Group ID : 18

Group Members :

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4. **202312107 : Ketan Chopade**

Course : Software Engineering – IT632

Project title : BlitzBasket

INTRODUCTION :

The aim of this project is to develop a grocery-shopping website that facilitates customers to browse products, create accounts, make purchases, and manage their accounts efficiently. Additionally, administrators should be able to manage products, orders, and customer information through an admin portal.

DEFINITION :

This grocery-shopping platform will consist of three main actors: Customer, Admin, and Guest. Each actor has specific roles and functionalities within the system.

SCOPE :

The system will include the following features:
- Account creation and management for customers.
- Product browsing, searching, and purchasing.caq
- Cart management for customers.
- Order management including tracking for customers.
- Account management for admins.
- Product management for admins

USER STORIES :

Actor : Customer

As a customer, I want to be able to create a new account, so that I can access the features of the website and place orders.
As a customer, I want to be able to log in with my existing account, so that I can access my personal information and order history
As a customer, I want to be able to log out of my account to ensure my account is secure.
As a customer, I want to be able to search for products by name or category so that I can find what I'm looking for quickly.
As a customer, I want to be able to add items to my cart so that I can purchase them later.
As a customer, I want to be able to view my cart so that I can review the items before purchasing.
As a customer, I want to be able to remove items from my cart if I change my mind.
As a customer, I want to be able to checkout and pay for my items securely. As a customer, I want to be able to view my order history so that I can keep track of my purchases and easily reorder items I use frequently.
As a customer, I want to be able to view and edit my account information, so that I can keep my personal details up to date.

Actor : Admin

As an admin, I want to be able to log in to a separate admin account so that I can manage the website.
As an admin, I want to be able to add new products to the store so that customers have a variety of items to choose from.
As an admin, I want to be able to edit product details so that the product information is accurate.
As an admin, I want to be able to remove products that are no longer available. As an admin, I want to be able to update the status of orders (like processing, shipped, delivered) so that customers can track their order status.
As an admin, I want to be able to view all customer orders so that I can monitor sales and inventory.
As an admin, I want to be able to log out of my account to ensure the admin portal is secure.
As an admin, I want to be able to view and manage customer accounts, so that I can ensure customer information is accurate and up to date.

Actor : Guest

As a guest, I want to be able to search for products by name or category so that I can find what I'm looking for quickly.

USE CASES :

Customer:

4.3.1 Customer Login

Initiator: Customer
Description: This use case enables customers to log in to the online store system in order to access their accounts and perform various actions.
Basic Flow of Events
1. The customer navigates to the login page provided by the online store. 2. The customer enters their registered email address and password.
3. The system verifies the entered credentials against the stored information. 4. If the credentials are valid, the system grants access to the customer's account dashboard. 5. The customer gains access to their account, where they can perform actions such as browsing products, adding items to the cart, and checking out.

Exceptional Flow of Events
E-1: Invalid Credentials
1. If the entered email address or password is incorrect, the system displays an error message. 2. The system prompts the customer to re-enter the credentials.

3. If the credentials are still incorrect after re-entry, the system may prompt the customer to reset their password or contact customer support for assistance.

4.3.2 Customer Create Account

Initiator: Customer
Description: This use case allows new customers to create an account within the online store system.
Basic Flow of Events
1. The customer navigates to the registration page provided by the online store. 2. The customer fills in the required fields such as name, email address, and password. 3. The system validates the entered information, ensuring that all required fields are filled and that the email address is unique.
4. Upon successful validation, the system creates a new customer account. 5. The customer receives a confirmation email with instructions on verifying their account.
Exceptional Flow of Events
E-1: Existing Email Address
1. If the customer attempts to register with an email address that is already associated with an existing account, the system displays an error message.
2. The system prompts the customer to either log in with their existing account credentials or use a different email address for registration.

4.3.3 Customer Search Products

Initiator: Customer
Description: This use case enables customers to search for products within the online store system.
Basic Flow of Events
1. The customer navigates to the search bar or product catalog provided by the online store. 2. The customer enters keywords or selects specific filters to refine their search.
3. The system retrieves relevant products based on the search criteria.
4. The customer views the search results, which may include product names, images, prices, and brief descriptions.
5. The customer can click on a specific product to view detailed information.

Exceptional Flow of Events
E-1: No Search Results
1. If the search query yields no results, the system displays a message indicating that no products match the search criteria.
2. The system may suggest alternative keywords or categories to help the customer refine their search.

4.3.4 Customer Add to Cart

Initiator: Customer
Description: This use case allows customers to add products to their shopping cart for future purchase.
Basic Flow of Events

1. The customer navigates to the product page of the desired item.
2. The customer selects the desired quantity and any applicable options (e.g., size, color). 3. The customer clicks the "Add to Cart" button.
4. The system updates the shopping cart with the selected product and quantity. 5. The customer can continue shopping or proceed to checkout.

Exceptional Flow of Events
E-1: Out of Stock
1. If the selected product is out of stock, the system displays a message indicating the unavailability.
2. The system may suggest similar products or notify the customer when the item is expected to be back in stock.

4.3.5 Customer View Cart

Initiator: Customer
Description: This use case allows customers to view the contents of their shopping cart before proceeding to checkout.
Basic Flow of Events
1. The customer clicks on the "View Cart" or "Shopping Cart" link/icon provided by the online store.
2. The system displays a summary of the items currently in the customer's cart, including product names, quantities, prices, and subtotal.
3. The customer can review the contents of the cart, make modifications (e.g., update quantities, remove items), or proceed to checkout.

Exceptional Flow of Events
E-1: Empty Cart
1. If the customer's cart is empty, the system displays a message indicating that there are no items in the cart.
2. The system may suggest popular or recommended products to encourage the customer to continue shopping.

4.3.6 Customer Remove from Cart

Initiator: Customer
Description: This use case allows customers to remove items from their shopping cart. Basic Flow of Events
1. The customer navigates to the shopping cart page.
2. The customer identifies the item they wish to remove.
3. The customer clicks on the "Remove" or "Delete" option associated with the item. 4. The system updates the shopping cart, removing the selected item from the list.

Exceptional Flow of Events
E-1: No Items Selected
1. If the customer attempts to remove an item without selecting it first, the system displays an error message.
2. The system prompts the customer to select the item they wish to remove.

4.3.7 Customer Checkout

Initiator: Customer
Description: This use case allows customers to proceed with the checkout process to purchase the items in their shopping cart.
Basic Flow of Events
1. The customer navigates to the checkout page from their shopping cart.
2. The system prompts the customer to provide shipping and billing information.
3. The customer fills in the required fields, such as shipping address, payment method, and contact information.
4. The customer reviews the order summary, including the list of items, total price, and shipping details.
5. The customer confirms the order and submits the payment.

Exceptional Flow of Events
E-1: Payment Declined
1. If the payment transaction fails (e.g., due to insufficient funds, invalid credit card information), the system displays an error message.
2. The system may prompt the customer to try a different payment method or contact their bank for assistance.

4.3.8 Customer View Order History

Initiator: Customer
Description: This use case allows customers to view their order history and track the status of previous purchases.
Basic Flow of Events
1. The customer navigates to the "Order History" or "My Orders" section of their account dashboard.
2. The system retrieves and displays a list of the customer's previous orders, including order dates, order numbers, items purchased, and current status.
3. The customer can click on a specific order to view detailed information, such as shipping status and tracking number.

Exceptional Flow of Events
E-1: No Order History
1. If the customer has not made any previous purchases, the system displays a message indicating that there is no order history to show.
2. The system may suggest popular products or promotions to encourage the customer to make a purchase.

4.3.9 Customer Edit Account Information

Initiator: Customer
Description: This use case allows customers to edit their account information, such as contact details, shipping address, and password.
Basic Flow of Events

1. The customer navigates to the "Account Settings" or "Edit Profile" section of their account dashboard.
2. The system displays a form with the

customer's current information pre-filled.
3. The customer makes the desired changes to their account information. 4. The customer submits the updated information to the system for validation and processing.
5. The system updates the customer's account with the new information.

Exceptional Flow of Events
E-1: Invalid Information
1. If the customer enters invalid or incomplete information, the system displays error messages next to the corresponding fields.
2. The system prompts the customer to correct the errors before submitting the form.

4.3.10 Customer Log Out

Initiator: Customer
Description: This use case allows customers to log out of their account to secure their personal information and end their session.
Basic Flow of Events
1. The customer clicks on the "Log Out" or "Sign Out" option provided by the online store. 2. The system logs the customer out of their account and redirects them to the login page. 3. The customer's session is terminated, and they are no longer able to access their account without logging in again.

