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## **Ecommerce Software(Gift Shop)**

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<b>Comments:</b>	<b>Date:</b>

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# **Chapter 1**

## **Introduction**

### **1.1 Introduction**

Welcome to our innovative eCommerce software designed specifically for gift shops! In today's digital age, the demand for convenient online shopping experiences is ever-growing, and gift shops are no exception. Our eCommerce software provides gift shop owners with a powerful platform to showcase their unique products, reach a wider audience, and streamline the purchasing process for customers [1]. With our intuitive interface and robust features, gift shop owners can easily set up their online store, upload product listings, manage inventory, process orders, and engage with customers all from one centralized platform. Whether you're selling handmade crafts, personalized gifts, or specialty items, our software offers the flexibility and customization options to suit your business needs.

### **1.2 Literature Review**

Agile methodology has emerged as a prominent approach in software development, offering a flexible and iterative framework that prioritizes collaboration, adaptability, and customer feedback. In the context of developing eCommerce software for gift shops, the application of agile principles proves advantageous. Agile encourages continuous improvement, risk mitigation, and stakeholder involvement throughout the development process. By breaking down tasks into manageable increments and delivering value iteratively, agile teams can respond effectively to changing market dynamics and customer needs. This iterative approach fosters open communication, aligns efforts towards project goals, and ensures that the final product meets stakeholders' expectations [2]. Overall, agile methodology provides a robust framework for developing eCommerce software tailored to the specific requirements and challenges of gift shop owners, enabling teams to deliver innovative solutions that drive business success in the competitive online marketplace.

## **1.3 Problem Statement**

- Complex online store setups for non-technical users.
- Inefficient manual inventory management.
- Limited local audience reach without a global online presence.
- Lack of tools for seamless customer engagement.
- Difficulty adapting to market trends and seasonal changes.

**Some of the key questions the project aims to address include:**

- How can we make the online store setup process intuitive and easy for non-technical gift shop owners?
- What features can be implemented to automate and optimize inventory management, reducing human error and enhancing operational efficiency?
- How can we design the platform to provide a seamless and personalized shopping experience for customers, improving user engagement?
- What tools can be developed to manage order processing, shipping, and customer interactions effectively?
- How can the platform quickly adapt to market trends, seasonal changes, and evolving customer preferences in the gift shop industry?

## **1.4 Aims and Objectives**

1. Simplify the online store setup for gift shop owners.
2. Expand the store's reach to a global customer base.
3. Enhance the shopping experience with user-friendly features.
4. Streamline inventory management and order processing.
5. Provide data analytics to boost sales and operational efficiency.

## **1.5 Motivation**

- Growing demand for online shopping.
- Empowering small business owners.
- Competitive edge in the market.
- Agile methodology benefits.

- Customer satisfaction and repeat business.

By fulfilling these objectives and motivation, our eCommerce software for gift shops endeavors to revolutionize the way gift shop owners do business online, empowering them to succeed in the digital marketplace [3].

## 1.6 Problem Description

Gift shop owners often struggle with managing their online presence due to issues like poor inventory systems, limited audiences, and complex eCommerce setups requiring technical expertise. These challenges can result in stock discrepancies, inefficient operations, and low customer engagement. To address this, a streamlined eCommerce solution offers a simple and efficient user journey. Customers start by registering or logging in, then navigate from the homepage to explore options like Favorite Items, Search, Profile, or Menu. They can select Digital Gift Items or physical Gift Items, add them to the cart, and proceed to payment using Bank, Visa, or Mobile Wallet. Digital items are delivered via email, while physical gifts are sent through in-person delivery. Status updates keep customers informed throughout the process, ensuring a smooth and satisfying shopping experience.

After adding items to the cart, users proceed to the Payment Gateway with options like Bank, Visa, or Mobile Wallet. Following a successful transaction, delivery depends on the item type: Digital Products are emailed, while Gift Items are delivered in person. The process concludes with a status update, informing the user and marking the completion of the purchase. This flow ensures a seamless experience from selection to delivery.

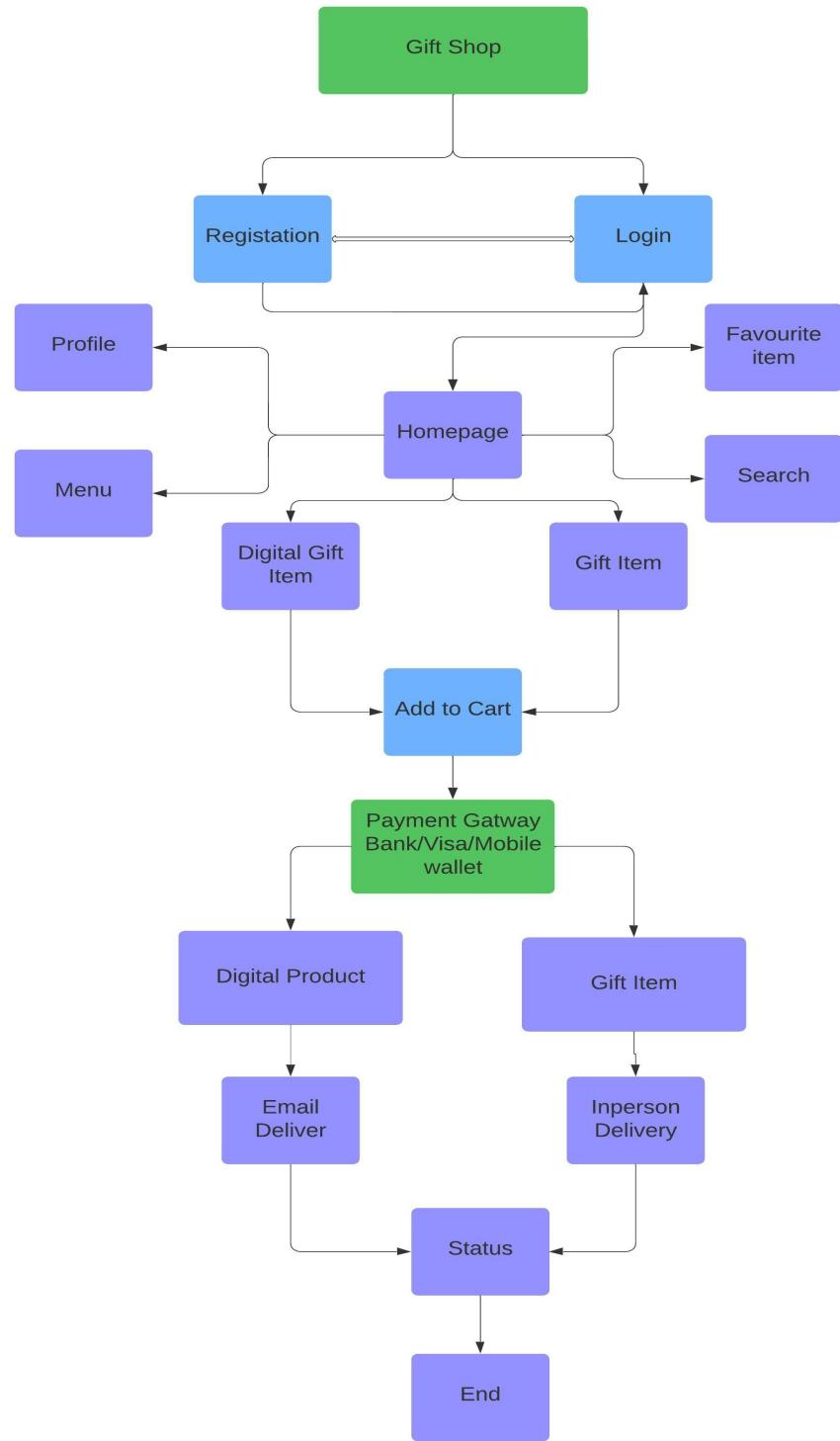


Figure 1.1: Features block diagram for ecommerce software(Gift Shop).

# Chapter 2

## Requirement Analysis and Design

### 2.1 Requirement Analysis

In this section we will briefly discuss total three topic following:-

#### 2.1.1 Functional Requirement

1. **Platform Compatibility:** The software should be accessible across various platforms, including mobile and tablets to cater to a wide range of users.
2. **Responsive Design:** The user interface must be responsive, ensuring seamless navigation and functionality across different screen sizes and resolutions.
3. **Secure Payment Gateway:** Integration with a secure payment gateway is essential to facilitate safe and encrypted online transactions, providing customers with confidence in their purchases.
4. **Product Management:** The software should allow gift shop owners to easily add, edit, and manage product listings, including descriptions, images, prices, and inventory levels.
5. **Customization Options:** Flexible customization options should be available to tailor the appearance and layout of the online store to reflect the unique branding and identity of the gift shop.
6. **Inventory Management:** Comprehensive inventory management capabilities are necessary to track stock levels, receive notifications for low inventory, and manage product variants and SKUs efficiently.
7. **Order Processing:** The software should streamline the order processing workflow, allowing gift shop owners to view, manage, and fulfill orders seamlessly from a centralized dashboard.
8. **Shipping Integration:** Integration with shipping carriers and fulfillment services enables automatic calculation of shipping rates, printing of shipping labels, and tracking of shipments to ensure timely delivery.

9. **Customer Management:** The software should include features for managing customer accounts, capturing customer information, tracking order history, and facilitating communication with customers.
10. **Analytics and Reporting:** Robust analytics tools should be provided to generate insights into sales performance, customer behavior, traffic sources, and conversion rates, empowering gift shop owners to make data-driven decisions.
11. **Security Features:** Implementation of security measures such as SSL encryption, PCI compliance, and protection against fraudulent activities is crucial to safeguard sensitive customer data and maintain trust.
12. **Scalability:** The software should be scalable to accommodate growth in traffic, sales volume, and product offerings without compromising performance or user experience.
13. **Support and Maintenance:** Ongoing technical support, software updates, and maintenance services should be available to address any issues, optimize performance, and ensure the software remains up-to-date with industry standards and security protocols.

### 2.1.2 User Requirement

#### User Panel

- Login
- Registration
- Search
- Product Catalog
  - Digital Gift Card
    - \* Apple Gift Card
    - \* Google Gift Card
    - \* Amazon Gift card
    - \* Razer Gift card
    - \* Xbox Gift card
    - \* Roblox Gift card
    - \* Play Station Gift Card
    - \* Steam Gift card
  - Hand Craft Gift Card
- Add to Cart
- Payment
  - Mobile Wallet

- Bank Payment
- Card Payment
- Cash on Delivery
- Delivery method
  - Email delivery
    - \* Digital Gift card Item
  - Physical delivery
    - \* Hand craft item
- Check Out

### **Admin Panel**

- Login
- Mange Product
  - Add Product
  - Delete Product
  - Update product
- Process Order
  - Update order Status
- Manage user account
- Customer Support

### **2.1.3 Non-functional Requirement**

- Security
  - Backup & recovery
- User satisfaction
  - Easy UI/UX design
- Notice bord
- Profile
  - Picture update
  - Adress update
  - email and contact info update

- Favorite
- Menu
  - Order status
  - Order History
  - Order Cancelation History
- Review section
- Customer Support
  - Email support
  - Live chat

#### **2.1.4 Tools and Techniques**

1. Android Studio
2. Adove XD
3. Dart Language
4. Adove Photoshop
5. Andriod emulator

## 2.2 Gantt Chart of Project Development Timing

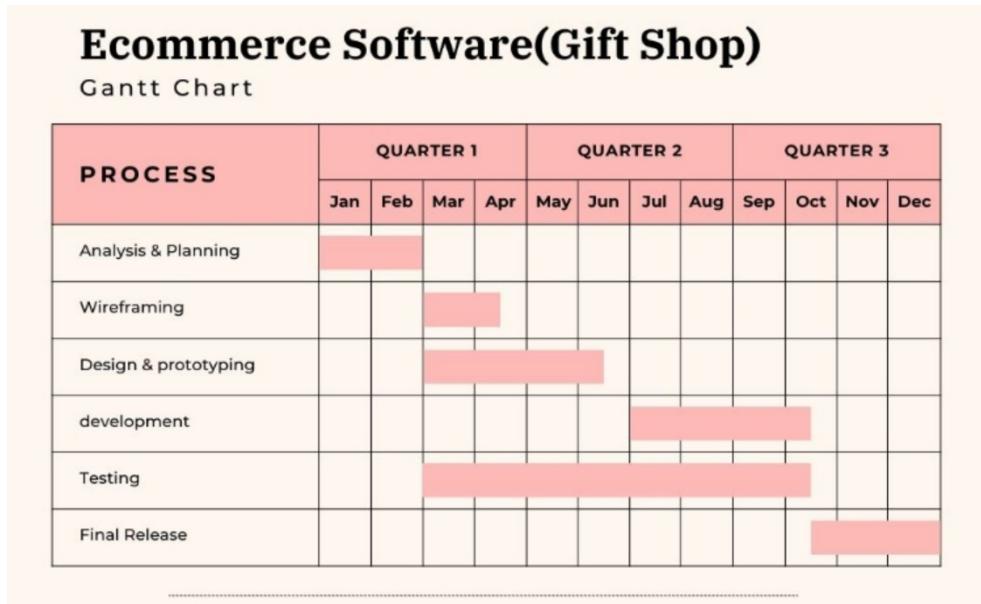


Figure 2.1: Gantt chart for ecommerce software(Gift Shop).

## 2.3 Detailed Budget

Phase	Duration (Month)	Budget Alocation
Analysis and Planning	2	40000
Wireframing	1.5	30000
Design and Prototyping	3.5	70000
Developmen	3.5	100000
Testing	7.5	150000
Final Release	2.5	50000
Contingency		50000
Total	12	490000

Table: Budget calculation for ecommerce software(Gift Shop).

## 2.4 UML Diagrams

In this section we will briefly discuss UML Diagrams:-

### 2.4.1 Use Case Diagram

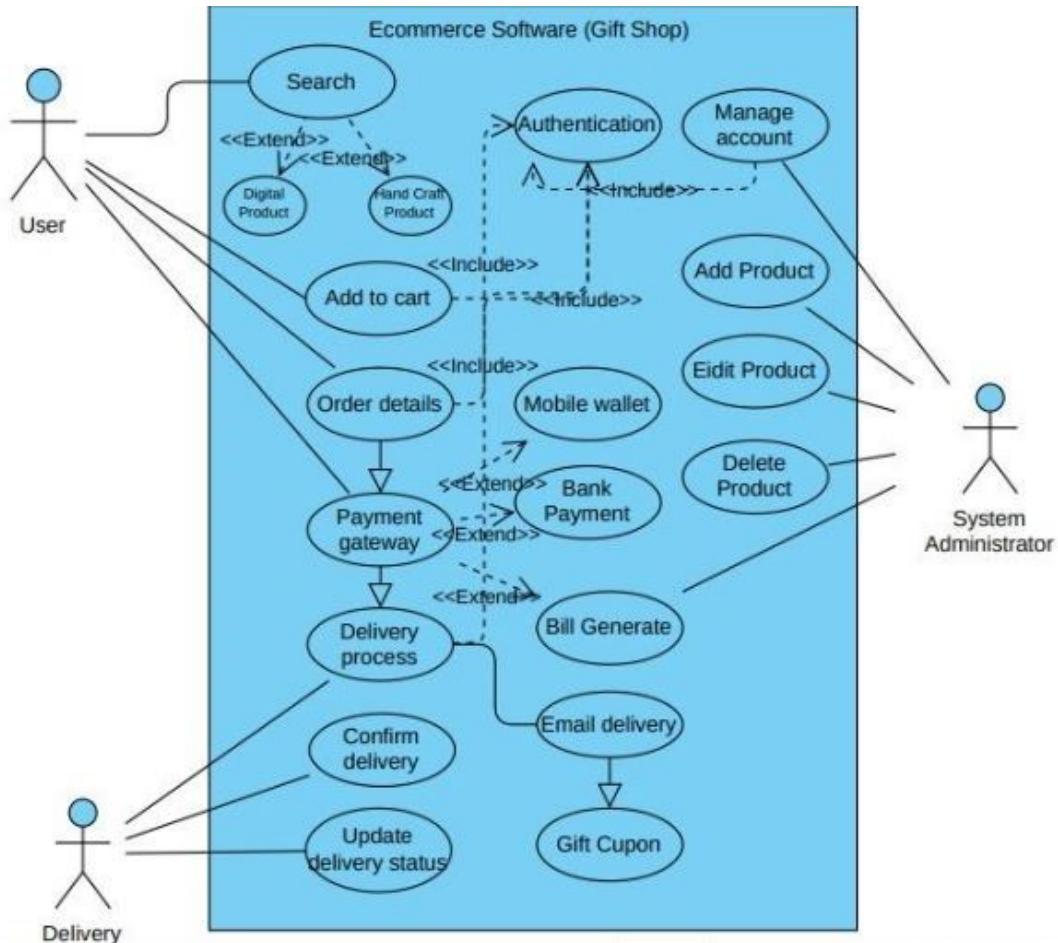


Figure 2.2: Use Case Diagram [4]

Above this use case diagram represents the interactions between actors and the e-commerce software system (Gift Card Shop). Given below we are writing a detailed rationale and assumptions behind this diagram:

#### 1. User:

- **Assumption:** Customers interact with the system. Here the customer is a user.
- **Rationale:** Users need to search for products, add them to the cart, and complete transactions.

#### 2. Search Product:

- **Assumption:** Users can search for products based on categories of physical and digital gift cards.

- **Rationale:** Efficient product search enhances user experience and drives sales.

### 3. Add to Cart:

- **Assumption:** Users can add selected products to their cart.
- **Rationale:** Cart functionality is essential for order customization and tracking.

### 4. Order Details:

- **Assumption:** Users review order details before confirming.
- **Rationale:** Clear order information ensures accurate transactions.

