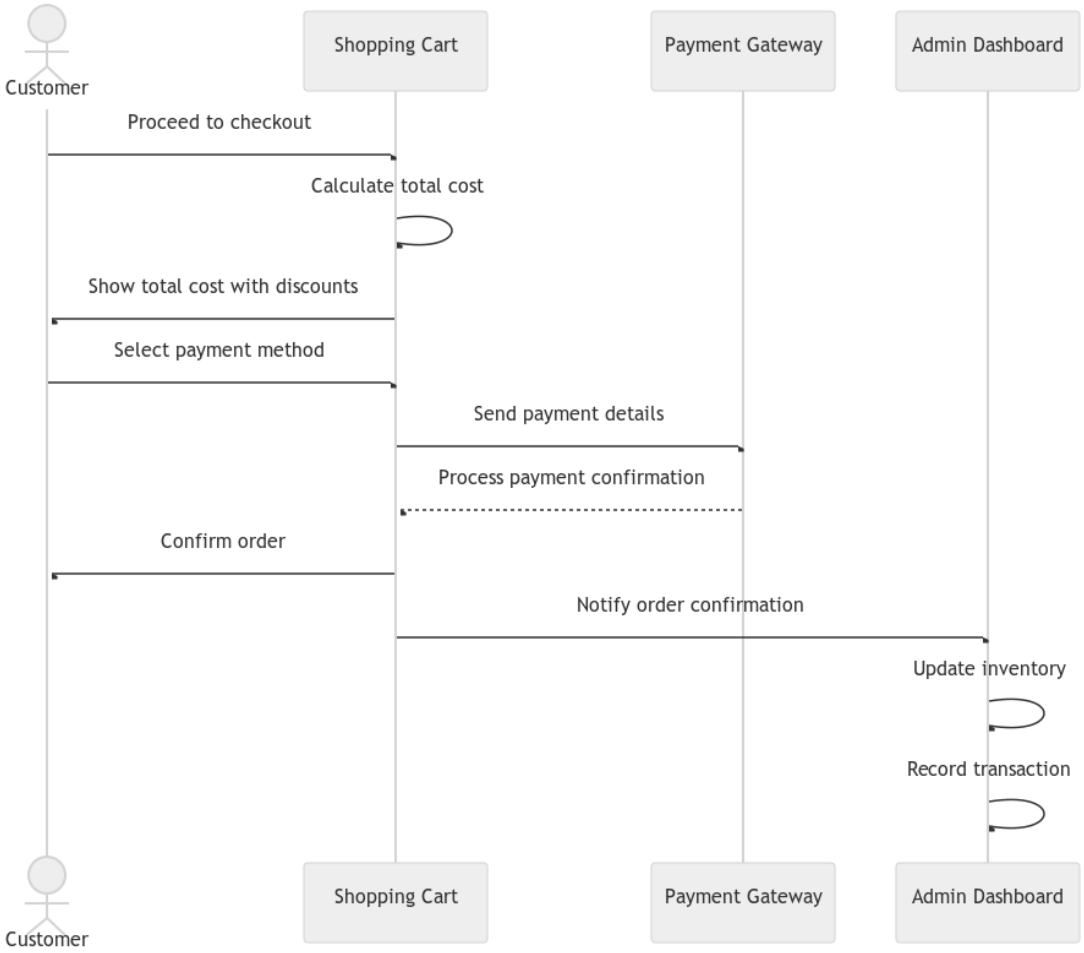
3:Customer selects a payment method.

4:Website sends payment details to the Payment Gateway.

5:Payment Gateway processes the payment and sends confirmation.

6:Website confirms the order and notifies the Admin Dashboard.

7:Admin records the transaction.



Case 4:- Membership Enrollment

Actors:

1:Customer

2:Website (Membership Module)

Steps:

1:Customer navigates to the membership section.