Exceptional Flow of Events
N/A

Admin:

4.3.11 Admin Login

Initiator: Admin
Description: This use case allows administrators to log in to the online store system to access administrative functionalities.
Basic Flow of Events
1. The admin navigates to the admin login page provided by the online store. 2. The admin enters their registered email address and password.
3. The system verifies the entered credentials against the stored information. 4. If the credentials are valid, the system grants access to the admin dashboard. 5. The admin gains access to administrative tools and features for managing products, orders, and customer accounts.

Exceptional Flow of Events
E-1: Invalid Credentials

1. If the entered email address or password is incorrect, the system displays an error message. 2. The system prompts the admin to re-enter the credentials.
3. If the credentials are still incorrect after re-entry, the system may prompt the admin to reset their password or contact technical support for assistance.

4.3.12 Admin Add Product

Initiator: Admin
Description: This use case allows administrators to add new products to the online store catalog.
Basic Flow of Events
1. The admin navigates to the "Add Product" section of the admin dashboard. 2. The admin fills in the required fields for the new product, including name, description, price, and category.
3. The admin uploads product images and specifies any additional options or variants (e.g., size, color).
4. The system validates the entered information and creates a new product listing in the store catalog.
5. The new product becomes available for customers to view and purchase.

Exceptional Flow of Events
E-1: Missing Information
1. If the admin fails to provide all required information for the new product, the system displays error messages next to the corresponding fields.
2. The system prompts the admin to complete all required fields before submitting the product.

4.3.13 Admin Edit Product

Initiator: Admin
Description: This use case allows administrators to edit existing product listings in the online store catalog.
Basic Flow of Events
1. The admin navigates to the "Edit Product" section of the admin dashboard. 2. The admin selects the product they wish to edit from the list of available products.
3. The system displays a form with the current product information pre-filled. 4. The admin makes the desired changes to the product details, such as updating the description, price, or images.
5. The admin submits the updated information to the system for validation and processing.
6. The system updates the product listing with the new information, which becomes immediately visible to customers.

Exceptional Flow of Events
E-1: Conflicting Changes
1. If multiple administrators attempt to edit the same product simultaneously, the system may detect conflicting changes.
2. The system prompts the admins to review and resolve the conflicts before finalizing the]edits.

4.3.14 Admin Remove Product

Initiator: Admin
Description: This use case allows administrators to remove existing products from the online store catalog.
Basic Flow of Events
1. The admin navigates to the "Remove Product" section of the admin dashboard.
2. The admin selects the product they wish to remove from the list of available products. 3. The admin confirms the deletion action.
4. The system removes the selected product from the store catalog, making it unavailable for customers to purchase.

Exceptional Flow of Events
E-1: Product Dependency
1. If the selected product is associated with existing orders or promotions, the system displays a warning message.
2. The system prompts the admin to confirm the deletion action and may provide options for managing dependencies (e.g., reassigning orders, updating promotions).

4.3.15 Admin Update Order Status

Initiator: Admin
Description: This use case allows administrators to update the status of customer orders in the online store system.
Basic Flow of Events
1. The admin navigates to the "Manage Orders" or "Order Management" section of the admin dashboard.
2. The admin selects the order they wish to update from the list of pending orders. 3. The admin reviews the order details, including customer information, items purchased, and current status.
4. The admin updates the order status (e.g., processing, shipped, delivered) based on the latest information.
5. The system records the status update and notifies the customer of any changes via email or notification.

Exceptional Flow of Events
E-1: Invalid Status Update
1. If the admin attempts to update the order status to an invalid or unavailable option, the system displays an error message.
2. The system prompts the admin to choose a valid status option from the predefined list.

4.3.16 Admin View Customer Orders

Initiator: Admin
Description: This use case allows administrators to view a list of customer orders and their details within the online store system.
Basic Flow of Events

1. The admin navigates to the "View Orders" or "Order History" section of the admin dashboard. 2. The system displays a list of all orders placed by customers, including order numbers, dates, customer names, and current status.
3. The admin can filter and search for specific orders based on various criteria (e.g., order number, customer name, order status).
4. The admin clicks on a specific order to view detailed information, such as itemized lists, shipping addresses, and payment details.

Exceptional Flow of Events

E-1: No Orders Found

1. If there are no orders matching the specified criteria, the system displays a message indicating that no orders were found.
2. The system may suggest alternative search criteria or provide options for viewing orders within a different time frame.

4.3.17 Admin Manage Customer Accounts

Initiator: Admin

Description: This use case allows administrators to manage customer accounts within the online store system.

Basic Flow of Events

1. The admin navigates to the "Customer Management" or "Manage Accounts" section of the admin dashboard.
2. The admin can perform various actions on customer accounts, such as creating new accounts, editing existing account details, and deactivating or suspending accounts. 3. The admin can search for specific customer accounts using filters such as name, email address, or account status.
4. The admin clicks on a specific customer account to view detailed information and perform relevant actions.

Exceptional Flow of Events

E-1: Account Suspension

1. If the admin chooses to suspend

or deactivate a customer account, the system prompts the admin to confirm the action. 2. The system may provide options for specifying the reason for suspension or deactivation and setting a duration for the suspension period.

4.3.18 Admin Log Out

Initiator: Admin

Description: This use case allows administrators to log out of their admin account to secure access to administrative functionalities.

Basic Flow of Events

1. The admin clicks on the "LogOut" or "Sign Out" option provided within the admin dashboard. 2. The system logs the admin out of their account and redirects them to the admin login page. 3. The admin's session is terminated, and they are no longer able to access administrative tools and features without logging in again.

Exceptional Flow of Events

Guest:

4.3.19 Guest View Products

Initiator: Guest
Description: This use case allows guests (non-registered users) to browse products available in the online store system.
Basic Flow of Events
1. The guest accesses the online store's homepage or product catalog without logging in.
2. The system displays a list of available products, organized by categories or featured items. 3. The guest can click on a specific product to view detailed information, including product descriptions, images, prices, and customer reviews.
4. The guest can continue browsing products or choose to register or log in to access additional features such as adding items to a cart or making purchases.

Exceptional Flow of Events
E-1: Limited Access
1. Some features, such as adding items to a shopping cart or viewing account-specific information, may be restricted for guests.
2. The system prompts the guest to register for an account or log in to access full functionality.

4.3.20 Guest Register Account

Initiator: Guest
Description: This use case allows guests (non-registered users) to create a new customer account within the online store system.
Basic Flow of Events
1. The guest clicks on the "Register" or "Sign Up" option provided by the online store. 2. The system displays a registration form with fields for the guest to enter personal information such as name, email address, and password.
3. The guest fills in the required fields and agrees to the terms and conditions. 4. The system validates the entered information and creates a new customer account. 5. The guest receives a confirmation email with instructions for verifying their account.

Exceptional Flow of Events
E-1: Existing Email Address
1. If the guest attempts to register with an email address that is already associated with an existing account, the system displays an error message.
2. The system prompts the guest to log in with their existing account credentials or use a different email address for registration.

4.3.21 Guest Add to Cart

Initiator: Guest

Description: This use case allows guests (non-registered users) to add products to a temporary shopping cart for future purchase.
Basic Flow of Events
1. The guest accesses the product page of the desired item.
2. The guest selects the desired quantity and any applicable options (e.g., size, color). 3. The guest clicks the "Add to Cart" or "Buy Now" button.
4. The system adds the selected product to a temporary shopping cart associated with the guest's session.

Exceptional Flow of Events
E-1: Account Creation Prompt
1. After adding items to the cart, the system prompts the guest to register for an account or log in to save their cart contents for future sessions.
2. The system may provide incentives such as discounts or free shipping to encourage the guest to create an account.

4.3.22 Guest View Cart

Initiator: Guest
Description: This use case allows guests (non-registered users) to view the contents of their temporary shopping cart.
Basic Flow of Events
1. The guest clicks on the shopping cart icon or navigates to the cart page. 2. The system displays a summary of the items currently in the guest's cart, including product names, quantities, and total price.
3. The guest can review the contents of the cart, make modifications (e.g., update quantities, remove items), or proceed to checkout as a guest.

Exceptional Flow of Events
E-1: Empty Cart
1. If the guest's cart is empty, the system displays a message indicating that there are no items in the cart.
2. The system may suggest popular or recommended products to encourage the guest to continue shopping.