### 5. Payments:

- **Assumption:** Users can make payments using different methods, for example credit card, mobile wallet.
- **Rationale:** Flexible payment options accommodate user preferences.

### 6. Delivery Gateway:

- **Assumption:** The system integrates with banks for payment processing.
- **Rationale:** Secure payment gateways are crucial for successful transactions.

### 7. Bill Generate:

- **Assumption:** Bills are generated after successful orders.
- **Rationale:** Bills provide transaction records and facilitate accounting.

### 8. Confirm Delivery:

- **Assumption:** Users confirm receipt of delivered products.
- **Rationale:** Confirmation ensures successful delivery and customer satisfaction.

### 9. Update Delivery Status:

- **Assumption:** delivery status is tracked and updated.
- **Rationale:** Timely updates help users monitor their orders.

### 10. System Administrator:

- **Assumption:** Admins manage product-related tasks.
- **Rationale:** Admins handle product additions, edits, and deletions.

### 11. Manage Account:

- **Assumption:** Admins can add and edit product information.
- **Rationale:** Accurate product details are essential for users.

### 12. Email Delivery:

- **Assumption:** Gift coupons are delivered via email.
- **Rationale:** Email delivery provides convenience and value to users.

## 2.4.2 Data Flow Diagram

### Data Flow Diagram Level 0

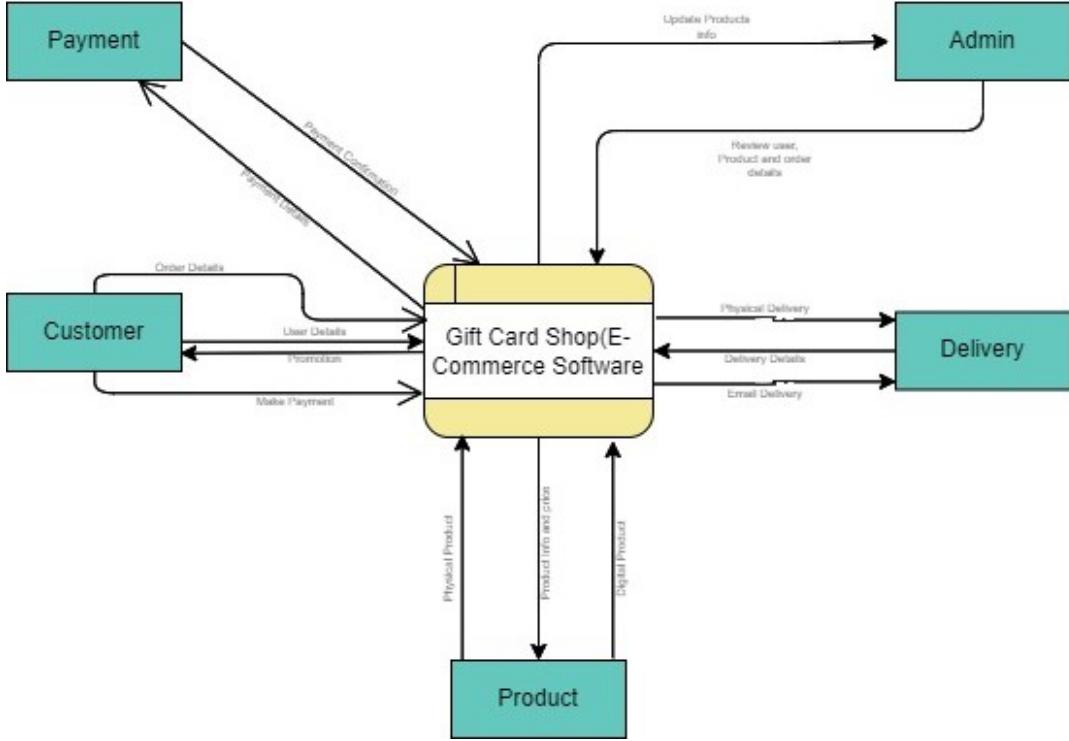


Figure 2.3: Data Flow Diagram Level 0 [4]

Above this Data Flow Diagram Level 0 shows the flow of information and processes within a system. Given below we are writing a detailed rationale and assumptions behind this diagram:

#### 1. Customer Interaction

- **Assumption:** Customers interact with the system by placing orders and using gift cards.
- **Rationale:** This interaction is essential for the gift card e-commerce platform's functionality. Customers need to be able to browse, select, and purchase gift cards.

#### 2. Payment Processing:

- **Assumption:** The system handles payment details and facilitates transactions.
- **Rationale:** Secure payment gateways ensure smooth transactions.

#### 3. Product Management:

- **Assumption:** The system manages product information.

- **Rationale:** Accurate product details are crucial for customers' informed decisions.

#### 4. Admin:

- **Assumption:** Admins can update product information and enable/disable products.
- **Rationale:** Admins need control over product management to maintain accurate data and respond to changes.

#### 5. Delivery Mechanism:

- **Assumption:** The system handles gift card delivery.
- **Rationale:** Efficient delivery, physical or email-based, ensures customers receive their purchased gift cards promptly.

#### 6. Product:

- **Assumption:** The system handles both physical and digital gift cards.
- **Rationale:** Managing product inventory and details is essential for sales.

#### 7. Data Flows:

- **Assumption:** Data flows between entities and processes.
- **Rationale:** Data movement ensures seamless interactions and accurate information.

## Data Flow Diagram Level 1

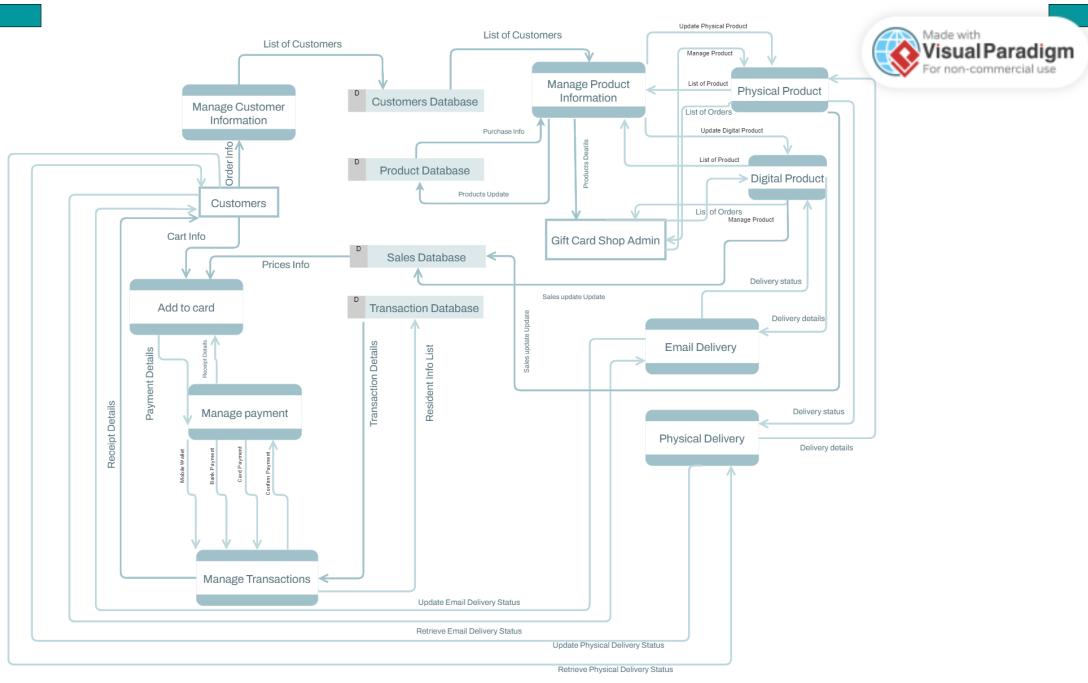


Figure 2.4: Data Flow Diagram Level 1 [4]

Above this Data Flow Diagram Level 1 shows a system's flow of information and processes. Given below we are writing a detailed rationale and assumptions behind this diagram:

### 1. List of Customers:

- **Assumption:** The system interacts with customers.
- **Rationale:** Customer data is essential for managing transactions, orders, and communication.

### 2. Manage Customer Information:

- **Assumption:** The system handles customer details.
- **Rationale:** Efficient customer management ensures accurate order processing and personalized services.

### 3. Product Database:

- **Assumption:** The system stores product information.
- **Rationale:** Access to product details is crucial for customers and admins.

### 4. Sales Database:

- **Assumption:** The system tracks sales and transactions.
- **Rationale:** Sales data helps monitor business performance and inventory management.

## 5. Transaction Database:

- **Assumption:** The system records transaction details.
- **Rationale:** Accurate transaction data is necessary for order history and financial tracking.

## 6. Email Delivery:

- **Assumption:** The system delivers gift cards via email.
- **Rationale:** Email delivery ensures timely access to digital gift cards.

## 7. Physical Product:

- **Assumption:** The system handles physical gift cards.
- **Rationale:** Managing physical inventory and delivery logistics is critical.

## 8. Digital Product:

- **Assumption:** The system manages digital gift cards.
- **Rationale:** Digital products require secure handling and efficient delivery.

## 9. Add to Cart:

- **Assumption:** Customers can add items to their cart.
- **Rationale:** Cart functionality enables easy order customization.

## 10. Manage Payment:

- **Assumption:** The system processes payments securely.
- **Rationale:** Payment handling is fundamental for successful transactions.

## 11. Physical Delivery:

- **Assumption:** Physical gift cards are delivered.
- **Rationale:** Ensuring timely delivery to customers.

### 2.4.3 E-R Diagram for Ecommerce software (Gift Shop)

We will break down the main elements and describe their functions and interactions in order to give a thorough explanation of the reasoning behind the E-R diagram and the linkages displayed in our design:

#### Entities and Their Attributes:

##### 1. Customer:

- **Attributes:** userId (PK), password, Name, gender, address, email, phone, dateOfBirth.

ER Diagram



dbdiagram.io

Figure 2.5: E-R Diagram

- **Purpose:** The customer entity holds all necessary personal information about users who shop or interact with the system.
- **Rationale:** The userId serves as the primary key (PK) and uniquely identifies each customer. This table includes typical personal data for communication, account security, and identification.

## 2. ShippingInfo:

- **Attributes:** userId (FK), shippingId (PK), shippingType, shippingCost, shippingInfo.
- **Purpose:** This entity stores information related to how the goods will be shipped to customers.
- **Rationale:** The userId is a foreign key (FK) linking to the Customer entity, allowing the system to track which customer is associated with which shipping detail. Shipping-specific information like type and cost are captured here.

### 3. Product:

- **Attributes:** productId (PK), categoryId (FK)
- **Purpose:** The Product entity holds product identification and its relation to categories.
- **Rationale:** The productId uniquely identifies each product, and categoryId links it to the category, representing how products are grouped.

### 4. Category:

- **Attributes:** categoryId (PK), subCategoryId (FK)
- **Purpose:** This stores product category data.
- **Rationale:** Categories are essential for organizing products into larger groups for easier browsing and management.

### 5. Subcategory:

- **Attributes:** subCategoryId (PK), name, description, price, quantity, imageFileName
- **Purpose:** This entity allows further division of products within a category.
- **Rationale:** Subcategories provide more granularity to help customers navigate products based on detailed classifications. Price and quantity data are also associated at the subcategory level, likely for ease of pricing control.

### 6. ShoppingCart:

- **Attributes:** cartId (PK), customerId (FK), productId (FK), quantity
- **Purpose:** The ShoppingCart entity tracks what items customers have added for potential purchase.
- **Rationale:** The customerId links the cart to the respective user, while productId tracks which items are in the cart, including the desired quantity.

### 7. Orders:

- **Attributes:** orderId (PK), customerId (FK), dateCreated, dateShipped, customerName, status, shippingId (FK), paymentId (FK)
- **Purpose:** This entity tracks placed orders and their details.

- **Rationale:** The primary key orderId identifies each transaction, while other foreign keys (customerId, shippingId, paymentId) ensure that every order is associated with a specific customer, shipment, and payment.

## 8. Payment:

- **Attributes:** paymentId (PK), orderId (FK), amount, paymentType, status
- **Purpose:** The Payment entity stores payment information for each order.
- **Rationale:** The orderId is a foreign key that connects the payment to an order. This ensures that payments are correctly associated with specific transactions.

## 9. Administrator:

- **Attributes:** adminId (PK), password, adminName, email
- **Purpose:** This entity stores admin details.
- **Rationale:** Administrators manage the system, hence they have their own set of credentials.

# Relationships:

## 1. Customer-ShippingInfo:

- A one-to-many relationship exists between Customer and ShippingInfo. This implies a customer can have multiple shipping addresses or options.

## 2. Product-Category:

- A many-to-one relationship exists between Product and Category, meaning multiple products can belong to a single category.

## 3. Category-Subcategory:

- A one-to-many relationship where each category can have multiple subcategories.

## 4. Customer-ShoppingCart:

- The relationship between Customer and ShoppingCart is one-to-many, indicating that a customer can have multiple items in their cart.

## 5. Orders-Customer/Shipping/Payment:

- The Orders entity links with Customer, ShippingInfo, and Payment through foreign keys, ensuring the order data is tied to the customer making the purchase, the shipping method chosen, and the payment made.

## **Normalization:**

- The design suggests a normalized structure with no apparent data redundancy. All entities are distinct and serve specific roles. For example, shipping information is stored separately from customer details to prevent duplication in case multiple shipping addresses are used.

## **Efficiency and Flexibility:**

- By separating Category and Subcategory, the database can accommodate a wide range of products, organized in hierarchical groups.
- Having distinct entities for Orders, Payment, and ShippingInfo allows for detailed tracking of transactions, ensuring scalability and ease of reporting.

## **Security Considerations:**

- Storing customer passwords in the Customer entity suggests there may be authentication and security mechanisms in place. It is important to ensure these are hashed for secure storage.

## **Database Schema for Ecommerce software (Gift Shop)**

- **Customer** (userId, password, Name, gender, address, email, phone, dateofbirth)
- **ShippingInfo** (userId, shippingId, shippingType, shippingCost, shippingInfo)
- **Product** (productId, categoryId)
- **Category** (categoryId, subCategoryId)
- **subcategory** (subCategoryId, name, description, price, quantity, imageFileName)
- **ShoppingCart** (cartId, customerId, productId, quantity)
- **Orders** (orderId, customerId, dateCreated, dateShipped, customerName, status, shippingId, paymentId)
- **Payment** (paymentId, orderId, amount, paymentType, status)
- **Administrator** (adminId, password, adminName, email)

## 2.5 System Architecture

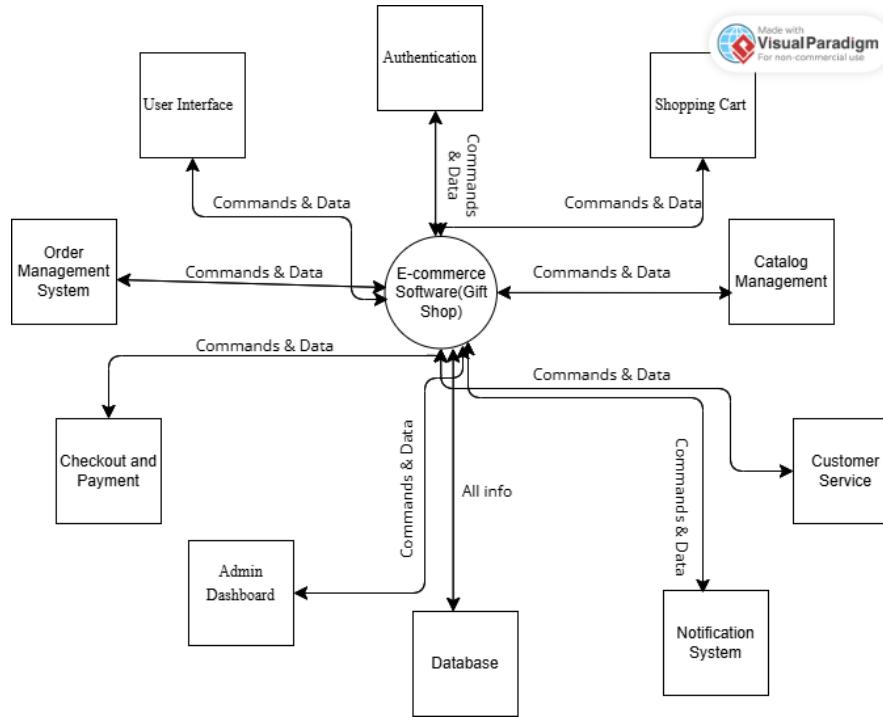


Figure 2.6: High-Level System Architecture

### 2.5.1 High-Level System Architecture

The high-level diagram see (Figure 2.6) depicts the core components of the system and their relationships. Here is an explanation of each primary component:

- **User Interface**: Handles user interactions, offering an intuitive front-end interface for customers. Sends and receives commands and data to/from the central e-commerce system.
- **Authentication**: Provides secure login and registration processes, ensuring that user credentials are validated before granting access.
- **Shopping Cart**: Manages items added by the user for purchase, allowing them to modify quantities, remove items, and proceed to checkout.
- **Catalog Management**: Handles the listing and categorization of gift cards and manages updates and additions to the product catalog.
- **Customer Service**: Offers support for customer inquiries, returns, and refunds, including ticketing and response tracking.
- **Notification System**: Manages notifications for actions like order confirmation, shipping updates, and promotional messages. Utilizes email and SMS for communication.

- **Order Management System:** Processes customer orders from placement to fulfillment, coordinating with inventory and delivery.
- **Checkout and Payment:** Handles the payment process, including price calculation and payment validation, and supports different payment options.
- **Admin Dashboard:** Provides an interface for administrators to manage products, orders, and view analytics, aiding business management.
- **Database:** Serves as the central repository for all information, including user data, product listings, and orders, supporting data retrieval and storage across components.