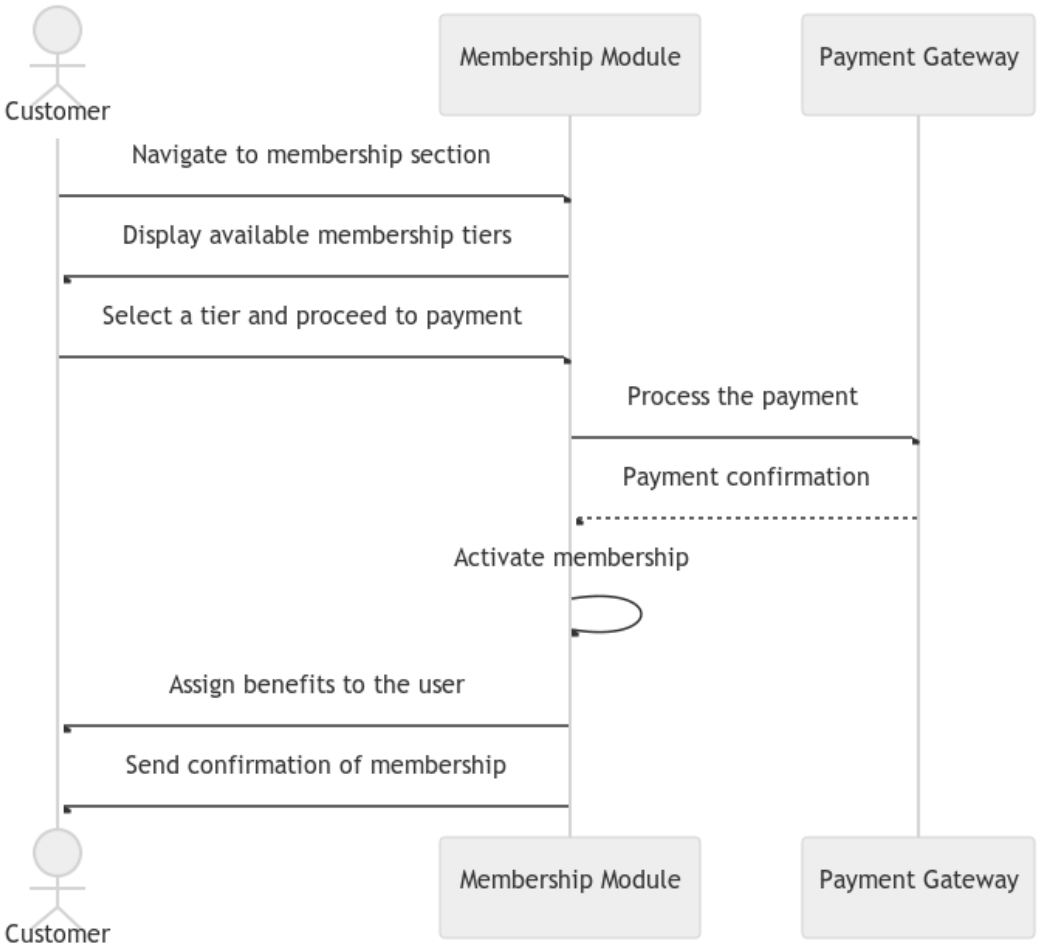
2:Website displays available membership tiers.

3:Customer selects a tier and proceeds to payment.

4:Website integrates with the Payment Gateway to process the payment.

5:Membership Module activates the membership and assigns benefits to the user.

6:Customer receives confirmation of the membership.



Case 5:-Writing a Product Review

Actors:

1:Customer

2:Website (Feedback & Review Module)

Steps:

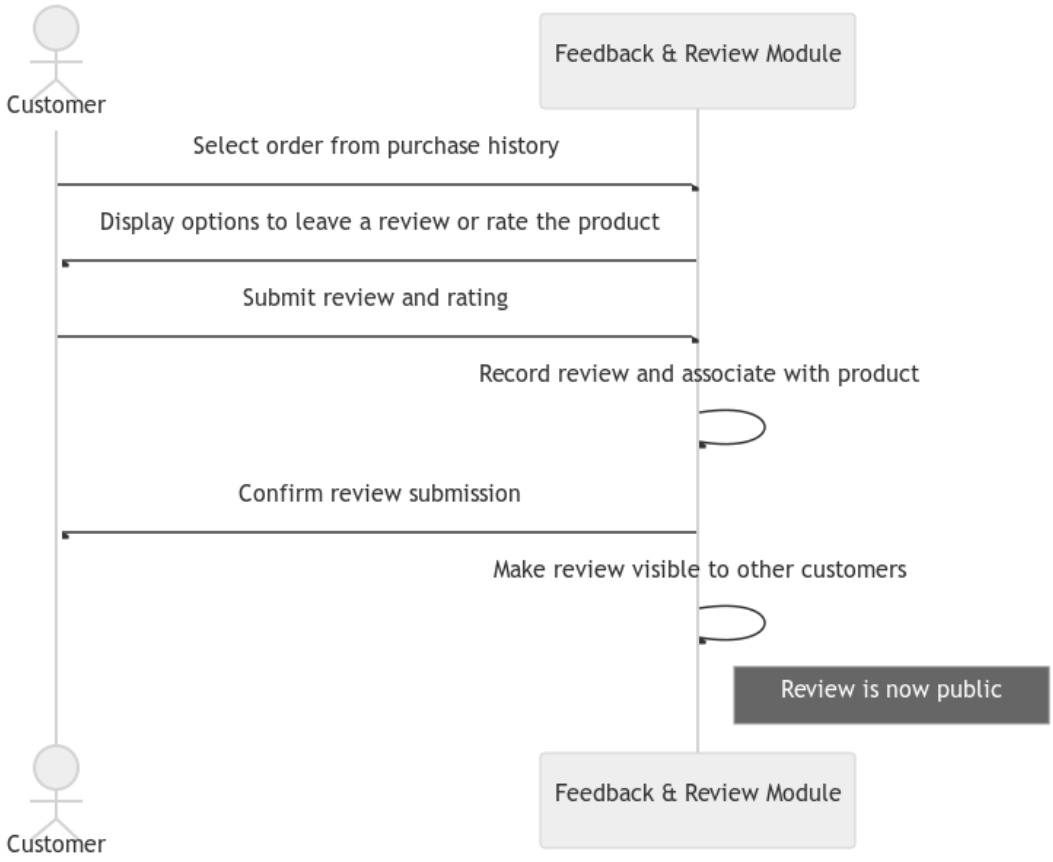
1:Customer selects an order from their purchase history.

2:Website displays options to leave a review or rate the product.

3:Customer submits their review and rating.

4:Feedback Module records the review and associates it with the product.

5:The review becomes visible to other customers.



Case 6:- Admin Managing Products

Actors:

1:Admin

2:Website (Admin Dashboard, Product Management)

Steps:

1:Admin logs into the admin panel.

2:Admin selects "Manage Products."

3:Admin performs actions:

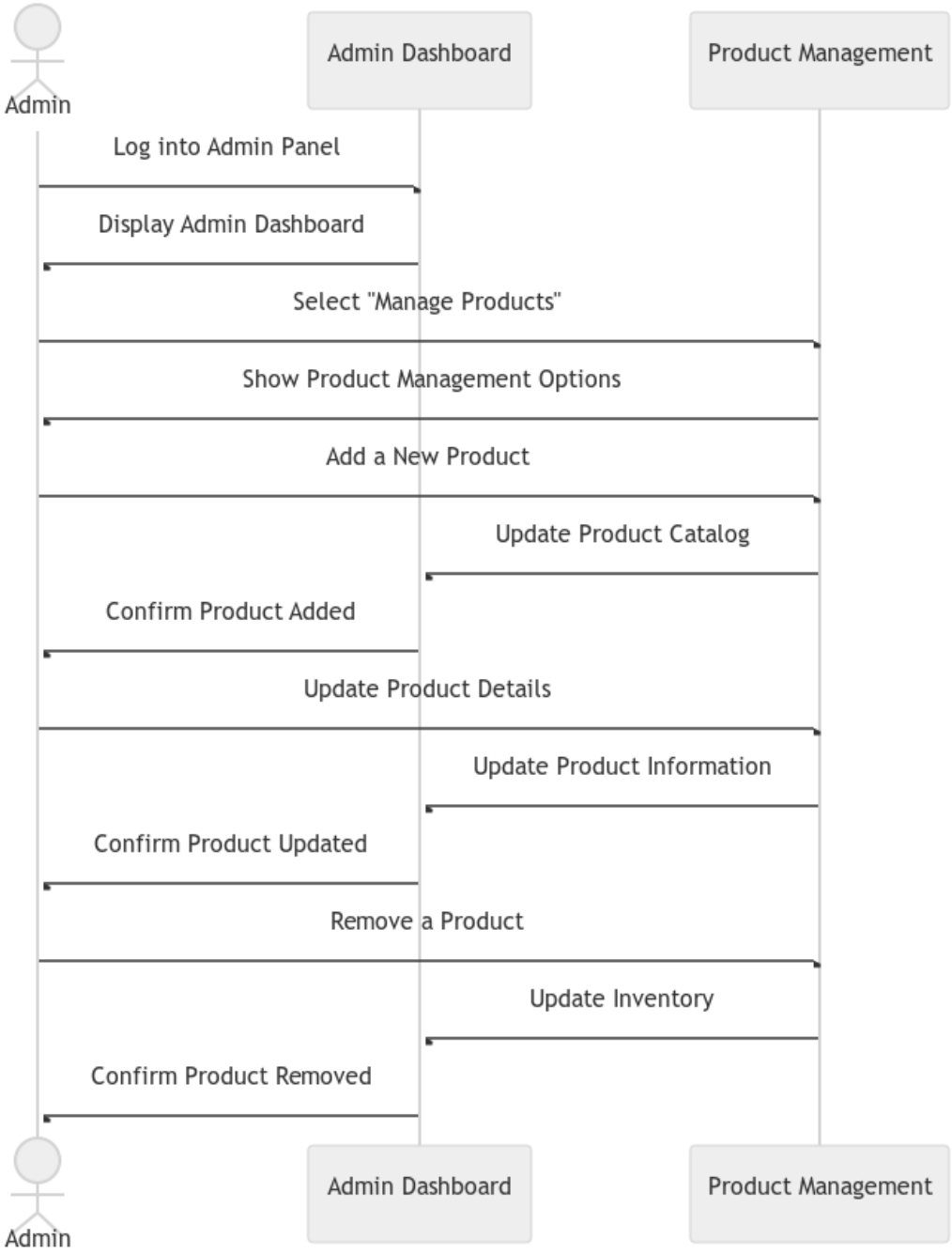
4:Adds a new product.