FUNCTIONAL REQUIREMENTS :

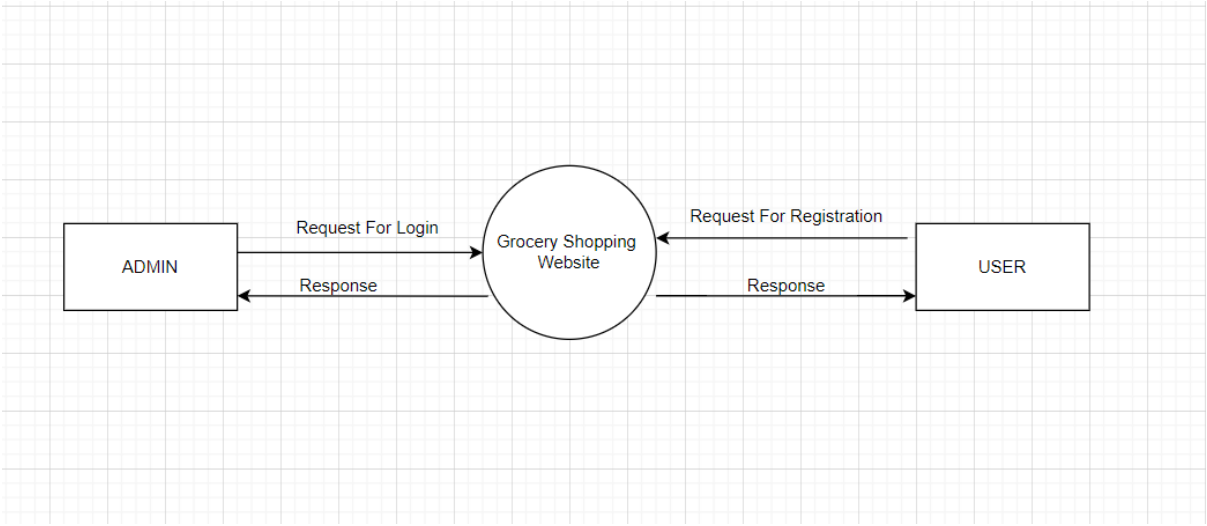
- User authentication for customers and admins.
- Database for storing product information, customer data, and order details. - Product search functionality.
- Cart management system.
- Secure payment gateway integration.
- Order tracking system.
- Admin dashboard for managing products, orders, and customers.

NON-FUNCTIONAL REQUIREMENTS :

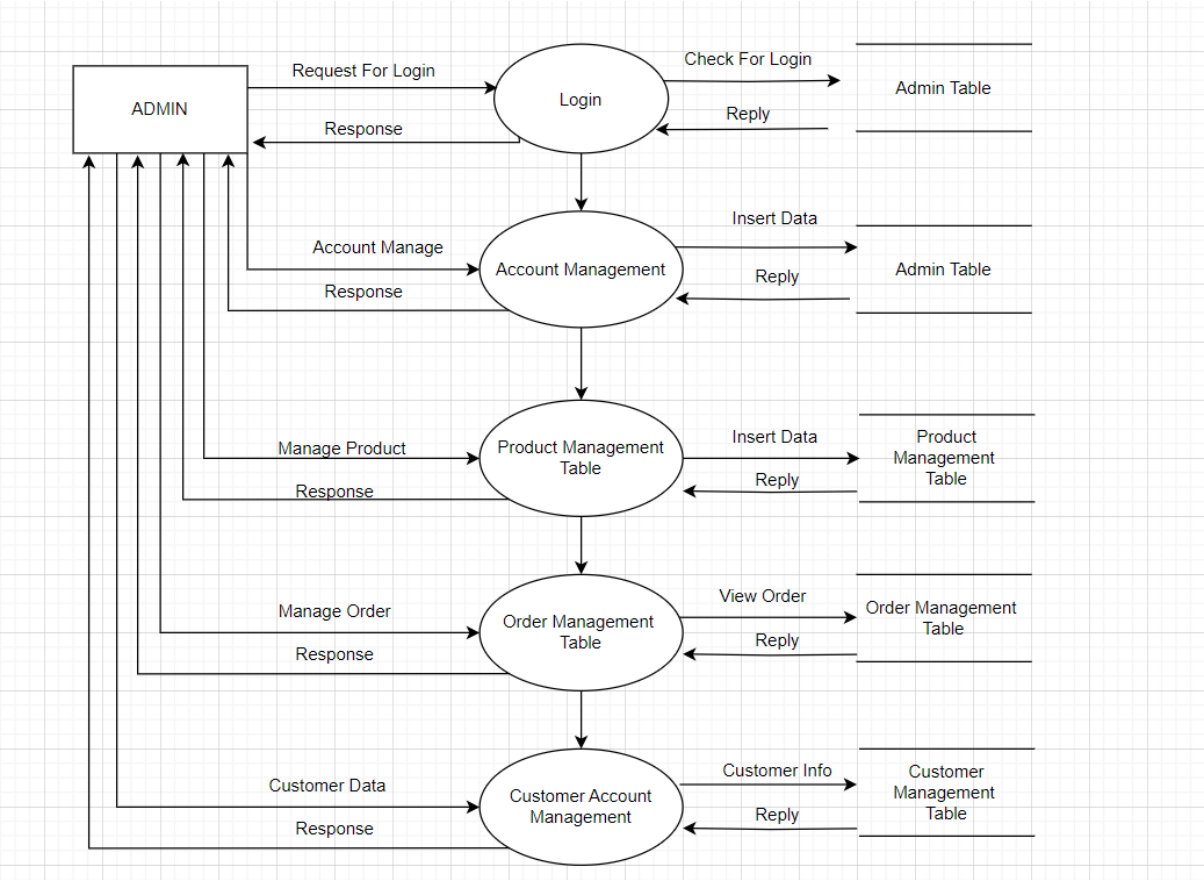
- Secure authentication mechanisms (e.g., encryption of passwords). - Responsive and user-friendly interface for easy navigation. - High availability and reliability of the system.
- Efficient search algorithms for product searching.
- Fast and secure payment processing.
- Scalability to accommodate growing numbers of users and products. - Regular backups of data to prevent data loss.