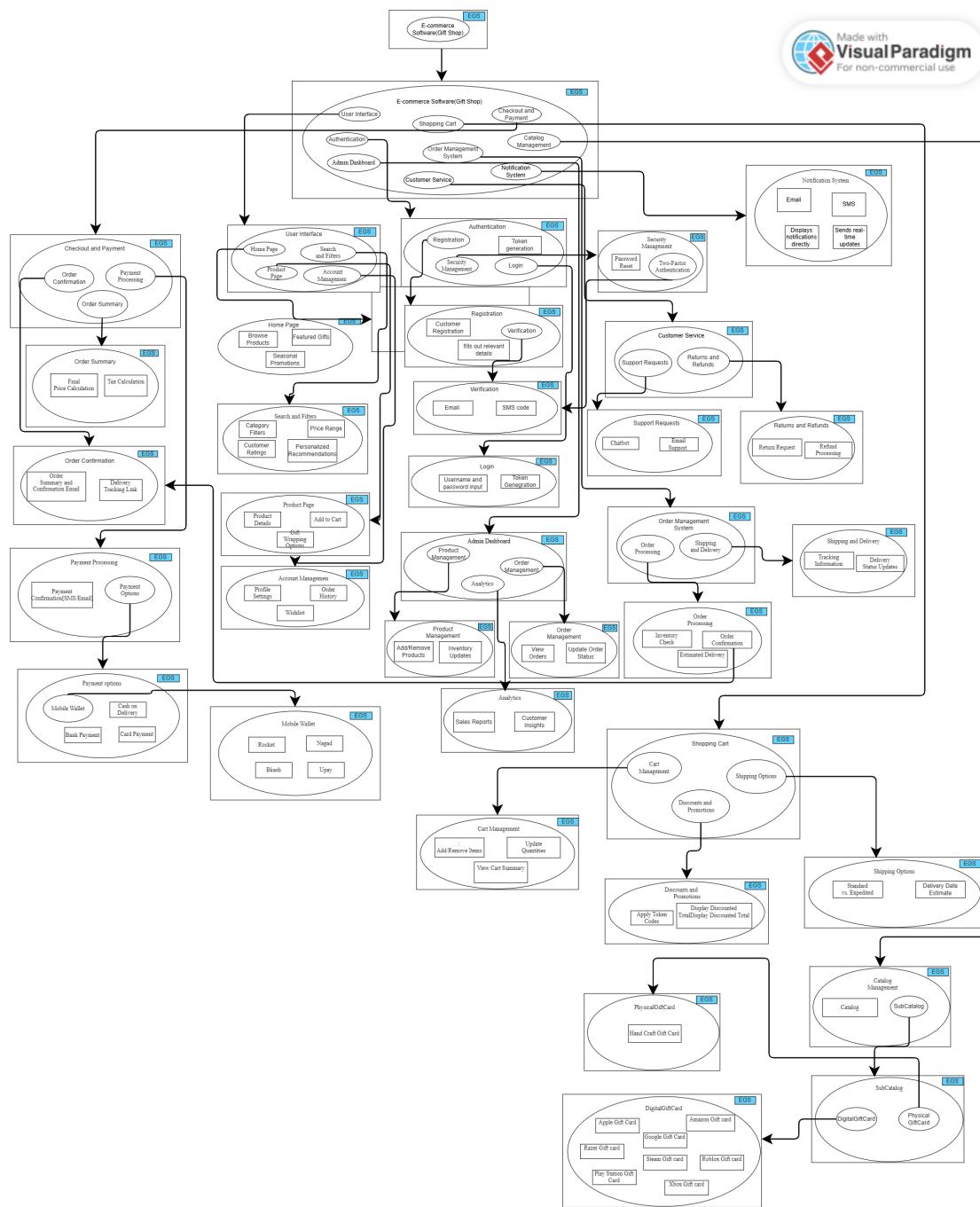


Figure 2.7: Low-Level System Architecture

## 2.5.2 Low-Level System Architecture

The low-level diagram see (Figure 2) provides a detailed breakdown of each subsystem and its specific features. The architecture includes detailed modules that serve distinct functions within the software.

## 2.5.3 Core Subsystems

- **User Interface (UI)**

- *Home Page*: Displays featured products, search bar, and navigation options.
- *Product Search and Filter*: Allows users to search and filter gift cards by price, category, and occasion.
- *Account Management*: Enables users to view their profile, order history, and manage account settings.

- **Authentication**

- *Registration*: Allows users to register by providing details and verifying their email.
- *Login*: Authenticates users securely.
- *Verification*: Verifies identity via email or SMS codes.

- **Shopping Cart**

- *Cart Management*: Allows users to add or remove items and view their cart summary.
- *Discounts & Promotions*: Applies promotional codes, discounts, and bulk purchase benefits.
- *Shipping Options*: Users select standard, express, or digital delivery options.

- **Checkout and Payment**

- *Order Confirmation*: Displays items, prices, and tax calculations.
- *Payment Processing*: Processes payments through gateways (e.g., credit card, mobile wallet).
- *Payment Options*: Offers mobile wallet, card, and bank transfer options.

- **Catalog Management**

- *Product Listing*: Manages categories and lists gift cards.
- *Bulk Editing*: Admin can update multiple products at once.

- **Customer Service**

- *Support Requests*: Tracks inquiries through a ticketing system.
- *Returns and Refunds*: Handles returns and refund requests with status tracking.

- *Live Chat*: Real-time support through live chat.
- **Order Management**
  - *Order Tracking*: Tracks order status and timelines.
  - *Fulfillment Coordination*: Works with inventory to fulfill orders.
  - *Analytics*: Provides insights into orders, popular products, and preferences.
- **Admin Dashboard**
  - *Product Management*: Admin can manage gift card inventory.
  - *User Management*: Admin can manage user accounts and permissions.
  - *Analytics and Reporting*: Tracks sales, engagement, and inventory status.
- **Notification System**
  - *Email Notifications*: Sends order confirmations, updates, and marketing emails.
  - *SMS Alerts*: Provides instant notifications for payments and delivery.
  - *Customizable Alerts*: Admin can configure notifications based on preferences.
- **Database Management**
  - *User Data*: Stores user profiles, order history, and preferences.
  - *Product Data*: Manages gift card listings, prices, and availability.
  - *Order Data*: Tracks order details, payment, and shipping information.
  - *Audit Logs*: Keeps records for security and analytics.

## 2.6 Data Flow and Integration

The data flow between components is essential for smooth system operations:

- **Commands & Data**: The central e-commerce software facilitates communication between various modules (e.g., UI, authentication, cart, order management).
- **All Info (Database)**: The central database supports data retrieval and storage, essential for transactions, user management, and product listings.
- **Notification System**: Sends notifications triggered by various modules, such as order completion or support updates.
- **Admin Dashboard**: Accesses the database for analytics, monitoring, and management of products, user accounts, and settings.

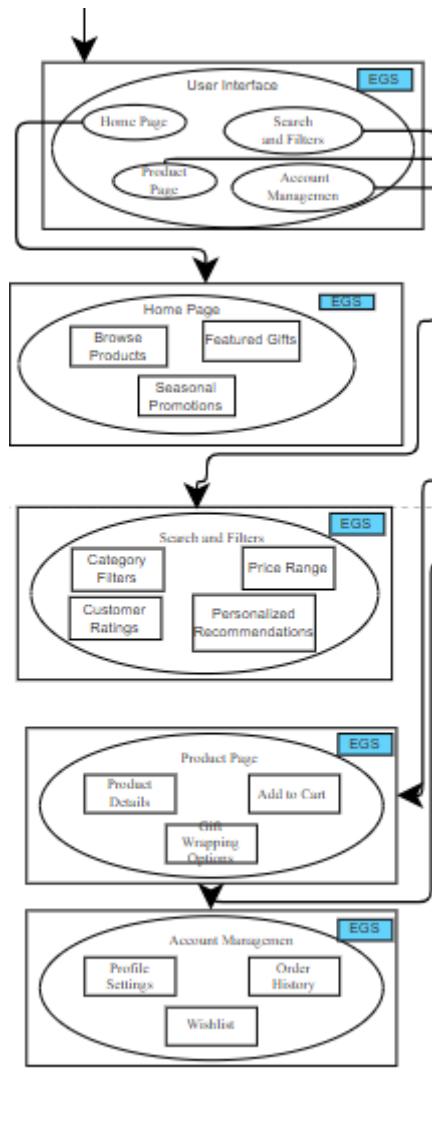


Figure 2.8: Checkout Payment.

## 2.7 Checkout and Payment

### 2.7.1 Modules

- **Order Confirmation:** Confirms order details and initiates payment.
- **Payment Processing:** Manages payment method selection and validation.
- **Order Summary:** Calculates and displays the final price, including taxes.

### 2.7.2 Data Flow

Data from the cart (selected items, quantities) flows here, where the final price is calculated, and the user is prompted for payment.

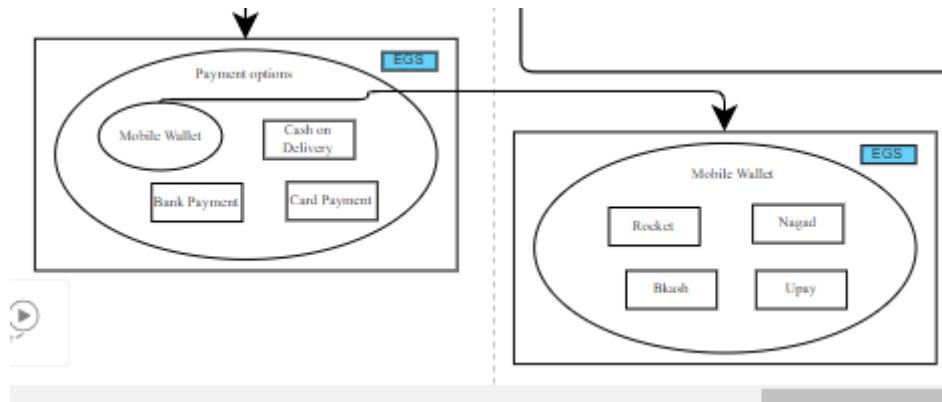


Figure 2.9: Payment Option and Mobile Wallet.

## 2.8 Order Summary

### 2.8.1 Components

- **Final Price Calculation:** Computes the total amount after taxes and discounts.
- **Tax Calculation:** Calculates applicable taxes based on location.

### 2.8.2 Data Flow

Final price details are confirmed and passed to the **Order Confirmation** module.

## 2.9 Order Confirmation

### 2.9.1 Components

- **Order Summary and Confirmation Email:** Provides order details and sends confirmation.
- **Delivery Tracking Link:** Generates tracking info if applicable.

### 2.9.2 Data Flow

Confirmation details are passed to **Payment Processing**. Once payment is successful, a confirmation message is sent to the user.

## 2.10 Payment Processing

### 2.10.1 Components

- **Payment Confirmation (SMS/Email):** Notifies users of successful payment.

- **Payment Options:** Offers choices like mobile wallet, bank transfer, cash on delivery, and card payment.

### **2.10.2 Data Flow**

The user selects a payment method, which the system validates and processes. Upon successful payment, confirmation is sent to the **Order Confirmation** module and the **Notification System**.

## **2.11 Payment Options**

### **2.11.1 Types**

- **Mobile Wallet:** Supports bKash, Nagad, Rocket, Upay.
- **Cash on Delivery:** Allows payment upon delivery.
- **Bank Payment:** Supports direct bank transfers.
- **Card Payment:** Processes credit/debit card payments securely.

### **2.11.2 Data Flow**

Selected payment data is routed to the appropriate processor, which confirms the transaction and notifies the user.

## **2.12 Data Flow Summary**

1. **Order Initiation:** User adds items to the cart, checks out, and receives a calculated final price in **Checkout and Payment**.
2. **Order Confirmation:** Order summary and confirmation details are generated and passed to **Payment Processing**.
3. **Payment Completion:** User selects a payment method; payment is validated, confirmed, and a notification is sent.
4. **Record Keeping & Notification:** Order, payment, and delivery details are stored, and notifications are sent via email/SMS.

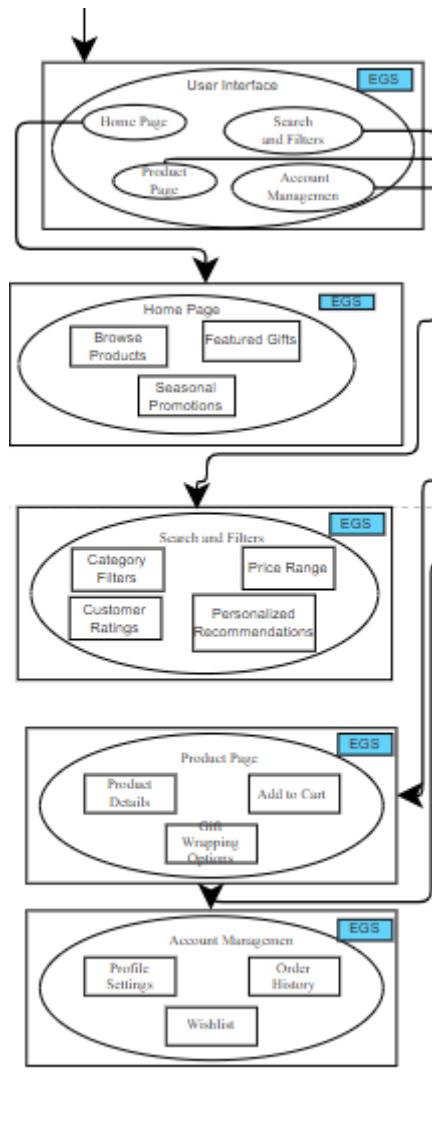


Figure 2.10: User Interface.

## 2.13 User Interface

### 2.13.1 Modules

- **Home Page:** Displays featured products and seasonal promotions.
- **Search and Filters:** Allows users to browse products with filtering options.
- **Product Page:** Displays detailed information about each product and provides options to add items to the cart.
- **Account Management:** Manages user profile settings, order history, and wish-list.

## 2.13.2 Data Flow

User interactions on the homepage, search and filter options, product page, and account settings are sent to various backend modules to retrieve relevant information such as product listings, account details, and recommendations.

## 2.14 Home Page

### 2.14.1 Components

- **Browse Products:** Allows users to view available products.
- **Featured Gifts:** Highlights popular gift cards and promotions.
- **Seasonal Promotions:** Displays offers and promotions specific to holidays or seasons.

### 2.14.2 Data Flow

Information from the catalog and promotions database is displayed here, enabling users to easily browse and select gift cards.

## 2.15 Search and Filters

### 2.15.1 Components

- **Category Filters:** Allows users to filter products by categories.
- **Price Range:** Provides options to filter products within a specific price range.
- **Customer Ratings:** Shows products based on ratings.
- **Personalized Recommendations:** Offers products based on user preferences or browsing history.

### 2.15.2 Data Flow

User inputs for filtering are used to query the database and display filtered results on the product listing page.

## 2.16 Product Page

### 2.16.1 Components

- **Product Details:** Provides in-depth information about the selected product.
- **Add to Cart:** Allows users to add products to their shopping cart.
- **Wrapping Options:** Offers various gift wrapping options for the selected product.

### 2.16.2 Data Flow

The selected product data is fetched from the database and displayed here. When the user adds a product to the cart, this data is passed to the shopping cart module.

## 2.17 Account Management

### 2.17.1 Components

- **Profile Settings:** Allows users to update account information.
- **Order History:** Displays past orders for user reference.
- **Wishlist:** Enables users to save items they wish to purchase later.

### 2.17.2 Data Flow

Account details and order history are retrieved from the user database. Changes to profile settings are saved back to the database.

## 2.18 Data Flow Summary

1. **Homepage Interaction:** Users browse featured products and promotions.
2. **Filtering and Searching:** Users apply filters or search for specific items, and the system retrieves relevant results.
3. **Product Selection:** Users view product details and add items to their cart.
4. **Account Updates:** Users manage their profile, view order history, and save items to their wishlist.