5:Updates product details.

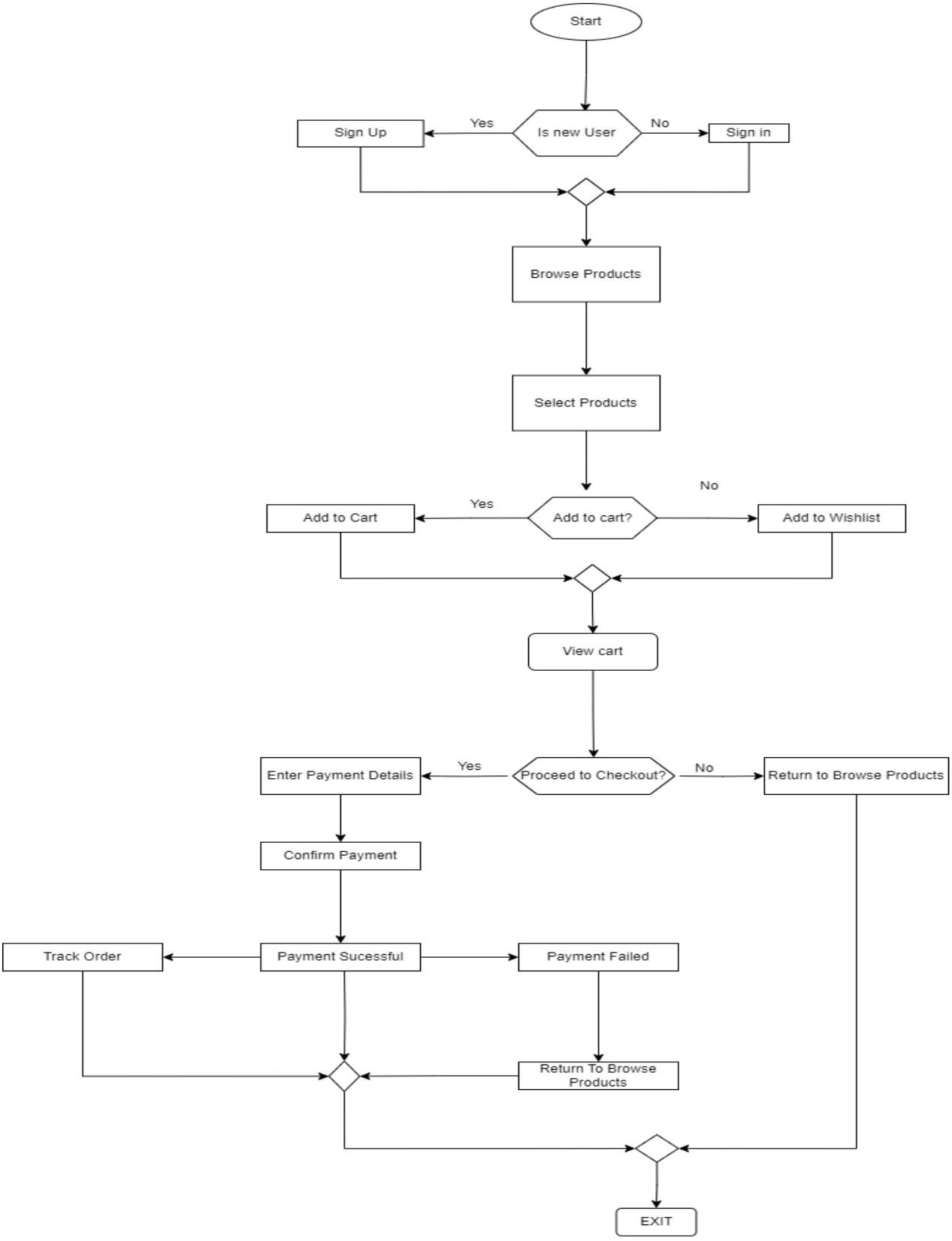
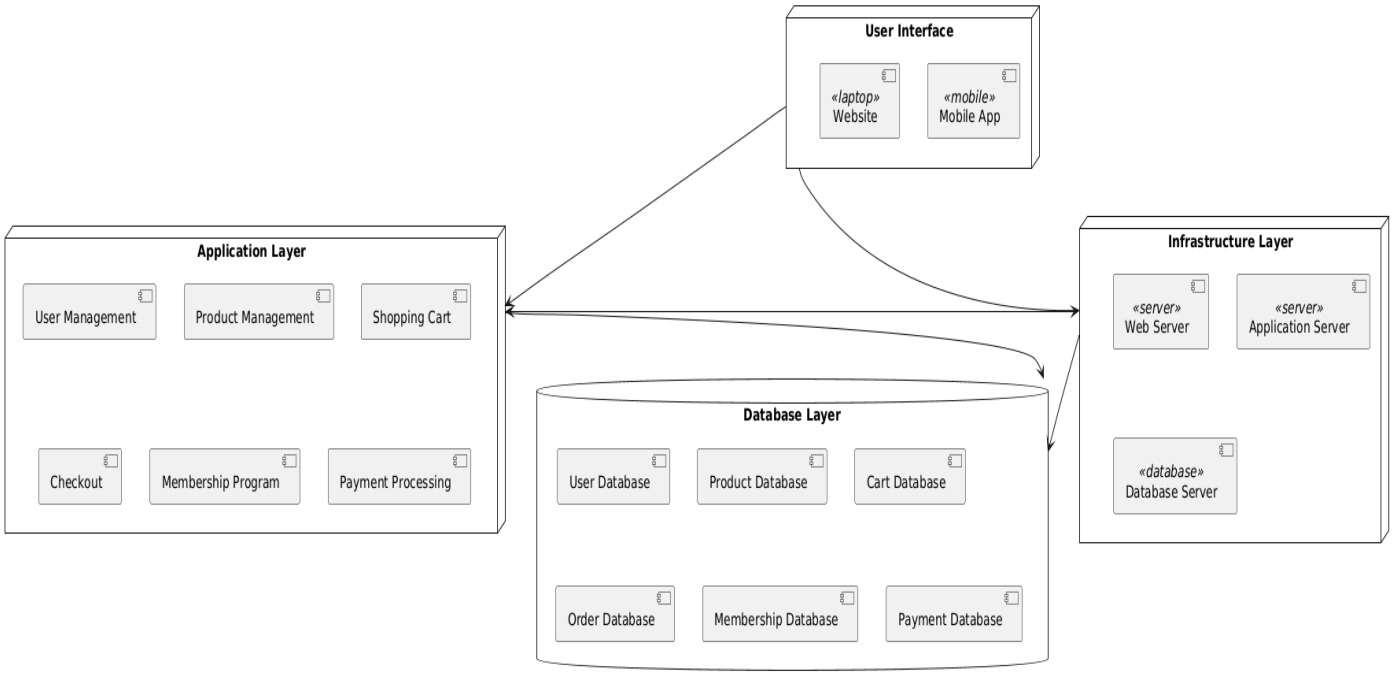
6:Removes a product.

7:Website updates the Product Catalog and inventory.

8:Admin Dashboard confirms the changes**.**


Admin
Admin Dashboard
Product Management
Log into Admin Panel
Display Admin Dashboard
Select "Manage Products"
Show Product Management Options
Add a New Product
Update Product Catalog
Confirm Product Added
Update Product Details
Update Product Information
Confirm Product Updated
Remove a Product
Update Inventory
Confirm Product Removed
Admin
Admin Dashboard
Product Management

Activity Diagram :



Architecture Diagram :