Data Flow Diagram

- **Context Level 0**



- **Admin**


ADMIN
Request For Login
Response
Login
Check For Login
Reply
Admin Table
Account Manage
Response
Account Management
Insert Data
Reply
Admin Table
Manage Product
Response
Product Management Table
Insert Data
Reply
Product Management Table
Manage Order
Response
Order Management Table
View Order
Reply
Order Management Table
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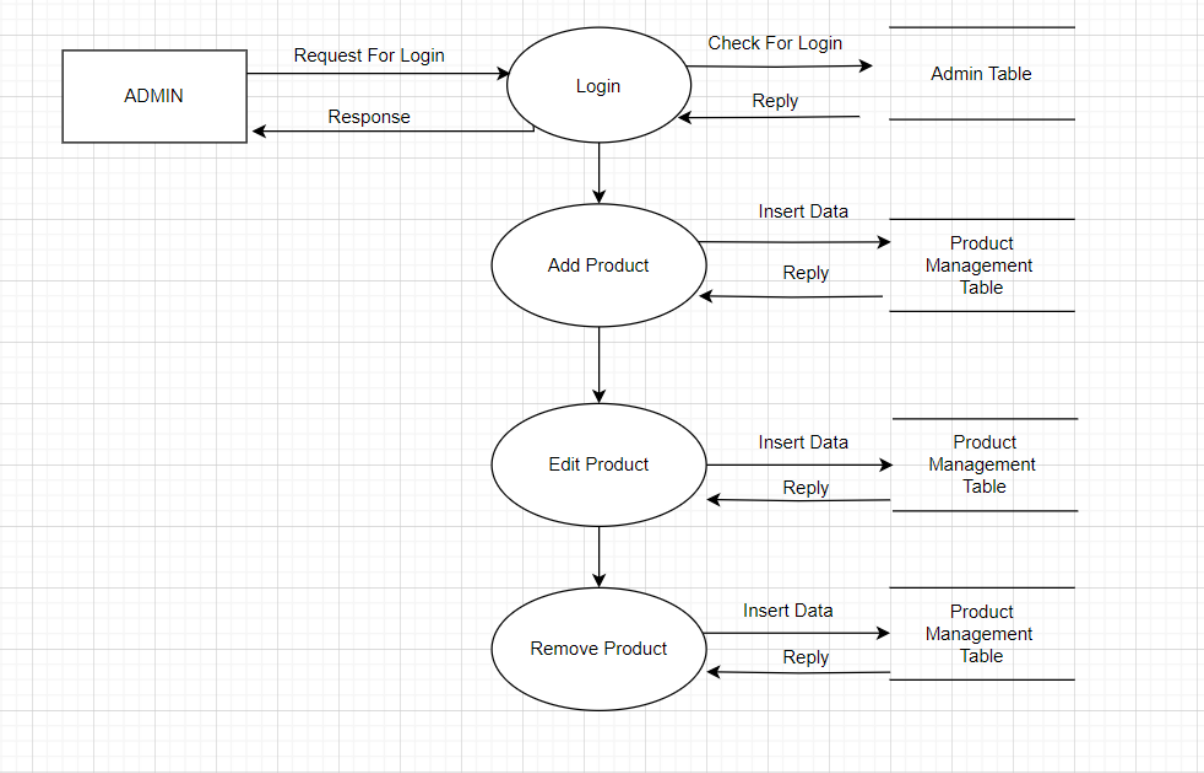
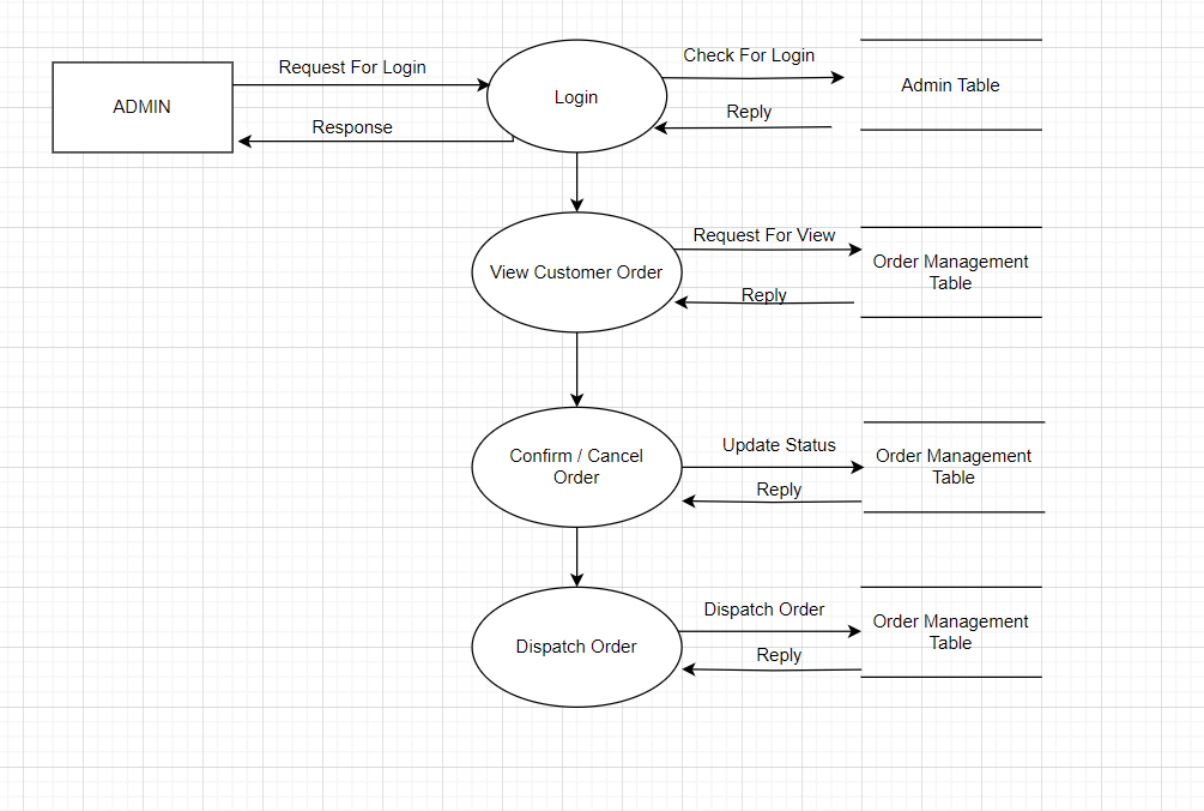
Customer Account Management
Customer Info
Reply
Customer Management Table