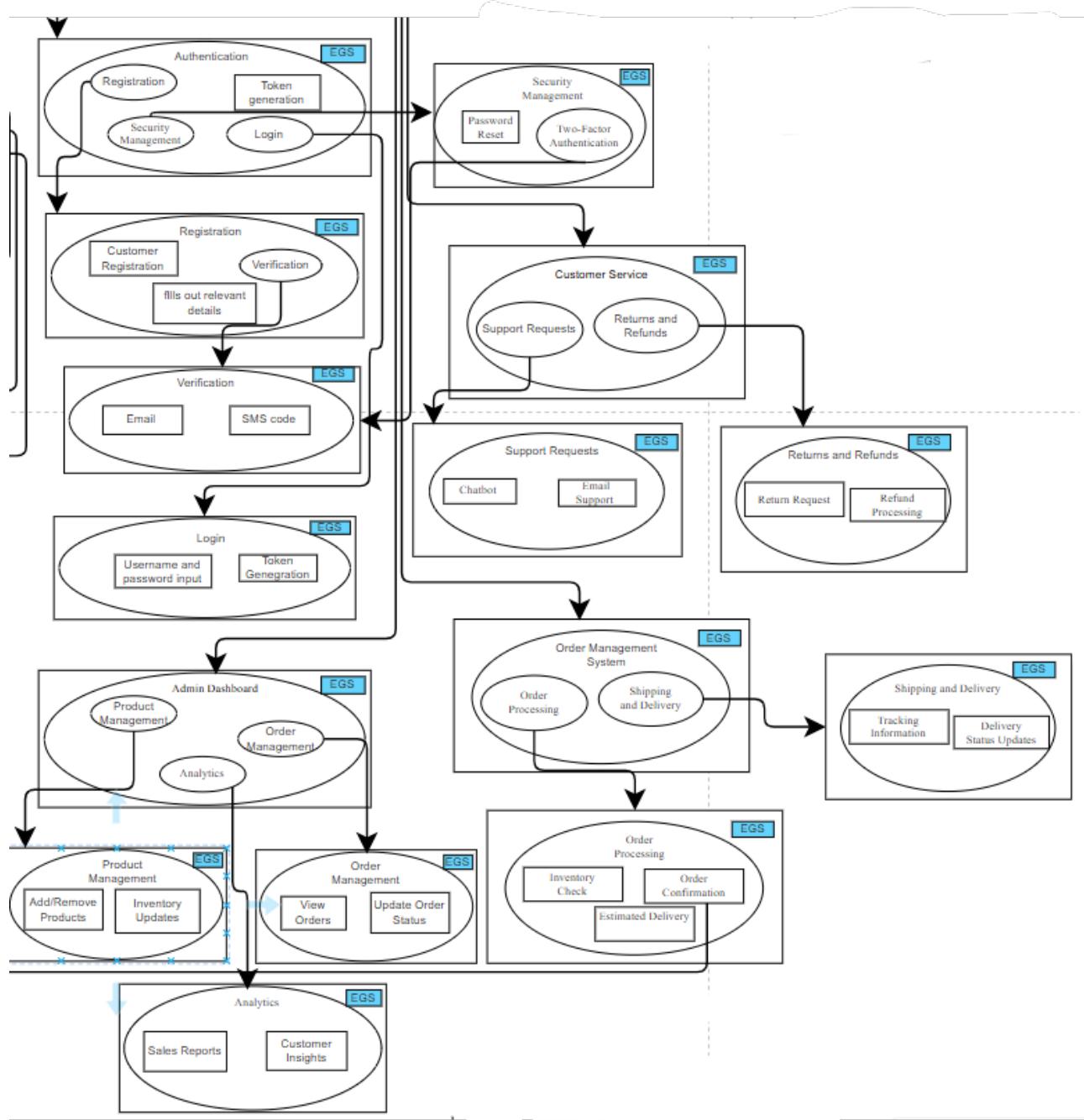


Figure 2.11: Authentication.

## 2.19 Authentication

### 2.19.1 Modules

- **Registration:** Allows users to create accounts by entering necessary details.
- **Verification:** Confirms user identity via email or SMS code.
- **Login:** Authenticates user credentials and generates a session token.

- **Security Management:** Provides account security features, including password reset and two-factor authentication.

## 2.19.2 Data Flow

During registration, user details are entered, verified via email or SMS, and securely stored. Upon login, credentials are validated, and a session token is generated. Security management features enhance user account protection.

# 2.20 Customer Service

## 2.20.1 Components

- **Support Requests:** Manages customer support inquiries through chatbots and email support.
- **Returns and Refunds:** Processes customer return requests and manages refund processing.

## 2.20.2 Data Flow

Customer inquiries are submitted through support channels, and requests for returns and refunds are processed. Customer service communicates with the Order Management System to update the order status accordingly.

# 2.21 Data Flow Summary

1. **User Registration:** User registers, and details are verified and stored securely.
2. **Login Process:** User credentials are validated, and a session token is generated for secure access.
3. **Support Requests:** Customer issues are handled through chatbots or email support.
4. **Returns and Refunds:** Return requests are processed, and refunds are issued as applicable.

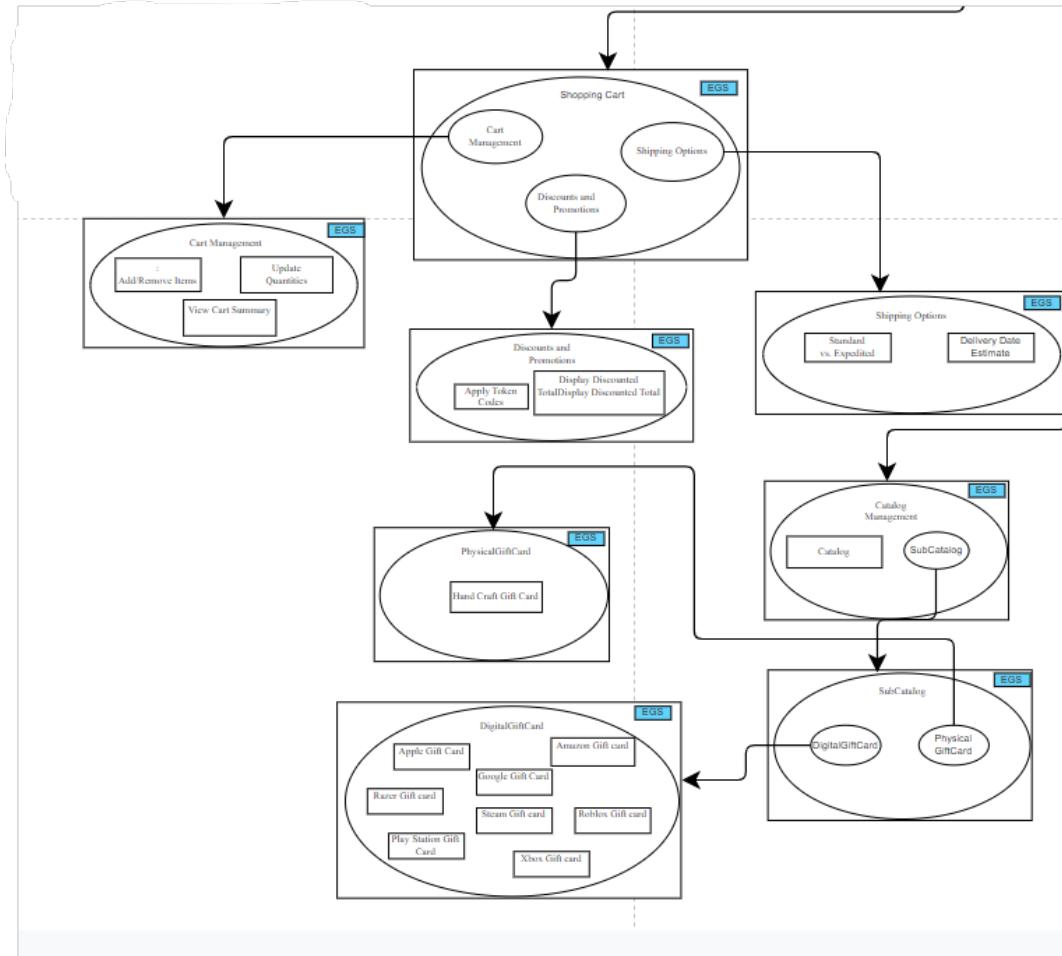


Figure 2.12: Shopping Cart.

## 2.22 Shopping Cart

The **Shopping Cart** module consists of three main components:

- **Cart Management:** Manages items added by users. It includes:
  - *Add/Remove Items*: Allows users to add or remove items from the cart.
  - *Update Quantities*: Enables quantity adjustments for selected items.
  - *View Cart Summary*: Displays an overview of items and quantities in the cart.
- **Discounts and Promotions:** Manages discount codes and promotional offers. It includes:
  - *Apply Token Codes*: Allows users to apply discount codes.
  - *Display Discounted Total*: Shows the updated total after discounts are applied.
- **Shipping Options:** Allows users to select shipping methods, which include:
  - Standard vs. Expedited
  - Delivery Date Estimate

- *Standard vs. Expedited*: Options for standard or expedited shipping.
- *Delivery Date Estimate*: Displays an estimated delivery date.

### 2.22.1 Catalog Management

The **Catalog Management** module is responsible for organizing and managing the gift card listings. It includes:

- **Catalog**: The main catalog of available gift cards.
- **SubCatalog**: Divides the catalog into smaller categories or sub-catalogs based on different criteria.

### 2.22.2 Gift Card Options

The system offers two types of gift cards, each with its own set of options:

- **Physical Gift Card**: Contains physical gift card options. It includes:
  - *Hand Craft Gift Card*: A specialized, handmade gift card option.
- **Digital Gift Card**: Includes various popular digital gift card options such as:
  - *Apple Gift Card*
  - *Amazon Gift Card*
  - *Google Gift Card*
  - *Razer Gift Card*
  - *Steam Gift Card*
  - *Roblox Gift Card*
  - *PlayStation Gift Card*
  - *Xbox Gift Card*

### 2.22.3 Data Flow and Interaction

The diagram shows the flow and interaction between these modules:

- The **Shopping Cart** interacts with **Catalog Management** to retrieve product information for items added to the cart.
- **Catalog Management** provides data to both **Physical Gift Card** and **Digital Gift Card** options, ensuring up-to-date listings for both types of gift cards.
- **Discounts and Promotions** are applied at the Shopping Cart level, influencing the final purchase amount.

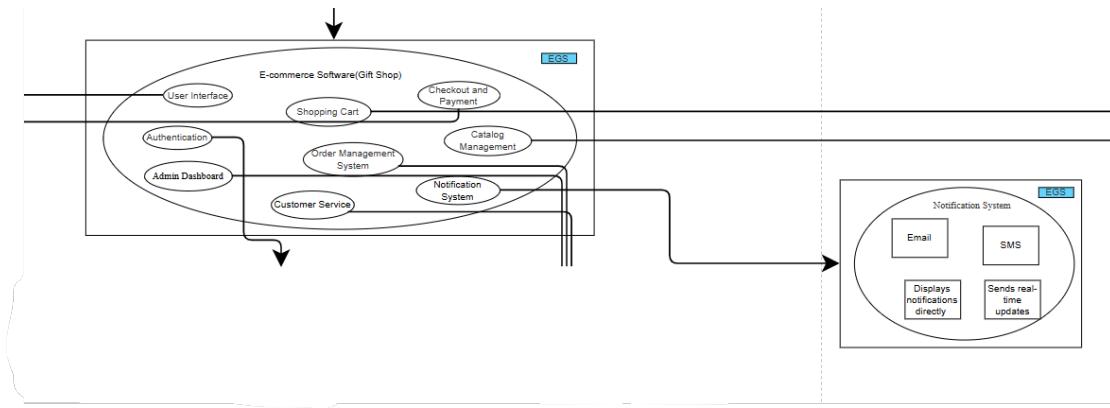


Figure 2.13: Notification System.

## 2.23 Notification System

The **Notification System** is an essential part of the Gift Card Shop's e-commerce software architecture. It is responsible for sending timely updates and alerts to users and plays a critical role in keeping customers informed about their orders and other important information. The Notification System includes the following components:

- **Email:**
  - Sends automated emails for various events, such as order confirmations, shipping updates, and promotional offers.
  - Ensures that customers receive a record of transactions and communications related to their purchases.
- **SMS:**
  - Provides real-time updates directly to the customer's mobile device, such as payment confirmations, delivery notifications, and other time-sensitive alerts.
  - Enhances customer engagement by delivering critical notifications promptly.
- **Direct Notifications:**
  - Displays notifications directly within the user interface for users who are actively using the platform.
  - Provides instant visibility for alerts regarding order status, promotions, and other relevant updates while the user is logged in.
- **Real-Time Updates:**
  - Supports real-time message delivery for time-sensitive notifications.
  - Ensures that the system remains responsive to changes, allowing customers to stay informed without delay.

## 2.24 Integration with Other Modules

The Notification System interacts with several other components of the e-commerce software, including:

- **Order Management System:** Triggers notifications related to order status changes, ensuring customers are informed throughout the purchasing process.
- **Customer Service:** Sends updates related to customer support inquiries, such as ticket status changes or responses from support representatives.
- **Checkout and Payment:** Provides payment confirmations and alerts in case of payment issues, enhancing security and customer awareness.

## 2.25 Conclusion

In conclusion, the development of eCommerce software tailored specifically for gift shops presents a promising opportunity to revolutionize the way these businesses operate in the digital landscape. By providing a comprehensive platform that addresses the unique needs of gift shop owners, such as personalized recommendations, intuitive user interfaces, and robust inventory management, this software has the potential to enhance customer experiences, streamline operations, and drive growth. With the ever-increasing demand for convenient online shopping experiences and the rising trend of personalized gifting, the market for such software solutions is ripe with potential. As gift shop owners embrace digital transformation, this specialized eCommerce software stands poised to empower them to thrive in the competitive online marketplace, ultimately redefining the future of gift shopping.

# Chapter 3

## Interface Design and Implementation

### 3.1 UI/UX Design

#### 3.1.1 Starting Page



Figure 3.1: Application Logo

- The logo of the gift card shop, which is likely displayed on the main navigation bar, login page, and other key areas of the application.

### 3.1.2 Login & Registration

The image consists of two side-by-side screenshots of a mobile application interface. Both screenshots show a top status bar with the time 11:20 and various connectivity icons. The left screenshot, labeled (a) SignUP Page, shows a 'Sign Up' header and a form with fields for Name, Username, Date of Birth, Gender (dropdown), Mobile number (+880), Email, Password, and Confirm Password. A red 'SIGN UP' button is at the bottom. The right screenshot, labeled (b) Login Page, shows a 'Log In' header and a form with fields for USERNAME / EMAIL and PASSWORD. It includes a red 'LOG IN' button, a 'Forget Password?' link, and a 'Create a new account' link.

**(a) SignUP Page**

**(b) Login Page**

Fig 3.2a is the registration page and fig 3.2b is the login page.

- A user registration form where new users can create an account by entering their personal information such as name, email, password, and possibly other details like phone number.
- A login screen for existing users to enter their email and password to access their accounts. It likely includes options for password recovery and possibly social media login integration's.

### 3.1.3 Forget Password

The image consists of two side-by-side screenshots of a mobile application. Both screenshots show a top status bar with signal strength, battery level at 67%, and the time 9:55.

**(a) Forget Password:** This screenshot shows the initial step of requesting a password reset. It features a header "Forgot Password" with a back arrow. Below it is a text instruction: "Enter the email address you used to create your account, and we will send you a link to reset your password." A form field labeled "Email" contains the value "tarikul552828@gmail.com". A red button at the bottom labeled "Send Reset Link" is prominent.

**(b) Set password:** This screenshot shows the second step after requesting a password reset. It has a header "Reset your password" and a sub-header "for tarikul552828@gmail.com". It includes a "New password" field with an eye icon for visibility, and a blue "SAVE" button at the bottom right.

Fig 3.3a is the Forget Password page and fig 3.3b is the Set password page.

- A form where users can request a password reset by entering their registered email address. It might include security questions or a captcha for verification.
- After requesting a password reset, users can set a new password. This screen likely includes fields for entering and confirming the new password, along with password strength indicators.

### 3.1.4 Home Screen & Profile

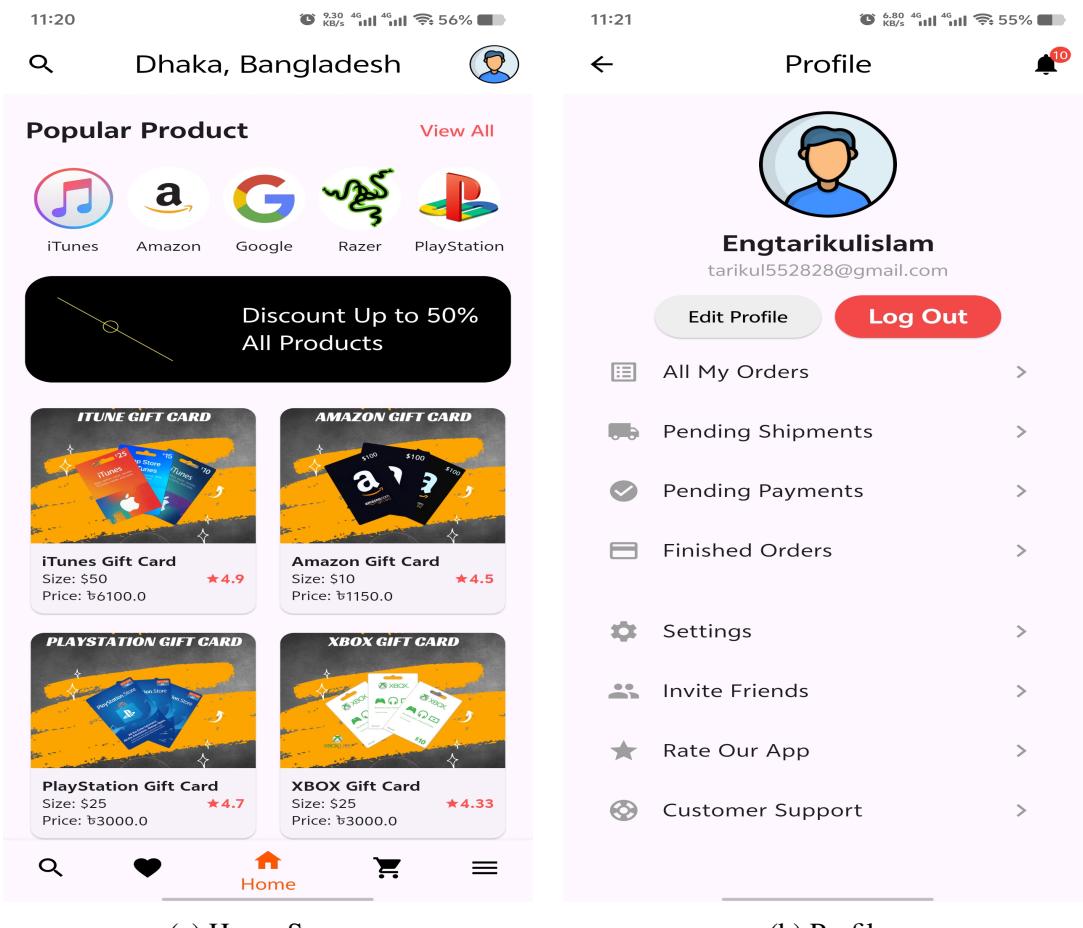


Fig 3.4a is the Home Screen page and fig 3.4b is the Profile page.

- The main landing page displaying featured gift cards, promotional banners, and categories. It may include sections like "New Arrivals," "Top Sellers," and personalized recommendations.
- A navigation menu that provides links to various sections such as Home, Categories, Favorites, Cart, Profile, and Settings. This menu might be accessible via a hamburger icon on the main interface.
- An overview of the user's profile, displaying information like their name, email, recent orders, and account settings.

### 3.1.5 Edit Profile

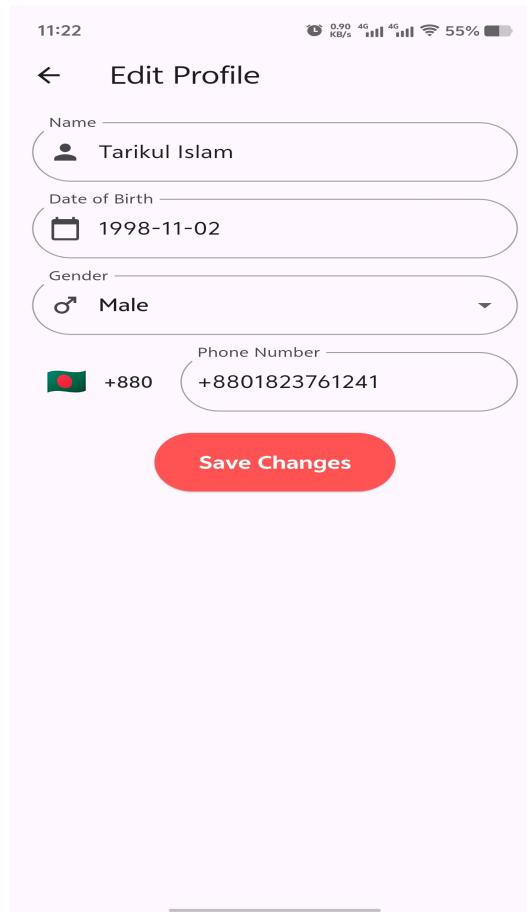
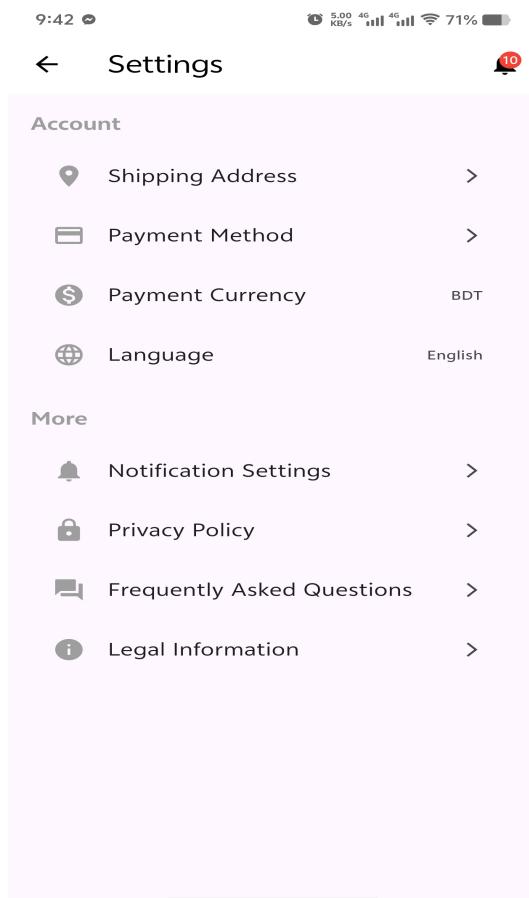


Figure 3.5: Edit Profile

- Well here customer can edit their profile like name , date of birth , gender and own phone number.When they clicked the save changes button that time customer save their edit profile.

### 3.1.6 Settings

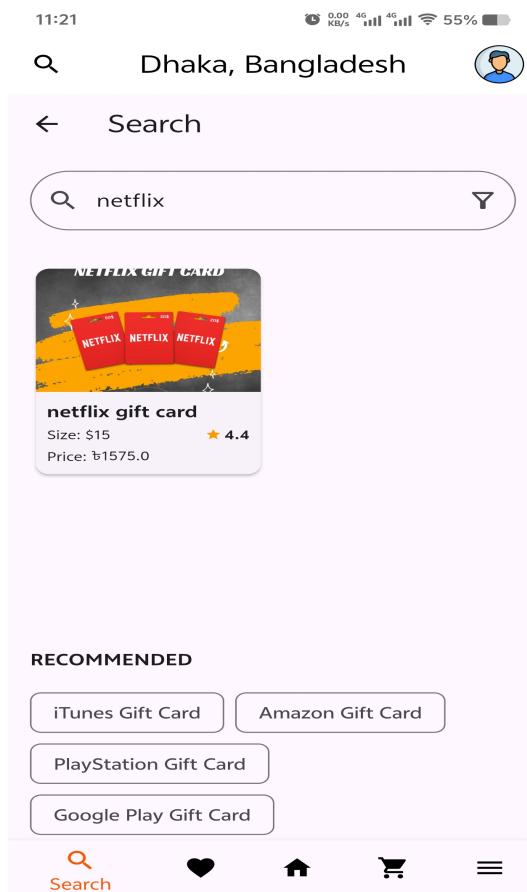


(a) Settings

Fig 3.6a is the Settings page a

- The profile settings page where users can update their personal information, change their password, manage payment methods, and adjust notification preferences.

### 3.1.7 Search



(a) Search Page

Fig 3.7a is the Search Page

- A search bar where users can enter keywords to find specific gift cards. This screen might include filters and sorting options to refine search results and here also can add some recommendation for customers view.

### 3.1.8 Product Information & All Order & Finished order

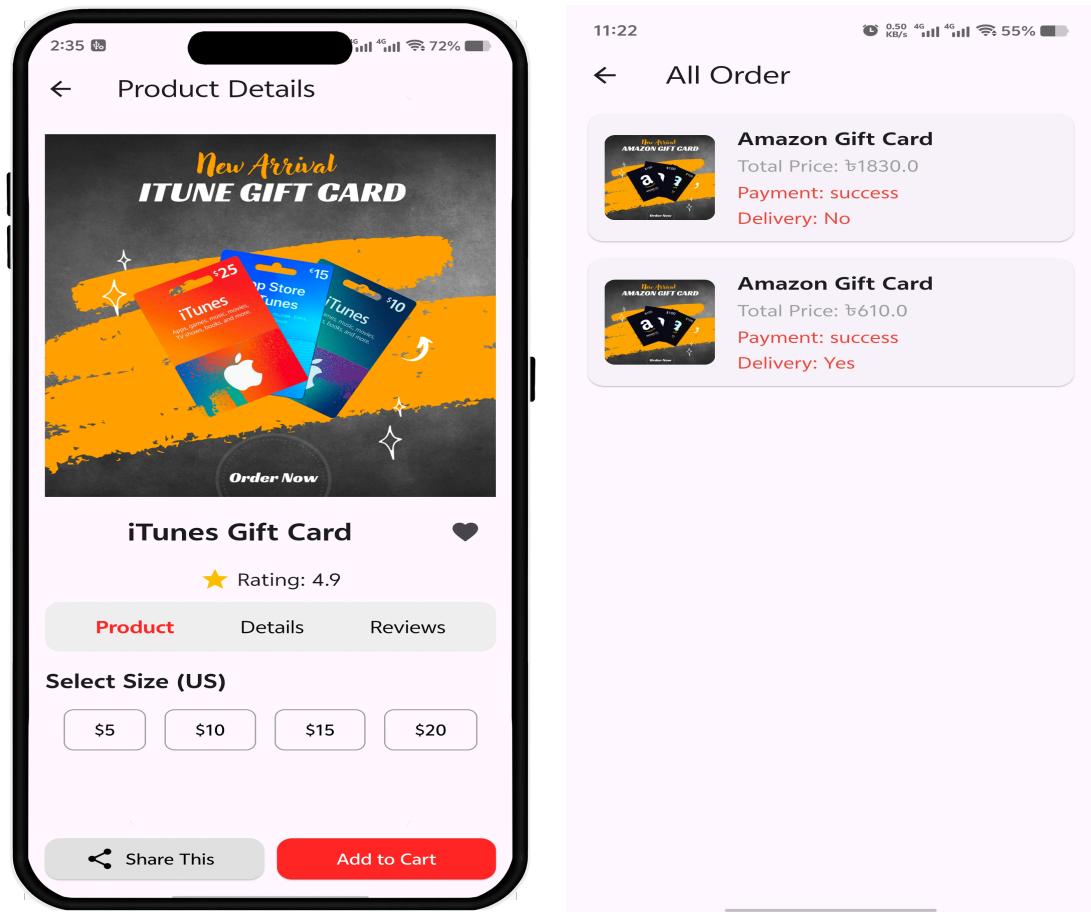


Fig 3.8a is the Product Page and fig 3.8b is the All order.

- A detailed view of a selected gift card product. It includes information such as the product name, description, price, availability, and options for different denominations. It might also have an "Add to Cart" button. And here right hand side we can see customers all orders.

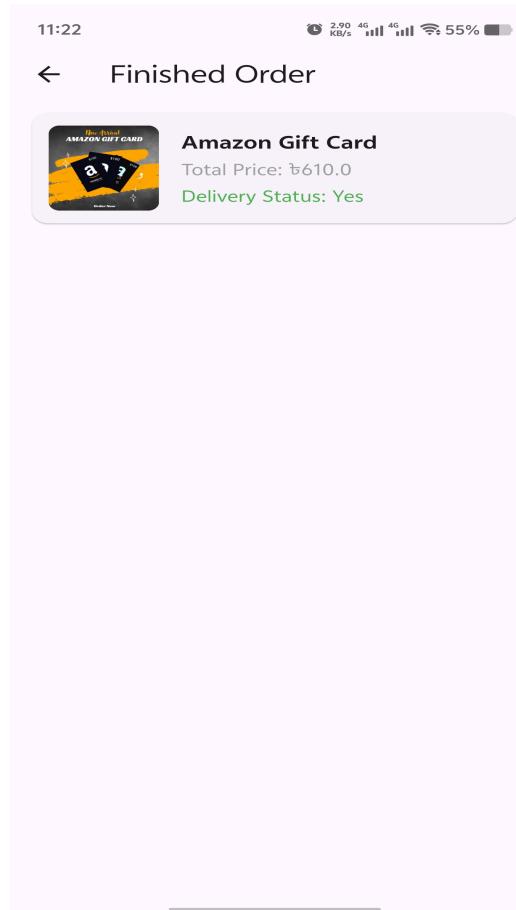
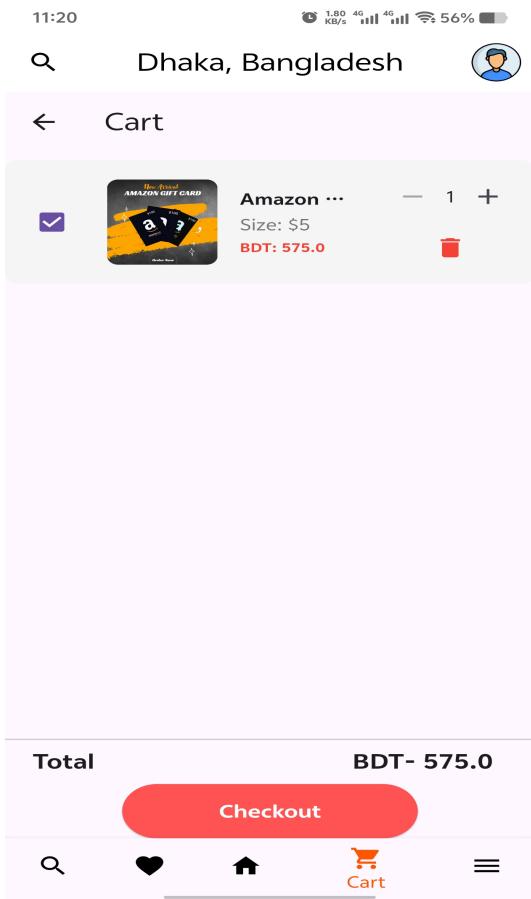


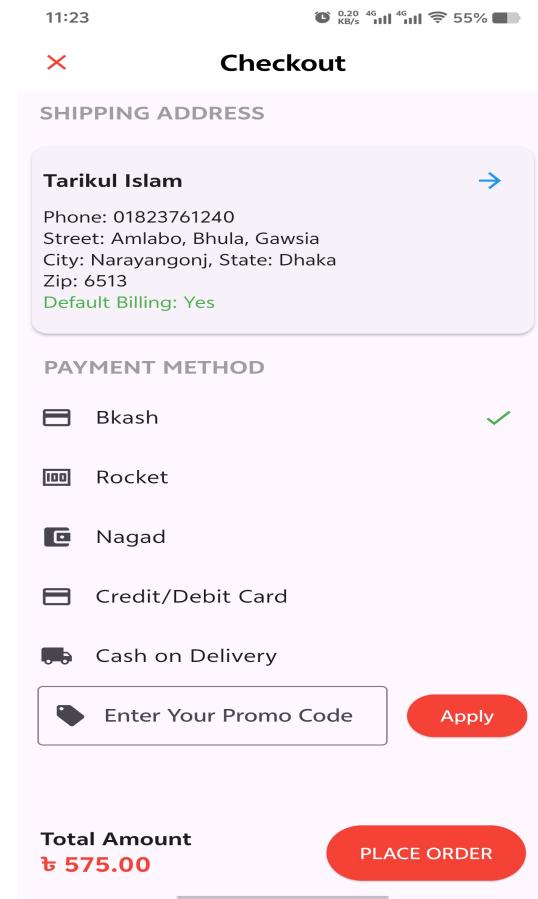
Figure 3.9: Finished order

- This section show customer finished order their.

### 3.1.9 Product Order



The Cart page shows a single item in the cart: an Amazon gift card worth \$5 at BDT 575.0. The user has selected the item. The total amount is BDT 575.0. Below the cart summary is a red 'Checkout' button.



The Checkout page starts with a 'SHIPPING ADDRESS' section for Tarikul Islam, showing a phone number and address in Narayangonj, Dhaka. Below that is a 'PAYMENT METHOD' section with options for Bkash (selected), Rocket, Nagad, Credit/Debit Card, and Cash on Delivery. There's a field to enter a promo code with an 'Apply' button. At the bottom, the total amount is BDT 575.0 and there's a red 'PLACE ORDER' button.

(a) Cart Page
(b) Checkout Page

Fig 3.10a is the Cart Page and fig 3.10b is the Checkout Page page.

- The shopping cart page showing all the items the user has selected for purchase. It includes product details, quantities, prices, and a total amount. Users can update quantities or remove items from the cart.

### 3.1.10 List of Menu

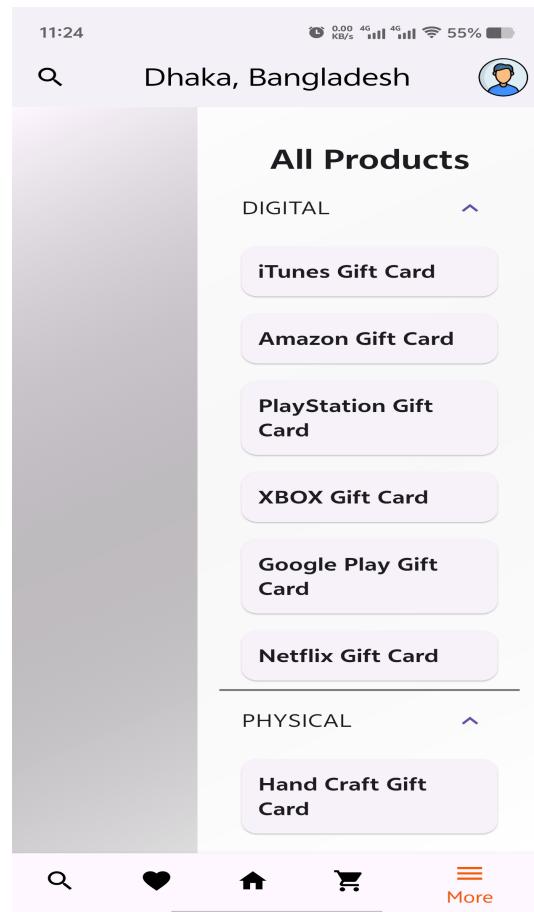


Figure 3.11: Categorical menu

- This menu show us our popular product list and customer can easily see above those popular product and they can cart those product.

### 3.1.11 Shipping

11:22 0.60 KB/s 4G 4G 55% 11:22 0.30 KB/s 4G 4G 55%

**(a) Shipping address**

← Shipping Addresses

Tarikul Islam  
Phone: 01823761240  
Street: Amlabo, Bhula, Gawsia  
City: Narayangonj, State: Dhaka  
Zip: 6513  
Category: Work  
Default Billing: Yes

Tarikul Islam  
Phone: 01823761240  
Street: deora, Barura  
City: Comilla, State: Chittagong  
Zip: 3560  
Category: Home  
Default Billing: No

**(b) Add Shipping address**

← Add Shipping Address

Recipient Name \_\_\_\_\_

Phone Number \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

Address Category  
Home ▾

Set as Default Billing Address

Add Address

+

Fig 3.12a is the Shipping address and fig 3.12b is Add Shipping address.

- Here above we can see customer Shipping address and add shipping address form . Here every customer create and add their own address .