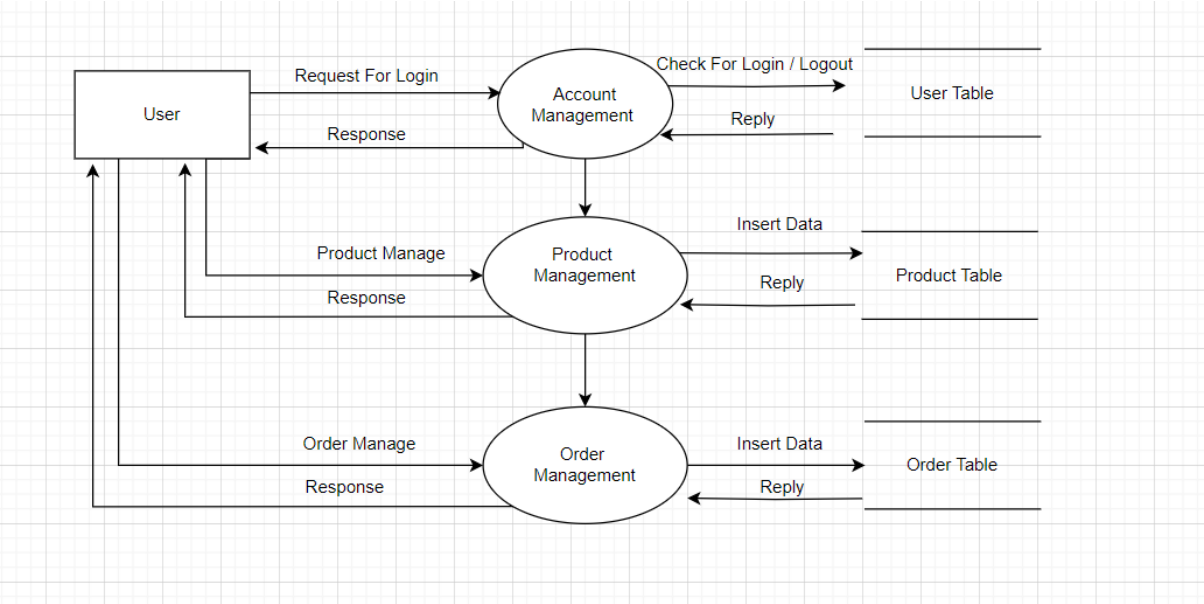
Product Management Table



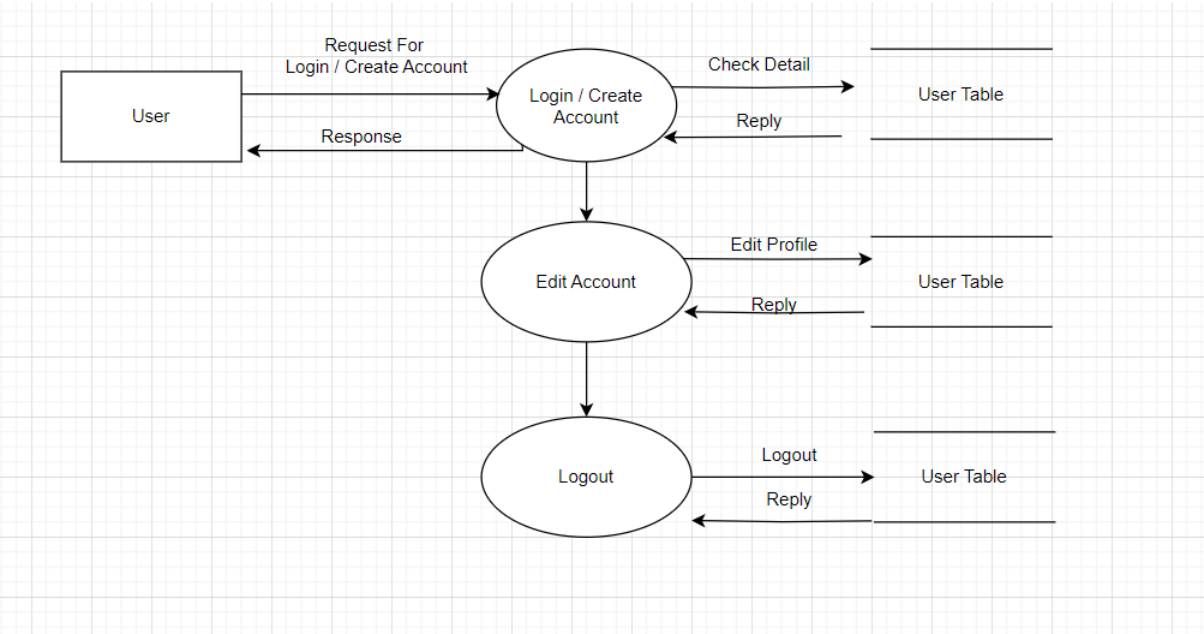
Order Management Table



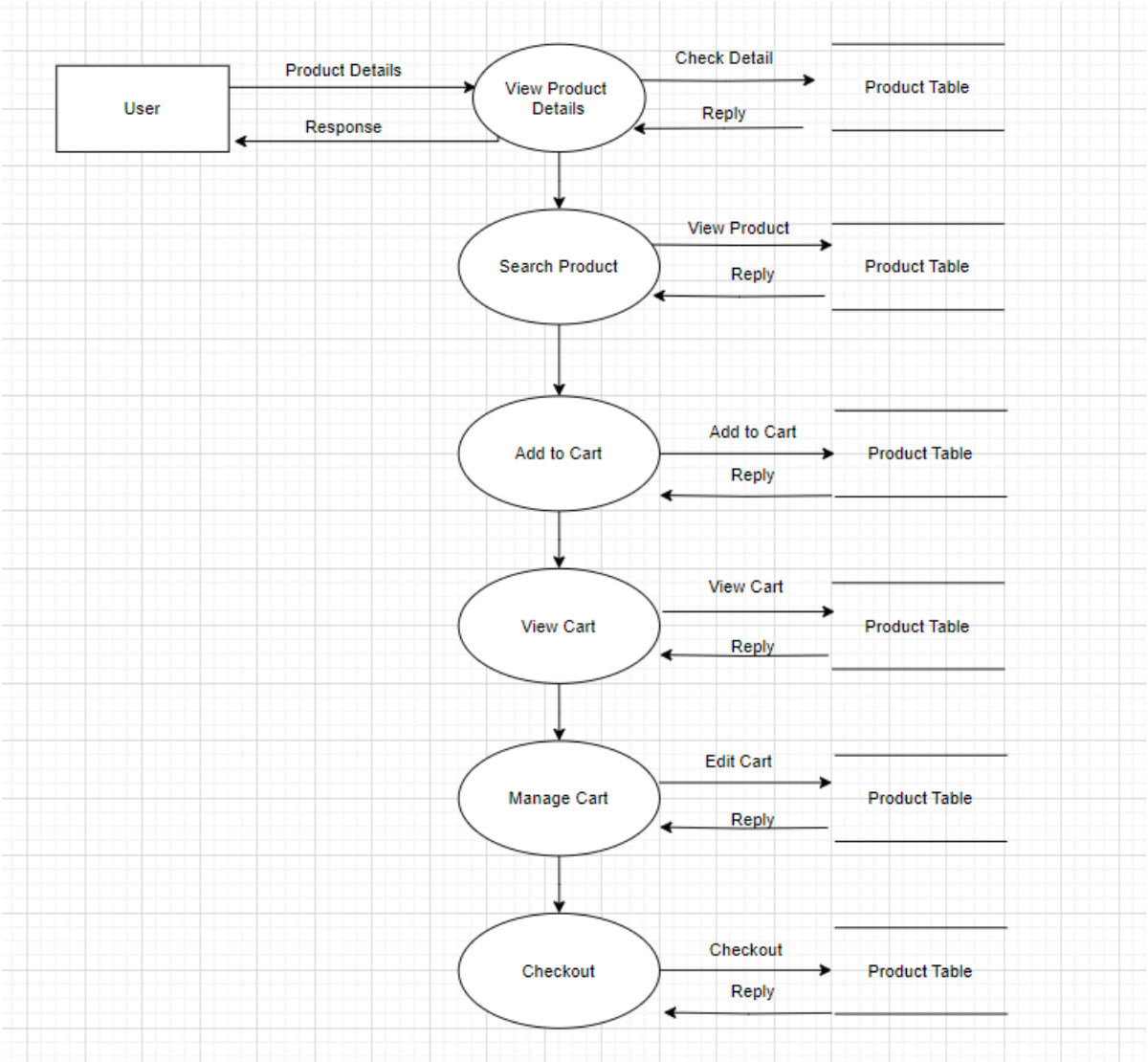
- **User**



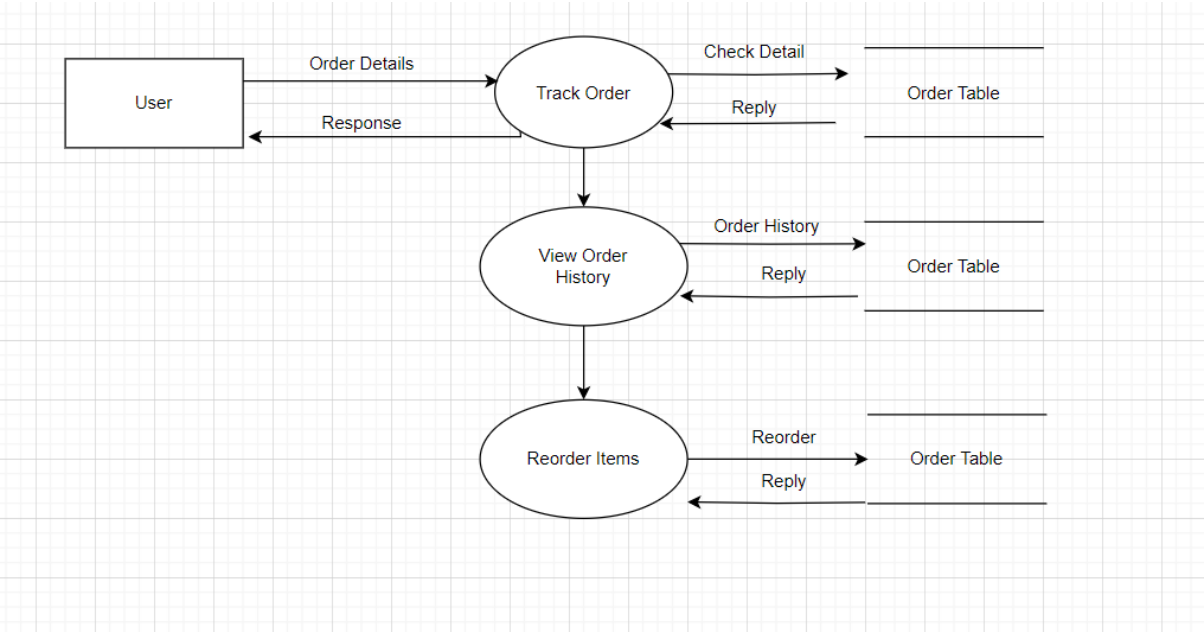
Account Management Table