### 3.1.12 Pending shipment & Wish-list

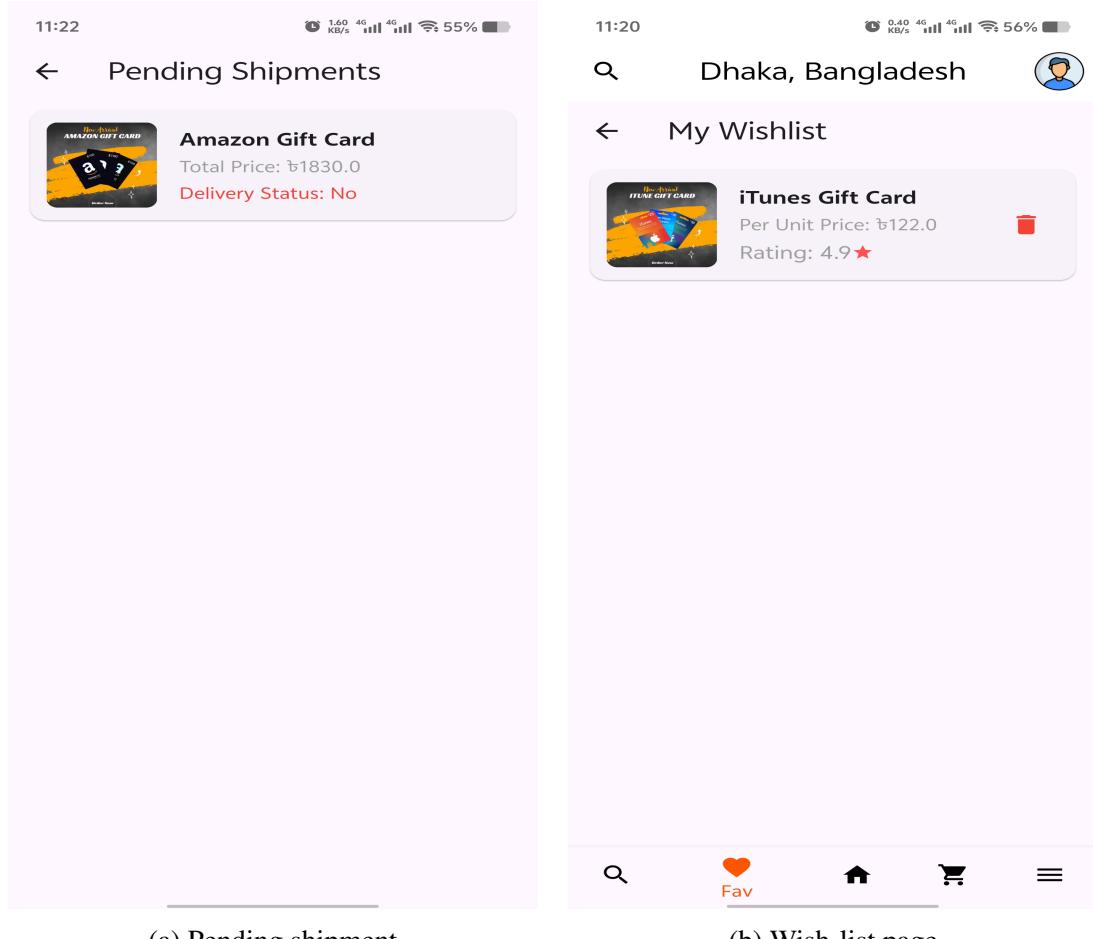


Fig 3.14a is Pending shipment and fig 3.14b is the Wish-list page.

- Here you can see Pending shipment page and My wisher list page .When a user can chose or select to cart product then only shows Wishlist page otherwise it can show empty list page.

### 3.1.13 Bkash payment & Pending payment

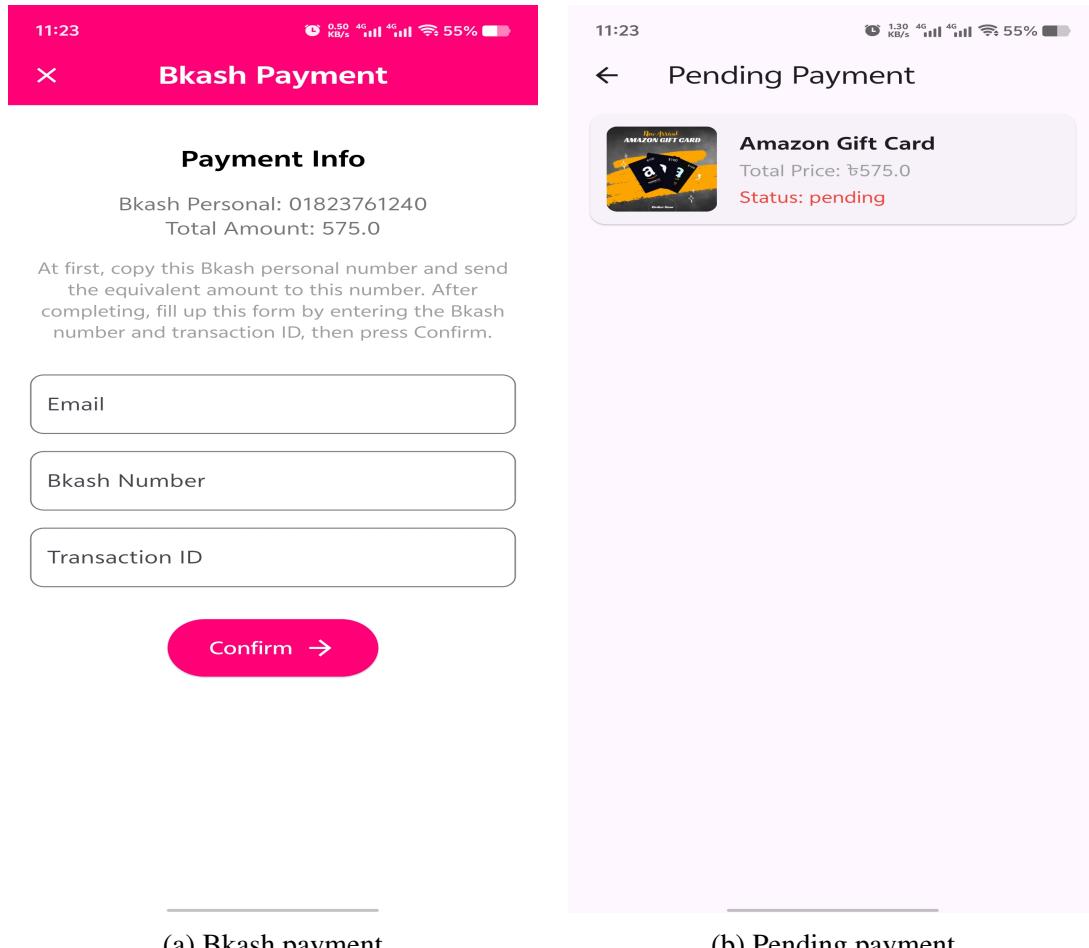


Fig 3.14a is Pending shipment and fig 3.14b is the Wish-list page.

- This is our payment method Bkash here customer input there email and Bkash number then automatic create here transaction id then confirm the customer for the payment. Right hand side we show pending payment here customer cannot confirm there payment.

### 3.1.14 Success

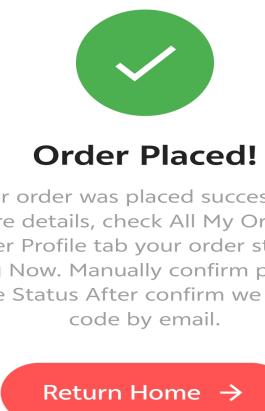


Figure 3.15: Success

- When all operation is done that time show the success full.

# Chapter 4

## Test Cases

In this section we will briefly discuss total test cases following:-

### 4.1 User SignIn

This test case document is for validating the **User Sign-In functionality** of an E-commerce software (Gift Shop). It consists of multiple test scenarios to check the correctness of email and password inputs. The following points summarize the document:

User SignIn						
Test Cse ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Tarikul Islam	Recived By	Tarikul Islam		Version	1.0
Sl No	Email	Password	Expectation Result	Actual Result	Remark	
1	tarikul123@gmail.com	Passw0rd!	Login successful- (Valid email and valid password)			
2	<a href="mailto:tarikul123@gmail.com">tarikul123@gmail.com</a>	Passw0rd!	Error: Invalid email format (missing @ symbol)			
3	tarikul123@gmail	Passw0rd!	Error: Invalid email format (missing .com)			
4	tarikul123@.com	Passw0rd!	Error: Invalid email format (missing domain)			
5	tarikul123@gmail.com	Pass!7	Error: Password too short			
6	tarikul123@gmail.com	passw0rd!	Error: Password must contain uppercase letter			
7	tarikul123@gmail.com	PASSW0RD!	Error: Password must contain lowercase letter			
8	tarikul123@gmail.com	Password1	Error: Password must contain special character			
9	tarikul123@gmail.com	Password!	Error: Password must contain a number			
10	tarikul123@gmail.com	Passw0rd!	Error: Invalid email format (extra characters)			
11		Passw0rd!	Error: Email cannot be empty			
12	tarikul123@gmail.com		Error: Password cannot be empty			

Figure 4.1: User SignIn Test Case

#### 1. Test Case ID: Test-1100

- The unique identifier for this test case.

#### 2. Fields Tested:

- **Email Field:** Tested for proper format, including presence of "@" and a valid domain (e.g., ".com"). Invalid cases such as missing "@" or ".com," extra characters, or an empty field are checked.
- **Password Field:** Tested for compliance with security standards, including length, presence of uppercase and lowercase letters, special characters, and numbers. Invalid cases such as missing criteria or empty fields are checked.

### 3. Test Scenarios:

- A total of 12 scenarios are tested with various combinations of valid and invalid email and password inputs.
- Each test scenario specifies the input email, password, expected result (e.g., error messages for invalid inputs or success for valid inputs), and placeholders for actual results and remarks.

### 4. Validation Rules:

- **Email Validation:** The email must include all required components and have no invalid or extra characters.
- **Password Validation:** The password must meet all security criteria (minimum length, uppercase, lowercase, numbers, special characters).

### 5. Expected Results:

- Valid inputs (correct email format and secure password) result in a successful login.
- Invalid inputs generate specific error messages, such as:
  - Missing "@" or domain in email.
  - Password too short or lacking specific characters.
  - Empty email or password fields.

### 6. Actual Results and Remarks Columns:

- These columns are empty in the document, indicating that test execution is pending or results are yet to be recorded.

## 4.2 User Signup

This test case table is designed to validate the User Signup functionality of an E-commerce Software (Gift Shop). It systematically tests various aspects of the signup process to ensure it meets functional requirements, handles edge cases effectively, and provides appropriate feedback for valid and invalid inputs.

1. The test case evaluates the User Signup functionality for an e-commerce gift shop to ensure that users can register successfully with valid inputs.
2. It checks field-level validation for required inputs like name, username, date of birth, gender, mobile number, email, password, and confirm password.

User SignUp													
Test Case ID	Test-1100	Test Case Description			Text authentication by each field				Version	1.0	Actual Result	Remark	
Created By	Sakib Akhter	Username	Received By	Tarikul Islam	Mobile Number	Email	Password	Confirm Password	Expected Result				
1	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Successfully Sign Up				
2	Sakib Akhter	sakib123	03-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Name is required				
3	Sakib Akhter	sakib123	03-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Username is required				
4	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Invalid Mobile				
5	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Invalid Email				
6	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	sakib123@gmail.com	pass@word1	pass@word1	Successfully Sign Up				
7	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word2	Fail - Invalid Password				
8	Sakib Akhter	turzo		Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	date required				
9	Sakib Akhter	sakib123456789	02-01-2028	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Invalid Date				
10	Sakib Akhter	sakib@123	02-01-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Email Required				
11	Sakib Akhter	sakib123	31-02-2001	Male	1823791240	sakib123@gmail.com	Pass@word1	Pass@word1	Successfully Sign Up				
12	Fazenna Yesmin	sakib123	02-01-2001	Female	122324	sakib123@gmail.com	Pass@word1	Pass@word1	Mobile number less than 11 so this mobile number is invalid				
13	Sakib Akhter	sakib123	02-01-2001	Male	1234567890	sakib123@gmail.com	Pass@word1	Pass@word1	Fail - Username is required				
14	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	sakib@comain.com	Pass@word1	Pass@word1	Fail - Invalid Email				
15	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	fyzra@gmail.com	Pass@word1	Pass@word1	invalid email here @ is required				
16	Sakib Akhter	unouser	02-01-2001		1823791240	sakib@comain.com	Pass@123	Pass@123	Gender Required				
17	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	user@site.com	Pass@word1	Pass@word1	Fail - Name is required				
18	Sakib Akhter	sakib123	02-01-2001	Male	1823791240	existing@site.com	Pass@word1	Pass@word1	Fail - Username is required				
19	Sakib Akhter	sakib123	02-01-2006	Male	17234465665656	sakib123@gmail.com	Pass@word1	Pass@word1	Mobile number greater than 11 so this mobile number is invalid				
20	Tarikul Islam	tarikul_123	02-01-2001	Male	178901245	tarikul_123@gmail.com	Password@123	Password@123	Fail - Invalid Email				
21	Tarikul Islam	tarikul	02-01-2001	Male	178901245	tarikul@sample.com	password@123	password@123	Successfully Sign Up				
22	Sakib Akhter	user_test	15-05-2000	Female	user@comain.com	Test@Pass1	Test@Pass1	Test@Pass1	Fail - Mobile is required				
23	Sakib Akhter	test_user123	10-10-1999	Male	1671234567	test@12domain.com	Welcome@123	Welcome@123	Fail - Username is required				
24	Sakib Akhter	sakib_new	05-11-1998	Male	179738664	email@comain.com	Pass@12345	Pass@12345	Fail - Invalid Mobile				
25	Sakib1234	sakib_123	05-11-2002		1823791240	sakib_123@comain.com	Password@1234	Password@1234	Fail - Gender Required				
26	User Name	username123	01-05-1990	Female	18237901	user_name@domain.com	User@2024	User@2024	Successfully Sign Up				
27	Aparna	faru	01-05-1990	Female	18237901	faru@domain.com	Test@2023	Test@2023	Invalid confirm password				
28	Sakib Akhter	uniqueuser99	11-09-2001	Male	18237901	valid@domain.com	Password@321	Password@321	Fail - Username is required				
29	Sakib Akhter	uniqueuser99	07-12-1997	Male	18237901	18237901	email_2@domain.com	Pass@2022	Pass@2022	Fail - Invalid Mobile			
30	Sakib Akhter	user@test	03-03-2002	Female	112345678	test@12domain.com	Password@321	Password@321	Fail - Invalid Email				
31	Test User	valid_user	15-04-2000	Male	18237901	validuser@comain.com	Pass1234	Pass1234	Successfully Sign Up				
32	sakib9999	unique_test	20-07-1995	Female	187054320	valid_email@comain.com	Password@2021	Password@2021	Fail - Invalid Name				
33	Sakib Akhter	sakib12345	12-02-1996	Male	187054320	special_user@domain.com	Password@2020	Password@2020	Fail - Username is required				
34	Sakib Akhter	sakib_test	01-11-1996	Female	187555901234	email_check@domain.com	Secure@pass1	Secure@pass1	Mobile number is too long				
35	Sakib Akhter	validusername	10-10-2003	Male	182344656789	user_final@domain.com	Pass@final2	Pass@final2	Fail - Invalid Email				

Figure 4.2: User SignUp Test Case

3. It ensures that error messages are displayed for missing mandatory fields, such as "Name is required" or "Username is required."
4. Validates proper formatting of fields:
  - Email addresses must include "@" and a valid domain.
  - Mobile numbers must have at least 11 digits.
  - Passwords must match and meet complexity criteria.
5. It handles invalid scenarios, including:
  - Invalid email formats.
  - Mobile numbers shorter or longer than required.
  - Password mismatch or blank confirm password fields.
6. Tests edge cases like:
  - Duplicate usernames.
  - Invalid date of birth (e.g., future dates).
  - Gender field not filled.
7. Expected outcomes are compared with actual results to ensure the system behaves as intended.
8. Error handling ensures the user receives precise feedback for any invalid input or missing information.
9. The test case helps verify the robustness, user-friendliness, and security of the signup process in the gift shop software.

### 4.3 Forget Password

Forget Password					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	
Sl	Email	Expected Result	Actual Result	Remark	
1	tarikul123@gmail.com	Successfully send(email is valid and otp send by this mail)			
2	<u>tarikul123@gmail.com</u>	Invalid email format missing(@)			
3	tarikul123@gmail	Invalid email format missing(.com)			
4	tarikul@.com	invalid email format(Domain name are missing)			
5		Email field are empty			

Figure 4.3: Forget Password Test Case

1. The test case focuses on the Forget Password functionality of the e-commerce gift shop software to ensure secure and proper handling of email input.
2. It tests the validation of the email field to verify that only correctly formatted email addresses are accepted.
3. Proper functionality is confirmed by sending an OTP (One-Time Password) to valid email addresses for password recovery.
4. Checks for common invalid email scenarios:
  - Missing "@" symbol in the email address.
  - Missing ".com" or other domain extensions.
  - Incomplete domain names (e.g., missing text before or after ".").
  - Empty email field.
5. Ensures error messages are displayed for invalid or empty email input, guiding users to correct their mistakes.
6. The test case compares the Expected Result (e.g., OTP successfully sent for valid emails or error messages for invalid ones) with the Actual Result to ensure proper system behavior.
7. It ensures that email-related issues do not disrupt the password recovery process, maintaining security and user satisfaction.