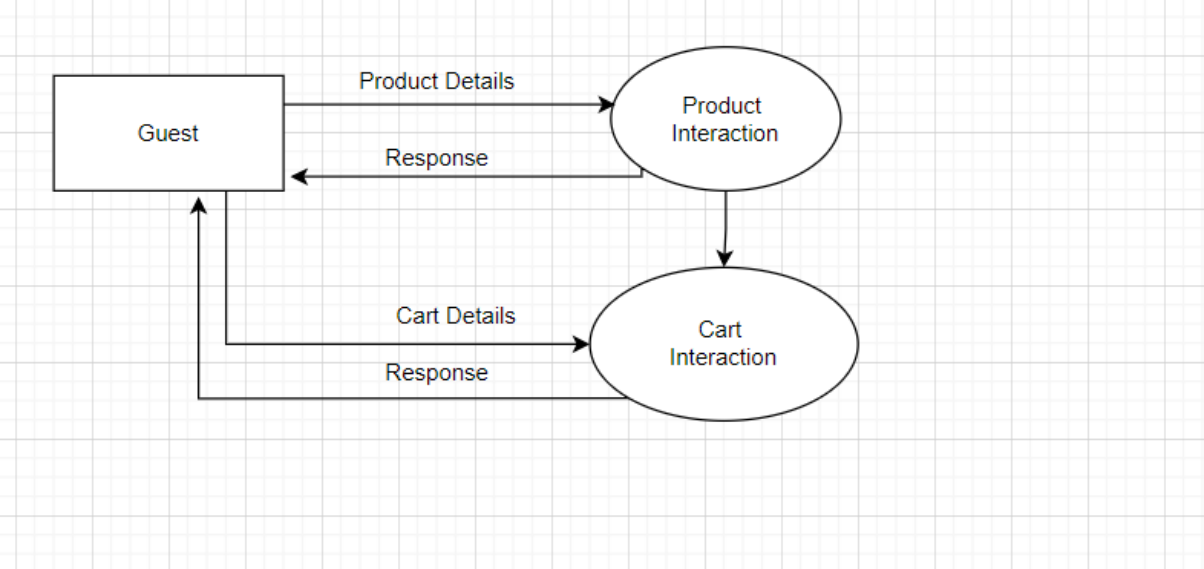
Product Interaction Table



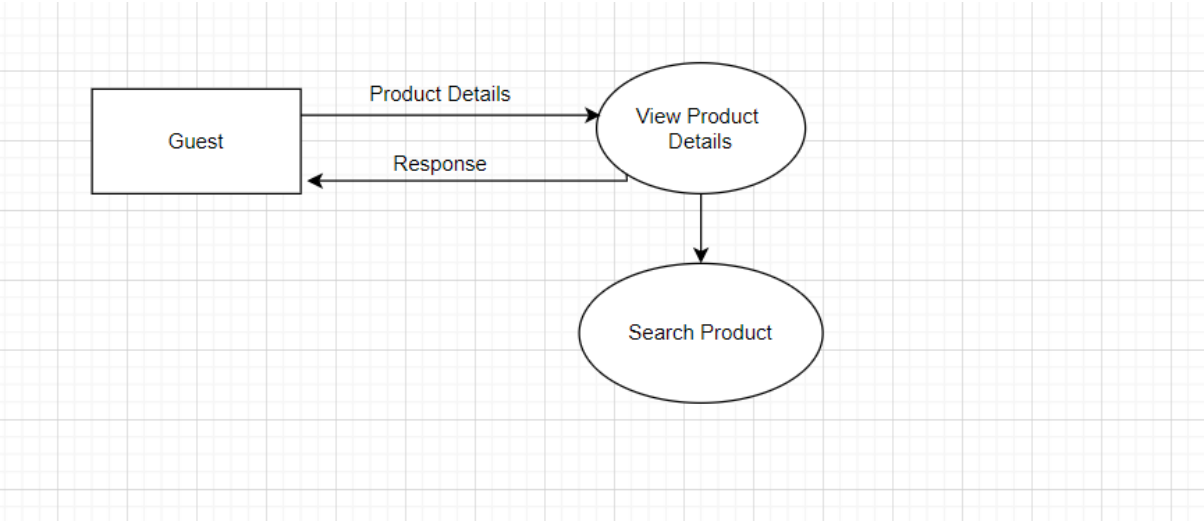
Order Interaction Table



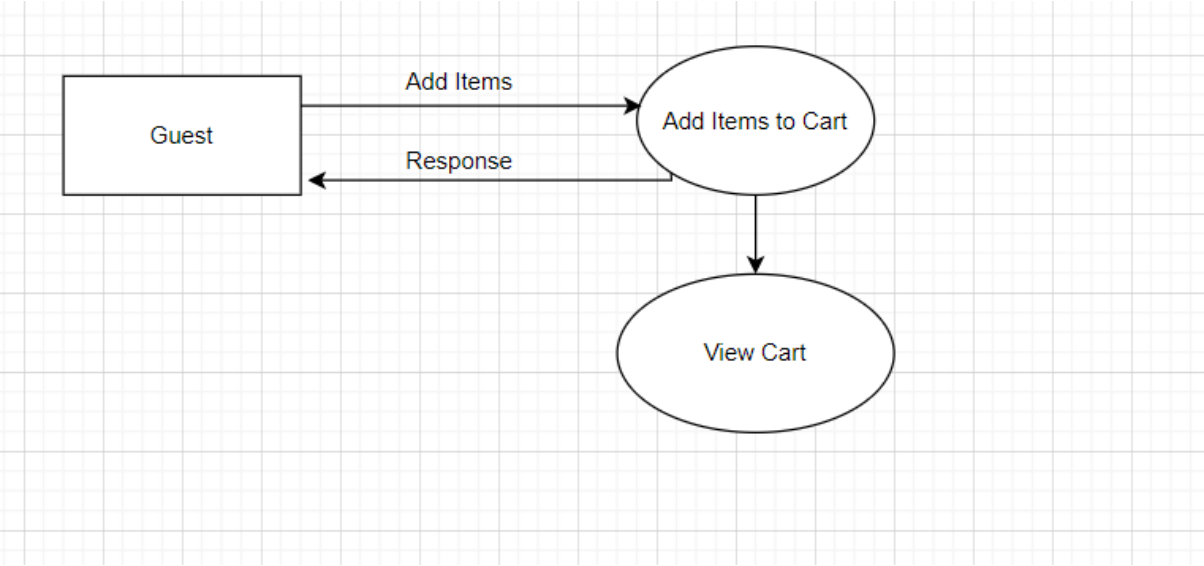
Guest



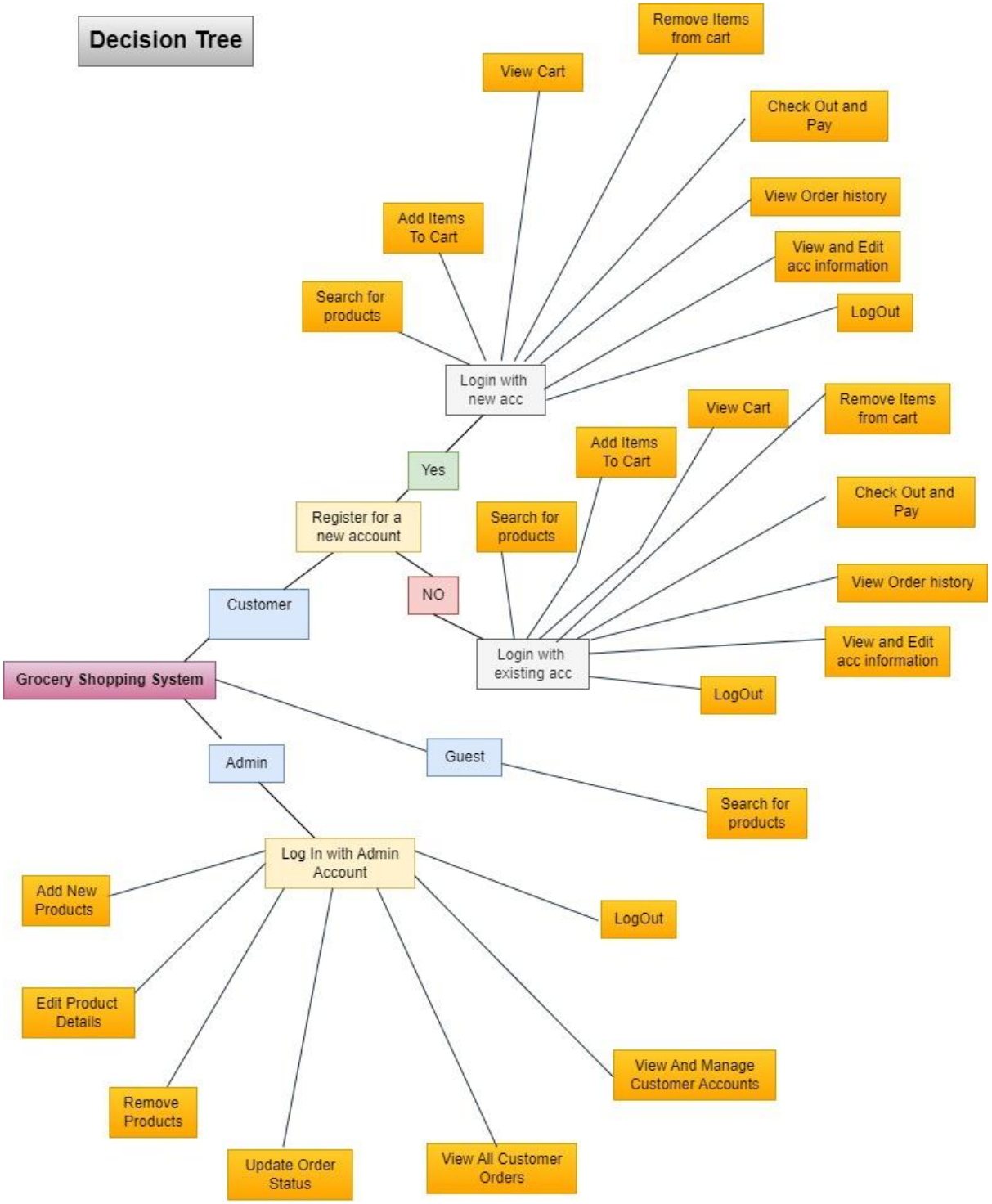
Product Interaction



Cart Interaction



Decision Tree :

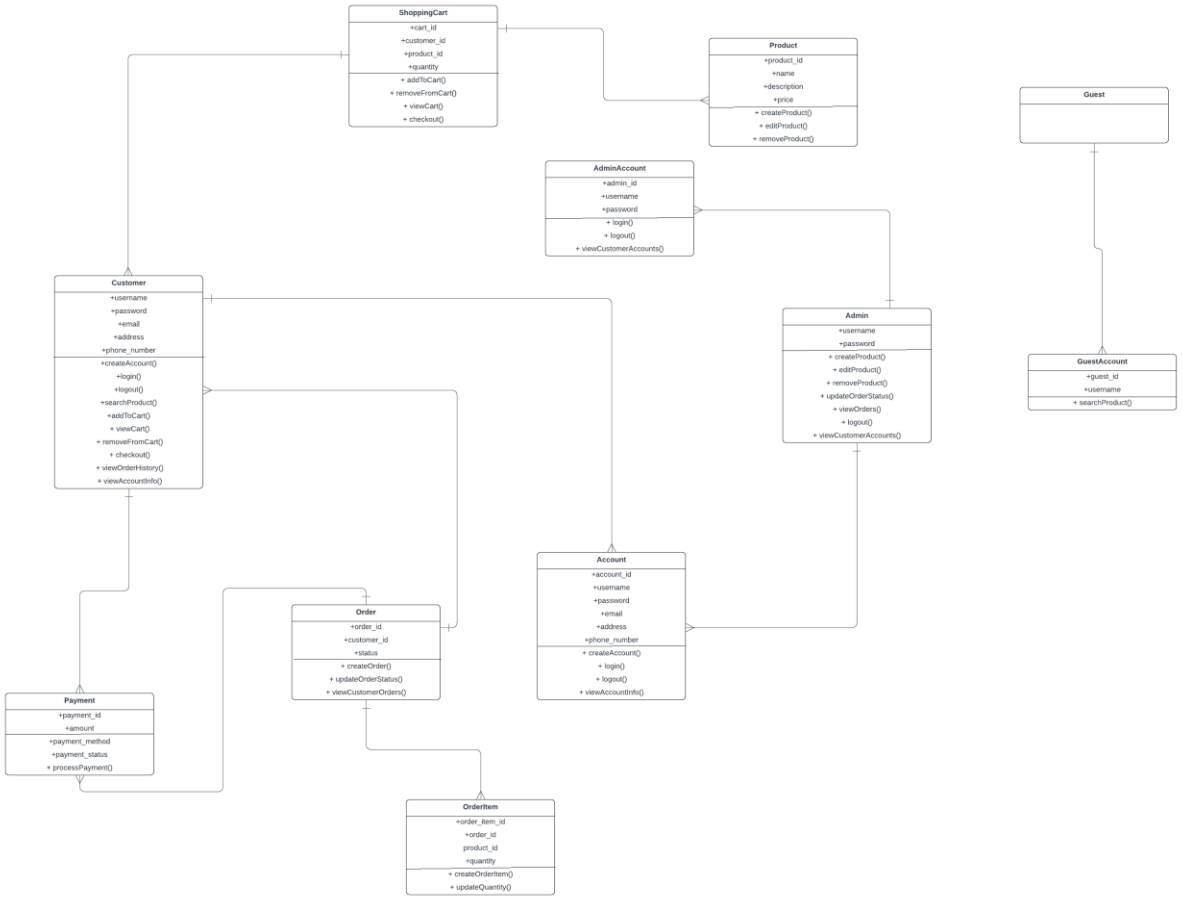


Decision Table :

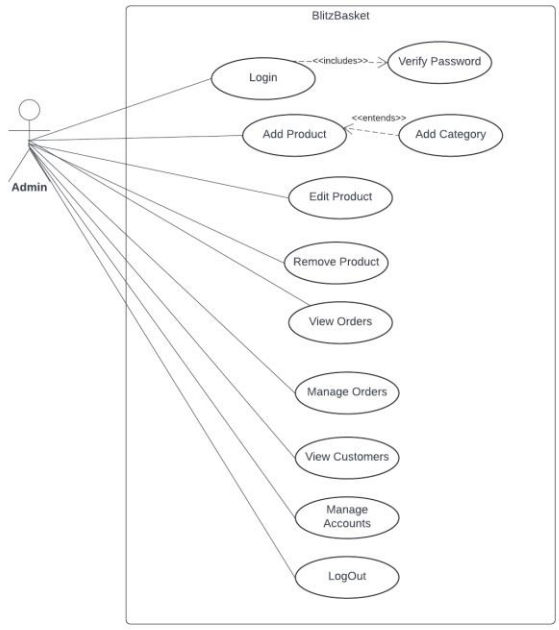
DECISION TABLE

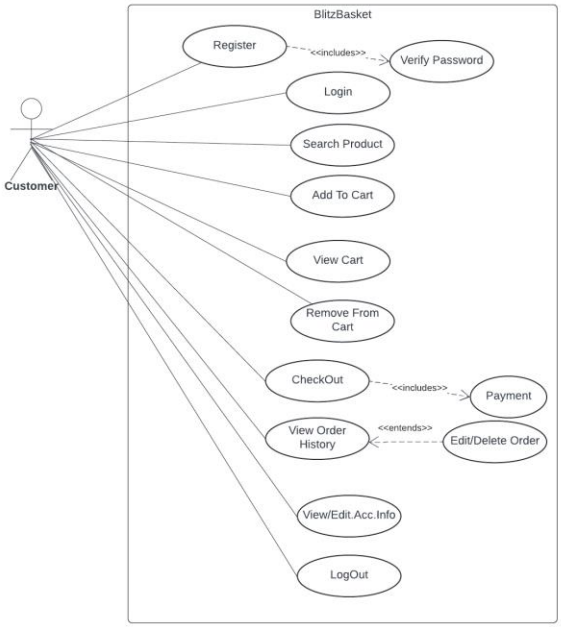
ACTION	CUSTOMER	ADMIN	GUEST
Create Account	Yes	NO	NO
LogIn	Yes	Yes	NO
Search Products	Yes	Yes	Yes
Add to Cart	Yes	NO	NO
View Cart	Yes	NO	NO
Remove from Cart	Yes	NO	NO
CheckOut	Yes	NO	NO
View Order History	Yes	NO	NO
View/Edit Account Info	Yes	Yes	NO
LogOut	Yes	Yes	NO
Add Product	NO	Yes	NO
Edit Product	NO	Yes	NO
Remove Product	NO	Yes	NO
Update Order Status	NO	Yes	NO
View Customer Orders	NO	Yes	NO

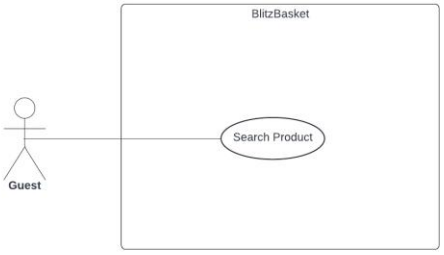
Class Diagram :



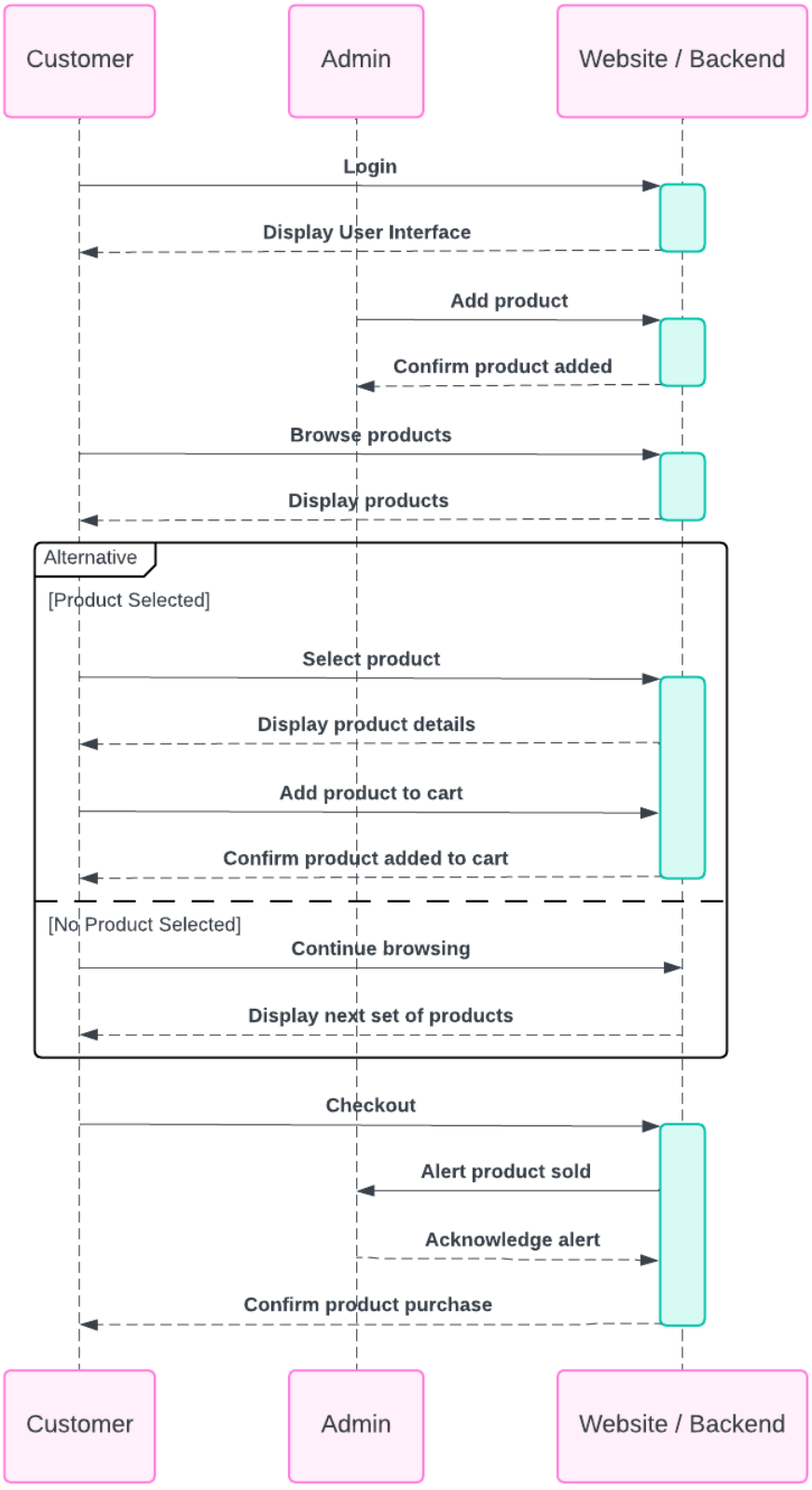
Use case diagram :