## 4.4 Set Password

Set Password						
Test Case ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1.0	
SI	OTP	New Password	Confirm Password	Expected Result	Actual Result	Remark
1	123456	Passw0rd@	Passw0rd@	Password set successful		
2	672354	password	password	invalid password missing upper case, number and special character		
3	78852	Passw0rd@	Passw0rd@	invalid OTP (must be 6 digit)		
4	897421	passw0rd @	passw0rd@	Invalid password missing upper case		
5	982510	PASSWORD1@	PASSWORD1@	Invalid password missing lower case		
6	9854	passw0rd	passw0rd	invalid OTP and password missing special character		
7	985413	passw0rd	passw0rd	invalid password missing special character		
8	987036			password and set password field are empty		
9	988094	Passw0rd@		password field are empty		
10	984521		Passw0rd@	Set password field are empty		

Figure 4.4: Set Password Test Case

1. The test case validates the Set Password functionality of the e-commerce gift shop software, ensuring that users can securely set a new password after receiving an OTP (One-Time Password).
2. It checks the OTP for validity:
  - Verifies that the provided OTP matches the expected format (e.g., 6 digits).
  - Invalid or missing OTP entries are flagged as errors.
3. Password strength requirements are tested to ensure:
  - Passwords include at least one uppercase letter, one lowercase letter, one number, and one special character.
  - Password length is sufficient (e.g., 6 characters or more).
  - Matching between the New Password and Confirm Password fields.
4. The test ensures proper error handling for:
  - Weak passwords (missing required elements like uppercase, numbers, or special characters).
  - Non-matching password and confirm password fields.
  - Empty password fields or missing input.
5. Expected results include:
  - Successful password setting for valid OTPs and strong passwords that match.

- Failure scenarios with clear error messages indicating the reason (e.g., "Invalid OTP," "Password missing uppercase," or "Password fields are empty").
- The Expected Result and Actual Result columns are used to verify if the system's behavior matches the intended functionality, ensuring users can securely reset their passwords while adhering to security policies.
  - This test case ensures that the password reset process is both secure and user-friendly, maintaining system integrity and protecting user accounts.

## 4.5 Profile Page

Profile Page					
Test Case ID	Test Case Description	Test Data	Expected Result	Actual Result	Remark
SI	Test Case Description	Test Data	Expected Result	Actual Result	Remark
1	Verify the profile image loads correctly	Valid profile image	Profile image should display properly		
2	Verify the user name is displayed	User name as "Tarikul Islam"	User name should be visible as "Tarikul Islam"		
3	Verify the email is displayed correctly	Email as engtarikulislam.1240@email.com	Email should be visible as "engtarikulislam.1240@email.com"		
4	Check the Edit Profile button is functional	Click on Edit Profile button	Clicking Edit Profile navigates to profile edit page		
5	Verify the Log Out button is functional	Click on Log Out button	Clicking Log Out should log out the user and redirect to login page		
6	Validate notification bell icon (with count)	Notifications set 8	Should display correct notification count 8		
7	Verify All My Orders button navigates to the order list	Click on All My Orders button	User should be navigated to the list of all orders		
8	Check Pending Shipments button navigates correctly	Click on Pending Shipments button	User should be redirected to the pending shipments page		
9	Validate Pending Payments button functionality	Click on Pending Payments button	Clicking navigates to the pending payments page		
10	Check Finished Orders button navigates correctly	Click on Finished Orders button	User should be redirected to the finished orders page		
11	Verify Settings button navigation	Click on Settings button	Clicking should take the user to the settings page		
12	Check Invite Friends button functionality	Click on Invite Friends button	Should navigate to the invite friends page		
13	Validate Rate Our App button functionality	Click on Rate Our App button	Should navigate to the rating page		
14	Check Finished Orders button navigates correctly	Click on Customer Support button	Clicking takes the user to the customer support page		
15	Check Home button in the footer is highlighted	On profile page	Home button should be highlighted when on the profile page		
16	Verify Search button in the footer works	Click on Search button in footer	Should navigate to the search page		
17	Check Favorites (Fav) button functionality	Click on Fav button in footer	Clicking navigates to the favorites page		
18	Verify Cart button in the footer navigates correctly	Click on Cart button in footer	Should navigate to the shopping cart page		
19	Validate Log Out with no network connection	Log out attempt with no network	Should display an error message and remain on the page		

Figure 4.5: Profile Page 1st part Test Case

- Profile Image Loading Test:** Ensures that the user's profile image loads and displays correctly on the profile page without any distortion or errors.
- User Name Display Verification:** Confirms that the user's name, in this case, "Tarikul Islam," is correctly displayed on the profile page.
- Email Display Verification:** Validates that the user's email address (e.g., "engtarikulislam.1240@email.com") is accurately shown in the designated area.

20	Check Edit Profile button without required permissions	Attempt to access without permissions	Should display an appropriate error message		
21	Verify valid email format for display	Check email display	Email should follow the format name@domain.com		
22	Verify notification counts are clickable	Click on notification counts	Clicking should navigate to notifications detail page		
23	Validate buttons are not overlapping	Check button alignment	Buttons should be properly aligned and spaced		
24	Check page responsiveness for different screen sizes	Resize the browser window	Layout should adjust correctly for different device sizes		
25	Verify all icons have alt text	Hover or inspect icons	All icons should have descriptive alt text		
26	Validate color contrast for accessibility	Inspect color contrast ratio	Text and background should have sufficient contrast ratio		
27	Check profile information with a missing profile image	No profile image provided	Placeholder image should be displayed		
28	Verify long user name display	User name exceeds typical length	Long user names should be truncated or fit within bounds		
29	Check behavior with invalid email format	Invalid email format set	Should display an error if email is malformed		
30	Verify Edit Profile form submission with empty fields	Submit empty form	Should display required field validation error		
31	Validate navigation back to the profile page	Click browser back button	Clicking browser back should return to the profile page		
32	Verify inactive session behavior	Leave session idle until timeout	Should prompt user to log in again if the session is expired		
33	Check Edit Profile button without user login	Attempt access without login	Should redirect to login page		
34	Validate tooltips on icons	Hover over icons	Hovering over icons should display tooltips if applicable		
35	Check for broken links or missing navigation	Click all buttons and links	All buttons and links should be functional and not broken		

Figure 4.6: Profile Page 2nd part Test Case

4. **Edit Profile Button Functionality:** Tests the functionality of the “Edit Profile” button to confirm it redirects the user to the profile edit page.
5. **Log Out Button Functionality:** Ensures that clicking the “Log Out” button successfully logs the user out and redirects them to the login page.

## 4.6 Profile Setting Page

## 4.7 Home Page

1. **Notification Badge Visibility:** Ensure that the notification badge accurately displays the count of unread notifications (e.g., 5 unread).
2. **Badge Count Update:** Verify that reading a notification decreases the badge count by 1.
3. **Back Button Navigation:** Confirm that tapping the back button from the settings page redirects the user to the previous screen.

Home Page					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0
SI	Test Scenario	Input/Action	Expected Result	Actual Result	Remark
1	Verify Home Page load time	Open the Home Page	Page should load within 2-3 seconds.		
2	Verify search functionality with valid input	Enter "iTunes Gift Card" in the search bar	Search results should display all matching products.		
3	Validate search functionality with invalid input	Enter "XYZProduct" (non-existent product)	Display message: "No results found."		
4	Verify navigation to Profile	Tap on the profile icon	User should navigate to the Profile page.		
5	Test Favorite (Fav) functionality with valid product	Tap on the heart icon on an iTunes Gift Card	Product should be added to the Favorites list.		
6	Validate cart functionality with valid product	Add an iTunes Gift Card to the cart	Product should be successfully added to the cart.		
7	Test cart functionality with empty cart	Open the cart without adding any products	Display message: "Your cart is empty."		
8	Validate "More" navigation	Tap the "More" icon	User should navigate to the "More" options page.		
9	Verify navigation to product details	Tap on an iTunes Gift Card	User should see the product details page.		
10	Test banner functionality with discount offer	Tap on the discount banner	User should navigate to a page displaying discounted products.		
11	Check invalid profile access (unauthenticated user)	Tap on the profile icon without logging in	Display prompt to log in before accessing the profile.		
12	Test promotional banner functionality	Tap on a discount banner	User should navigate to a page displaying related products.		
13	Check error handling for failed server requests	Simulate server failure (disconnect)	Display error: "Unable to load content. Please try again later."		
14	Check link validity for product tiles	Tap on any iTunes Gift Card	User should navigate to the product details page without error.		
15	Test search suggestions for incomplete input	Type "iTun" in the search bar	Relevant suggestions like "iTunes Gift Card" should appear.		
16	Verify broken image/product links	Check product images and links on Home Page	All product images should display correctly, and links should not result in 404 errors.		

Figure 4.7: Home Page Test Case

4. **Back Button Without Changes:** Check that pressing the back button without making changes in settings does not save any modifications.
5. **Unread Counter Reset:** Validate that marking all notifications as read resets the unread notification counter to zero.
6. **Notification Messages Visibility:** Ensure that all notifications are displayed correctly in the notifications panel.
7. **Error on Broken Notification Links:** Verify that clicking a broken notification link displays an appropriate error message, such as "Unable to load content."
8. **Navigation to Detailed Notification:** Confirm that selecting a specific notification navigates the user to the relevant page or content.

## 4.8 Menu

### 1. Menu Opens

- **Functionality:** Tapping the "Menu List" icon should open a sliding menu displaying options like "Digital Product" and "Physical Product."

Menu					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0
Sl	Name	Input/Action	Expected Result	Actual Result	Remark
1	Menu opens	Tap on the "Menu List" icon	The menu should slide out and display the options "Digital Product" and "Physical Product".		
2	Navigation to "Digital Product"	Select "Digital Product"	The system should redirect to the "Digital Product" page.		
3	Navigation to "Physical Product"	Select "Physical Product"	The system should redirect to the "Physical Product" page.		
4	Behavior when an invalid selection is made	Tap outside the menu list	The menu should close, and no action should be triggered.		
5	If home page loads successfully when all fields are valid	Select a valid product and go to Home	The home page should load successfully without any errors.		
6	Add any product		View just product name for example 'xyz' product		

Figure 4.8: Menu Test Case

- **Test Case:** Tap the "Menu List" icon and verify that the menu opens with all listed options displayed correctly.

## 2. Navigation to Digital Product

- **Functionality:** Selecting the "Digital Product" option should redirect the user to the "Digital Product" page, displaying relevant digital items.
- **Test Case:** Select "Digital Product" from the menu and ensure that the correct page loads with appropriate content.

## 3. Navigation to Physical Product

- **Functionality:** Selecting the "Physical Product" option should redirect the user to the "Physical Product" page, showing physical items for sale.
- **Test Case:** Select "Physical Product" from the menu and confirm navigation to the appropriate page.

## 4. Behavior for Invalid Selection

- **Functionality:** If an invalid selection is made (e.g., tapping outside the menu or selecting a non-existent option), the menu should close without performing any action.
- **Test Case:** Tap outside the menu and verify that it closes without triggering any unintended action.

## 5. Successful Home Page Navigation

- **Functionality:** Selecting a valid product option and proceeding to the home page should load the home page successfully without errors.
- **Test Case:** Choose a valid product from the menu, navigate back to the home page, and ensure it loads correctly.

## 6. Add Any Product

- **Functionality:** The system should allow the user to view and select product details, such as "xyz product," and add it to their cart or favorites list.
- **Test Case:** Open the product details from the menu, ensure the product name and details are displayed correctly, and validate the ability to proceed with adding it to the cart.

### 4.8.1 D\_Sub Menu Page

D_Sub Menu Page					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0
SI	Test Scenario	Test Steps	Expected Result	Actual Result	Remark
1	Verify if the Digital Sub Menu expands when clicked	Open the main menu and Click on "Digital Product".	The Digital Sub Menu expands, displaying all sub-options (iTunes, Google, Amazon, etc.).		
2	Verify navigation to a valid sub-option (e.g., iTunes)	Expand "Digital Product" and Click on "iTunes".	The system redirects to the iTunes product page successfully.		
3	Verify navigation to all other valid sub-options	Expand "Digital Product" and Click on each option (Google, Amazon, Netflix, etc.).	The system redirects to the respective sub-option pages without errors.		
4	Verify behavior when invalid input is provided	Tap on the profile icon Expand "Digital Product" and Try to access an option that is not listed (e.g., type a random name in the search).	The system shows no action or an error message, e.g., "Invalid selection".		
5	Verify behavior when clicking outside the menu	Open the "Digital Product" menu and Tap outside the menu or sub-menu area.	The Digital Sub Menu collapses automatically, and no action is performed.		
6	Verify if the sub-menu collapses on re-clicking	Open the "Digital Product" menu & Click "Digital Product" again.	The sub-menu collapses, hiding all sub-options under "Digital Product".		
7	Verify loading of the Digital Sub Menu when all fields are valid	Open the "Digital Product" menu & Ensure all listed options (iTunes, Google, etc.) are displayed & Select any valid option.	The sub-menu loads correctly, all options are visible, and navigation to the valid option's page is successful.		
8	Verify the system's behavior on slow network conditions	Reduce network speed & Open "Digital Product" and select any sub-option.	The system should handle the delay gracefully, showing a loader or retry option until the page loads.		

Figure 4.9: D\_Sub Menu Page Test Case

1. Click on the "Digital Product" menu in the navigation.

**Expected Result:** The sub-menu displays all the listed sub-options without delay or missing items.

## 2. Navigation to a Valid Sub-Option

**Functionality:** Checks that selecting a valid sub-option (e.g., iTunes) redirects the user to the correct product page.

### Test Steps:

1. Expand the "Digital Product" menu.
2. Click on a valid sub-option.

**Expected Result:** The system navigates to the corresponding product's detail page without errors.

### 4.8.2 P\_Sub Menu Page

P_Sub Menu					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0
SI	Test Scenario	Test Steps	Expected Result	Actual Result	Remark
1	Verify if the Physical Product Sub Menu expands when clicked	1. Open the main menu. 2. Click on "Physical Product".	The sub-menu expands and displays all sub-options (Eid Card, Birthday Card, Customize Card).		
2	Verify navigation to the "Eid Card" page when selected	1. Expand the "Physical Product" menu. 2. Click on "Eid Card".	The system redirects to the Eid Card page successfully.		
3	Verify navigation to the "Birthday Card" page when selected	1. Expand the "Physical Product" menu. 2. Click on "Birthday Card".	The system redirects to the Birthday Card page successfully.		
4	Verify behavior when selecting "Customize Card"	1. Expand the "Physical Product" menu. 2. Click on "Customize Card".	The system redirects to the Customize Card page, allowing customization options to be displayed.		
5	Verify behavior when invalid or non-existent sub-option is selected	1. Expand the "Physical Product" menu. 2. Try selecting a non-existent option (e.g. message like "Invalid selection").	The system shows no action or an error message like "Invalid selection".		
6	Verify if the Physical Product Sub Menu collapses on re-clicking	1. Open the main menu. 2. Click on "Physical Product" again.	The sub-menu collapses, hiding all sub-options under "Physical Product".		

Figure 4.10: P\_Sub Menu Page Test Case

- **Test Case:** Verify that clicking the **Physical Product** menu expands the sub-menu.
- **Functionality:** Displays all sub-options such as **Eid Card**, **Birthday Card**, and **Customize Card**.

### Navigation to Eid Card Page

- **Test Case:** Verify that clicking **Eid Card** navigates to its page.
- **Functionality:** Redirects to the **Eid Card** product page.

## Navigation to Birthday Card Page

- **Test Case:** Verify that clicking **Birthday Card** navigates to its page.
- **Functionality:** Redirects to the **Birthday Card** product page.

## Navigation to Customize Card Page

- **Test Case:** Verify that clicking **Customize Card** opens the customization page.
- **Functionality:** Displays options for customizing cards.

## 4.9 Search

Search					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Sakib Akhter	Received By	Tanikul Islam	Version	1
Sl	Scenario	Steps	Expected Result		Actual Result
1	Messages Button - Navigation	1. Tap on the Messages icon (bell with the number "5"). 1. Trigger a new notification event in the system. 2. Observe the red badge on the bell icon.	User is redirected to the Messages/Notifications page, showing recent messages or notifications. The badge count updates to reflect the new notifications.		
2	Notifications Badge Count Update	1. Open the Notifications page by tapping the bell icon. 2. Select "Clear All" notifications.	All notifications are cleared, and the badge count is reset to zero.		
3	Notifications Button - Clear All	1. Enter a search query (e.g., "iTunes Gift Card"). 2. Press the keyboard return button.	The search is executed, and relevant results for the query are displayed.		
4	Keyboard Return Button - Search Execution	1. Perform a search to display results. 2. Tap the back button.	The search results are cleared, and the user is returned to the default search page.		
5	Back Button - Clear Search Results	1. From the search page, tap the back button without interacting with the page.	The user is navigated back to the previous page they accessed (e.g., home screen or dashboard).		
6	Back Button - Exit to Previous Page	1. Tap on the Messages icon when the feature is disabled or unavailable.	An error message is displayed (e.g., "Feature unavailable"), and no navigation occurs.		
7	Messages Button - Navigation Failure	1. Trigger a new notification event. 2. Observe the red badge on the bell icon.	The badge count fails to update, leaving the user unaware of new notifications.		
8	Notifications Badge Not Updating	1. Leave the search field empty. 2. Press the keyboard return button.	No action is performed, and an error message may appear (e.g., "Search query cannot be empty").		
9	Keyboard Return Button - Empty Search Query	1. Enter special characters (e.g., "@#\$%^&*") in the search field. 2. Press the return button.	An error message is displayed (e.g., "Invalid characters in search query"), or no results are returned.		
10	Keyboard Return Button - Special Characters	1. Perform a search. 2. Tap the back button multiple times in quick succession.	The app may crash or navigate the user out of the search module entirely.		
11	Back Button - Unexpected Navigation	1. Quickly tap both the Messages and Notifications icons simultaneously.	Only one action is triggered at a time (based on which icon is tapped first), or unexpected behavior occurs.		
12	Notifications and Messages Icons - Simultaneous Interaction				

Figure 4.11: Search Test Case

### 1. Messages Button - Navigation

- **Functionality:** The **Messages** button redirects users to the Messages/Notifications page, where they can view recent messages or notifications.