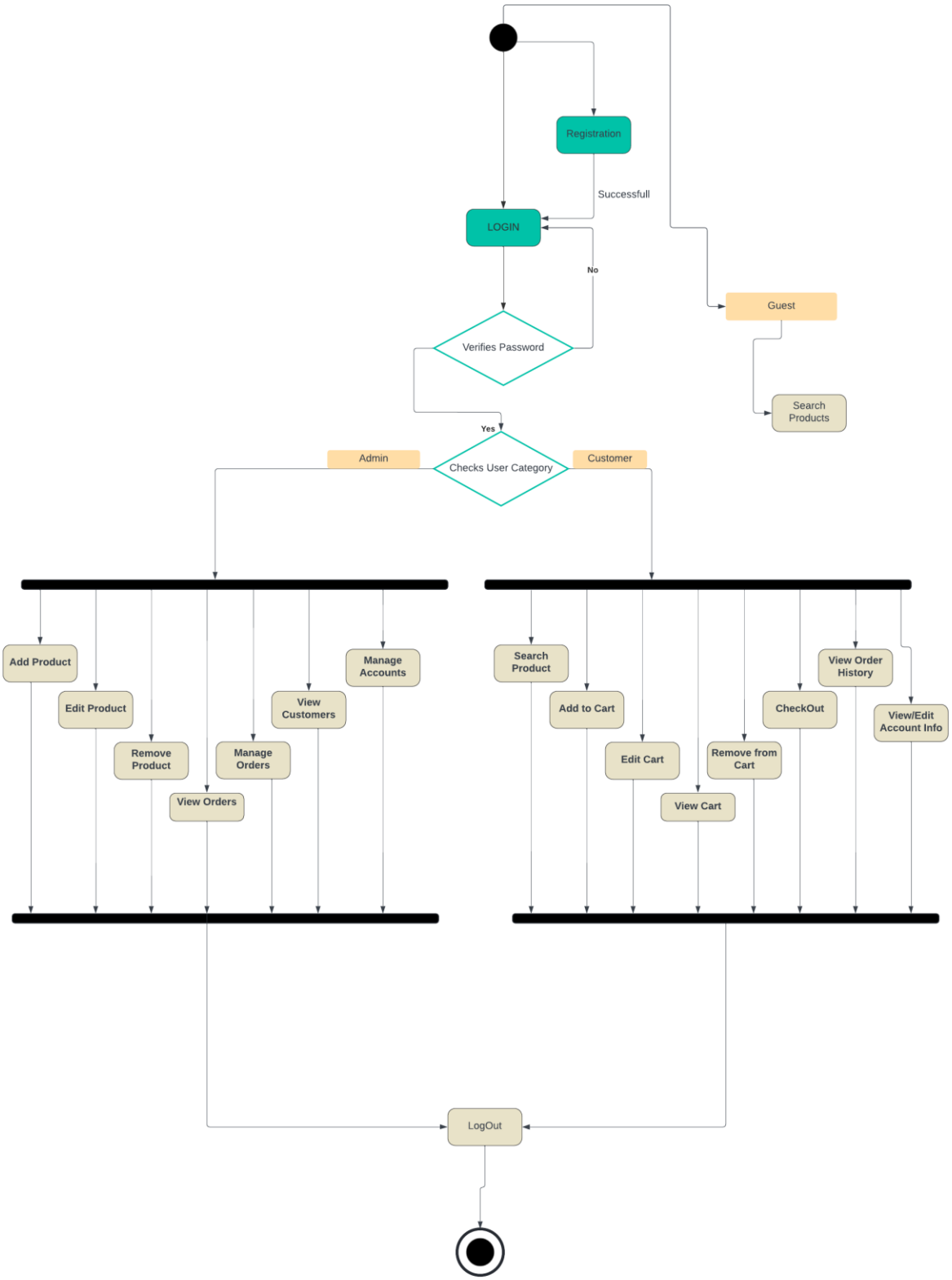




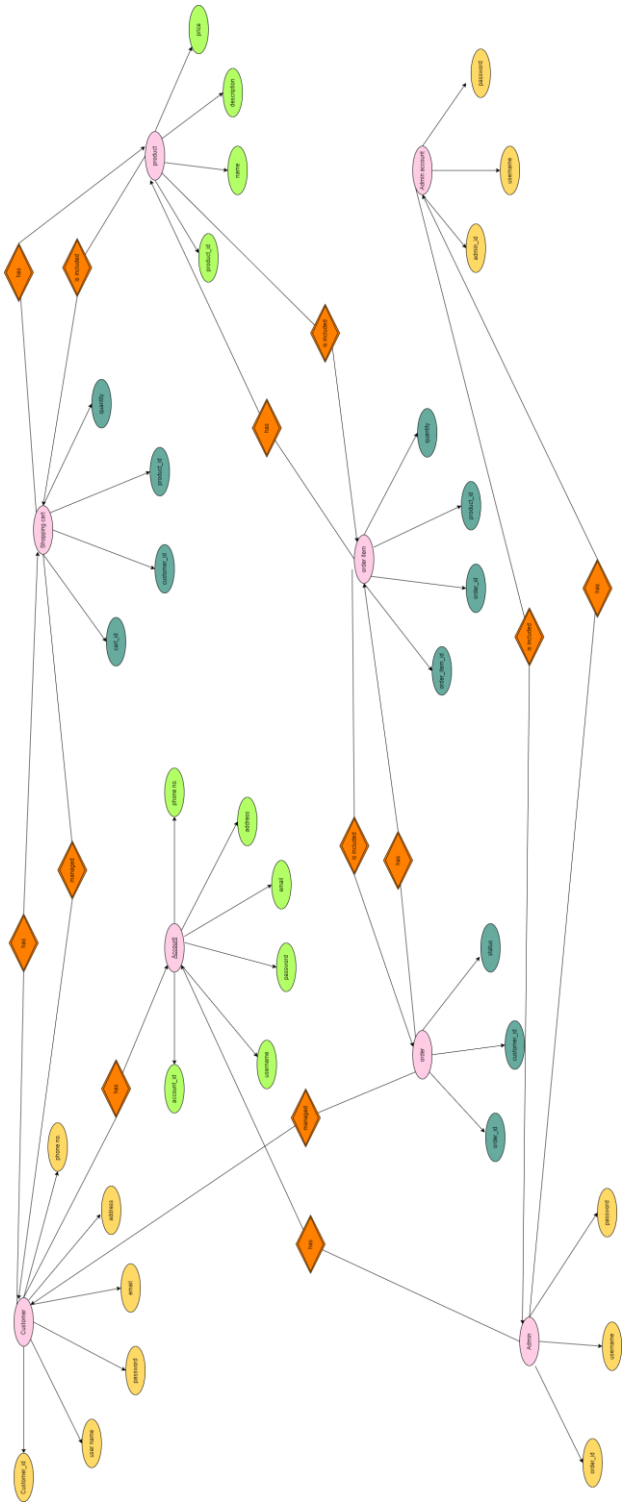
Sequence diagram :



Activity diagram :



ER diagram :



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name
product
product_id
has
is included
is included
quantity
product_id
customer_id
cart_id
Shopping cart
has
quantity
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order_id
order_item_id
has
is included
is included
has
password
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admin_id
Admin account
password
username
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phone no
address
email
password
username
account_id
account
has
has
managed
has
status
customer_id
order
order_id
managed
has
phone no
address
email
password
user name
customer
Customer_id
has
password
username
admin
order_id

END OF REPORT

Thank You