- **Test Case:** Verify that tapping the **Messages** icon (bell with a number indicator) correctly navigates to the Messages/Notifications page.

## 2. Notifications Badge Count Update

- **Functionality:** The notification badge count dynamically updates to reflect the number of new notifications.
- **Test Case:** Trigger a new notification event and confirm that the badge count on the notifications icon increases accordingly.

## 3. Notifications Button - Clear All

- **Functionality:** The **Clear All** option on the Notifications page removes all notifications and resets the badge count to zero.
- **Test Case:** Open the Notifications page, select **Clear All**, and verify that all notifications are deleted and the badge count resets.

## 4. Keyboard Return Button - Search Execution

- **Functionality:** Users can search for items (e.g., gift cards) by entering a query and pressing the return button. Relevant results should display.
- **Test Case:** Enter a valid search term (e.g., **Gift Card**) and press the return button to confirm that appropriate results appear.

## 5. Back Button - Clear Search Results

- **Functionality:** The back button clears the current search results and returns users to the default search page.
- **Test Case:** Perform a search, then press the back button to confirm that search results are cleared, and the default search page appears.

## 4.10 Product

### 1. Add to Cart

- **Functionality:** Allows users to add a selected gift card to the cart and updates the cart badge count.
- **Test Case:** Tap the "Add to Cart" button for a gift card. Verify that the gift card is added to the cart, and the cart badge count increases by one.

Product					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1
SI	Scenario	Steps	Expected Result		Actual Result
1	Add to Cart	1. Tap on the "Add to Cart" button for the selected gift card.	The gift card is added to the cart, and the cart icon badge count increases by one.		
2	Cart Icon - Navigate to Cart	1. Tap on the cart icon in the top-right corner of the screen.	User is redirected to the cart page, displaying all added gift cards.		
3	Favorite Icon - Mark as Favorite	1. Tap on the heart icon beside the gift card.	The heart icon is filled to indicate the gift card is marked as favorite.		
4	Details Tab - View Gift Card Info	1. Tap on the "Details" tab below the gift card image.	The "Details" section is displayed, showing information about the selected gift card.		
5	Back Button - Return to Previous	1. Tap on the back button in the top-left corner of the screen.	User is navigated back to the previous page (e.g., product listing or search page).		
6	Add to Cart - Network Error	1. Tap on the "Add to Cart" button during a network issue.	An error message appears (e.g., "Unable to add to cart. Please check your internet connection").		
7	Cart Icon - Navigation Failure	1. Tap on the cart icon when the cart service is down or unavailable.	An error message appears (e.g., "Unable to load cart. Please try again later").		
8	Favorite Icon - Toggle Error	1. Tap on the heart icon during a network issue.	An error message appears (e.g., "Unable to mark as favorite. Please check your internet connection").		
9	Details Tab - Content Not Loading	1. Tap on the "Details" tab when the details service is unavailable.	An error message appears (e.g., "Unable to load details. Please try again later").		
10	Back Button - Unresponsive	1. Tap on the back button during a screen transition or app lag.	The app does not navigate back, or it freezes temporarily.		

Figure 4.12: Product Test Case

## 2. Cart Icon - Navigate to Cart

- **Functionality:** Navigates users to the cart page to review all added items.
- **Test Case:** Tap the cart icon in the top-right corner of the screen. Verify redirection to the cart page and display of all added gift cards.

## 3. Favorite Icon - Mark as Favorite

- **Functionality:** Marks a gift card as a favorite and updates the heart icon to reflect the status.
- **Test Case:** Tap the heart icon beside a gift card. Verify that the icon updates visually, indicating the gift card is marked as a favorite.

### 4.10.1 Product Reviews

- **Verify Review Section Load**
  - **Functionality:** Ensure the product review section loads properly.
  - **Test Case:** Verify that the section displays with no errors or missing content.
- **Review Rating Accuracy**

Product Reviews						
Test Case ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0	
SI	Test Case Description	Test Type	Expected Result	Status (Valid/Invalid)	Actual Result	Remark
1	Verify product review section loads correctly.	Functional	Product review section loads without errors.	Valid		
2	Check the review rating accuracy (e.g., 5 stars = 89%).	Functional	Star ratings and percentages match the given distribution.	Valid		
3	Submit a valid review with a rating and comment.	Functional	Review is successfully submitted and visible in the list.	Valid		
4	Submit a review with empty fields.	Invalid	Error message appears, preventing submission.	Invalid		
5	Submit a review with invalid characters (e.g., special symbols).	Invalid	Error message or validation prompt appears.	Invalid		
6	Submit a duplicate review from the same user.	Invalid	Duplicate review is not accepted, system notifies.	Invalid		
7	Filter reviews by specific star rating (e.g., 5 stars).	Functional	Only reviews with the selected star rating are displayed.	Valid		
8	Test sorting reviews by date (Top Rated vs Latest).	Functional	Reviews are sorted correctly based on selection.	Valid		
9	Filter reviews by specific star ratings (e.g., 4 stars).	Functional	Reviews with only 4 stars appear after selection.	Valid		
10	Test the back button functionality.	Functional	Back button returns to the previous page or home page.	Valid		
11	Click "Add to Cart" button.	Functional	Product is added to the cart successfully.	Valid		
12	Click "Add to Cart" when the product is already in the cart.	Functional	Item count updates in the cart, or it shows an alert if the item already exists.	Valid		
13	Click "Favorite" button.	Functional	Product is added to the favorites list.	Valid		
14	Share the product via social media (Share button).	Functional	Product is successfully shared to the selected platform.	Valid		
15	Test page responsiveness on different screen sizes.	Functional	The page adjusts to different screen sizes and devices (mobile, tablet, desktop).	Valid		
16	Submit a review while logged out.	Invalid	User is prompted to log in before submitting the review.	Invalid		
17	Verify timestamp for reviews is accurate.	Functional	Timestamps are displayed correctly for each review.	Valid		
18	Test the cart functionality after adding an item.	Functional	Cart page reflects the added product immediately.	Valid		
19	Review UI behavior under poor network conditions.	Functional	Reviews section shows loading error or fails to load under slow network conditions.	Invalid		
20	Error handling when review submission fails.	Invalid	An error message is displayed if the review fails to submit due to connectivity issues.	Invalid		

Figure 4.13: Product Reviews Test Case

- **Functionality:** Validate star ratings and percentage distribution.
- **Test Case:** Check if the displayed star ratings and percentages match the actual data.
- **Submit Valid Review**
  - **Functionality:** Allows users to submit reviews with ratings and comments.
  - **Test Case:** Submit a valid review and confirm it appears in the list.
- **Empty Field Validation**
  - **Functionality:** Prevent submission of incomplete reviews.
  - **Test Case:** Attempt to submit with empty fields and verify the error message.
- **Invalid Characters Handling**
  - **Functionality:** Block submission of reviews with invalid characters.

- **Test Case:** Enter special characters and confirm the error or validation prompt.
- **Duplicate Review Prevention**
  - **Functionality:** Restrict users from submitting the same review multiple times.
  - **Test Case:** Attempt a duplicate submission and confirm rejection with a notification.

## 4.10.2 Product Details

Product Details						
Test Cse ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1.0	
SI	Scenario	Steps	Expected Result		Actual Result	Remark
1	Add to Cart Button - Valid Product	1. View a product on the details page. 2. Tap the "Add to Cart" button.	The product is added to the cart, the cart icon updates the quantity, and a success message appears.			
2	Add to Cart Icon - Navigate to Cart	1. Tap the cart icon (top-right corner of the page).	The user is redirected to the cart page showing added items.			
3	Product Tab - View Product Info	1. Tap the "Product" tab.	The product information is displayed under the "Product" section.			
4	Review Tab - Navigate to Reviews	1. Tap the "Reviews" tab.	User is navigated to the product reviews section, displaying customer feedback and ratings.			
5	Favorite Icon - Add to Favorites	1. Tap the favorite icon (heart-shaped) for the product.	The icon changes to indicate the product is favorited, and it is added to the favorites list.			
6	Back Button - Return to Previous Page	1. Tap the "Back" button in the top-left corner.	The user is redirected to the previous page (e.g., Product List or Search Page).			
7	Add to Cart Button - Backend Error	1. Tap the "Add to Cart" button while a backend error occurs.	An error message is displayed (e.g., "Unable to add product to cart. Please try again later.").			
8	Add to Cart Icon - Network Issue	1. Tap the cart icon during a network connectivity issue.	An error message is displayed (e.g., "Network error. Unable to load cart.").			
9	Favorite Icon - Duplicate Tap	1. Tap the favorite icon twice in quick succession.	The favorite status toggles correctly with no duplication or error.			
10	Back Button - Unsaved Changes	1. Tap the "Back" button after making a change (e.g., favoriting/unfavoriting).	Any changes are saved or a prompt appears confirming if unsaved changes should be discarded.			
11	Review Tab - No Reviews Available	1. Tap the "Reviews" tab for a product without reviews.	A message is displayed (e.g., "No reviews available for this product.")			
12	Product Tab - Missing Details	1. Tap the "Product" tab for a product missing some details.	A message or placeholder is displayed for missing product information (e.g., "Details not available.").			

Figure 4.14: Product Details Test Case

- **Add to Cart Button - Valid Product**
  - **Functionality:** Allows users to add a product to their cart successfully.
  - **Test Case:** Verify that the product is added to the cart, the cart icon updates the quantity, and a success message is displayed.
- **Add to Cart Icon - Navigate to Cart**
  - **Functionality:** Redirects users to the cart page to view added items.
  - **Test Case:** Confirm that clicking the cart icon redirects the user to the cart page displaying added items.

## 4.11 Cart

### 1. Checkout Button - Navigation

Cart					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1
Sl	Scenario	Steps	Expected Result	Actual Result	Remark
1	Checkout Button - Navigate	1. Tap on the "Checkout" button.	User is redirected to the checkout page to proceed with the payment.		
2	Home Icon - Navigate to Home	1. Tap on the "Home" icon in the bottom navigation bar.	User is redirected to the home page.		
3	Favorite Icon - Navigate to Fav	1. Tap on the "Favorite" icon in the bottom navigation bar.	User is redirected to the "Favorite" page, displaying all marked favorite gift cards.		
4	Search Icon - Navigate to Search	1. Tap on the "Search" icon in the bottom navigation bar.	User is redirected to the search page.		
5	More Icon - Navigate to More	1. Tap on the "More" icon in the bottom navigation bar.	User is redirected to the "More" page for additional settings or options.		
6	Message Icon - View Messages	1. Tap on the "Message" icon in the top-right corner of the screen.	A dropdown or new page opens, displaying all user messages.		
7	Notification Icon - View Alerts	1. Tap on the "Notification" icon in the top-right corner of the screen.	A dropdown or new page opens, displaying all user notifications.		
8	Checkout Button - Disabled State	1. Attempt to tap "Checkout" when the cart is empty.	The "Checkout" button is disabled, or an error message appears stating, "Cart is empty."		
9	Navigation Icons - Network Issue	1. Tap on any bottom navigation icon during a network issue.	An error message appears (e.g., "Unable to load page. Please check your internet connection").		
10	Notification Icon - No Alerts	1. Tap on the "Notification" icon when there are no notifications.	A message appears stating, "No new notifications."		
11	Message Icon - No Messages	1. Tap on the "Message" icon when there are no messages.	A message appears stating, "No messages available."		
12	Checkout Button - Error Handling	1. Tap on "Checkout" when the payment gateway is down.	An error message appears stating, "Unable to proceed to checkout. Please try again later."		

Figure 4.15: Cart Test Case

- **Functionality:** Verify that the "Checkout" button redirects the user to the checkout page.
- **Test Case:** Tap the "Checkout" button and confirm the user is redirected to the checkout page to proceed with payment.

## 2. Home Icon - Navigation

- **Functionality:** Ensure that the "Home" icon navigates to the home page.
- **Test Case:** Tap on the "Home" icon in the bottom navigation bar and verify the user is taken to the home page.

## 3. Favorite Icon - Navigation to Favorites

- **Functionality:** Confirm that the "Favorite" icon leads to the correct page.
- **Test Case:** Tap on the "Favorite" icon in the bottom navigation bar and ensure the user is redirected to the "Favorite" page, displaying all marked favorite gift cards.

## 4. Search Icon - Navigation to Search

- **Functionality:** Verify that the search functionality is accessible.
- **Test Case:** Tap on the "Search" icon in the bottom navigation bar and confirm the user is redirected to the search page.

## 4.12 Favorite/My Wishlist

### 1. Home Icon - Navigate to Home

- **Functionality:** Verify the navigation to the home page.
- **Test Case:** Tap on the "Home" icon to confirm redirection to the home page.

### 2. Cart Icon - Navigate to Cart

- **Functionality:** Ensure the cart icon navigates to the cart page.
- **Test Case:** Tap on the "Cart" icon and confirm redirection to the cart page, displaying added items.

Favorite/My Wishlist						
Test Case ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1	
SI	Scenario	Steps	Expected Result		Actual Result	Remark
1	Home Icon - Navigate to Home	1. Tap on the "Home" icon in the bottom navigation bar.	User is redirected to the home page.			
2	Cart Icon - Navigate to Cart	1. Tap on the "Cart" icon in the bottom navigation bar.	User is redirected to the cart page, displaying added items.			
3	Search Icon - Navigate to Search	1. Tap on the "Search" icon in the bottom navigation bar.	User is redirected to the search page.			
4	More Icon - Navigate to More	1. Tap on the "More" icon in the bottom navigation bar.	User is redirected to the "More" page for additional settings or options.			
5	Message Icon - View Messages	1. Tap on the "Message" icon in the top-right corner of the screen.	A dropdown or new page opens, displaying all user messages.			
6	Notification Icon - View Alerts	1. Tap on the "Notification" icon in the top-right corner of the screen.	A dropdown or new page opens, displaying all user notifications.			
7	Product Card Icon - Add to Cart	1. Tap on the cart icon on a product in the wishlist.	Product is added to the cart, and the user sees a confirmation message like "Added to Cart."			
8	Product Arrow Icon - Navigate to Details	1. Tap on the arrow icon on a product in the wishlist.	User is redirected to the product details page.			
9	Bin Icon - Remove Product from Wishlist	1. Tap on the bin icon on a product in the wishlist.	Product is removed from the wishlist, and a confirmation message appears like "Removed from Wishlist."			
10	Home Icon - Unintended Tap	1. Tap on the "Home" icon accidentally while navigating the Wishlist.	Navigation to the home page occurs unexpectedly, requiring the user to navigate back to Wishlist.			
11	Cart Icon - Wishlist Product Missing from	1. Tap the "Cart" icon expecting a Wishlist product to already be in the cart.	Cart page opens, but the product is missing, causing confusion for the user.			
12	Notification Icon - Non-Actionable Alerts	1. Tap the "Notification" icon expecting actionable notifications.	Notifications show irrelevant or non-actionable items, disrupting Wishlist browsing.			
13	Message Icon - Unread Messages	1. Tap on the "Message" icon, leaving unread messages unchecked.	Wishlist activity is interrupted without returning directly to the Wishlist page easily.			
14	Product Card Icon - Cart Full	1. Tap the cart icon for a product when the cart has reached its maximum limit.	An error message appears like "Cart is full. Unable to add more products."			
15	Product Card Icon - Unintended Cart Action	1. Tap on the product's cart icon accidentally while browsing the Wishlist.	The product is added to the cart without confirmation, which might disrupt the Wishlist intent.			
16	Product Arrow Icon - Unexpected Details	1. Tap on the product arrow expecting Wishlist navigation.	User is redirected to the product details page, potentially losing track of Wishlist progress.			
17	Bin Icon - Accidental Deletion	1. Tap on the bin icon mistakenly for a Wishlist product.	Product is removed from the Wishlist, and there's no option to undo or recover it.			
18	Wishlist Empty - Tap on Cart Icon	1. Open an empty Wishlist and tap on the cart icon for an absent product.	No action occurs, or the user is confused by the lack of an appropriate message.			
19	Wishlist Empty - Navigate Back	1. Navigate back to the Wishlist when it's already empty.	Wishlist shows no items, and the user sees no guidance or prompt to add products.			
20	Notification Icon - Notification Spam	1. Tap the "Notification" icon, expecting critical alerts.	Notification list shows excessive irrelevant alerts, disrupting the user's focus on Wishlist.			
21	Message Icon - Irrelevant Messages	1. Tap the "Message" icon and see unrelated or promotional messages.	User gets distracted from Wishlist activity and sees irrelevant content instead of important info.			
22	Cart Icon - Removed Wishlist Product	1. Tap the "Cart" icon to check a product from Wishlist that was recently deleted.	Product is unavailable in the cart, causing confusion or frustration.			

Figure 4.16: Favorite/My Wishlist Test Case

## 4.13 Success

### 1. Success Page Display

- **Functionality:** Show "Order Placed" message, checkmark icon, and "Return Home" button after a successful order.

Success					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0
SI	Test Scenario	Test Steps	Expected Result	Actual Result	Remark
1	Verify that the "Order Placed" success page appears	1. Place an order with valid details. 2. Complete the payment process.	The success page with the "Order Placed!" message, checkmark icon, and "Return Home" button appears.		
2	Verify the functionality of the "Return Home" button	1. On the success page, click the "Return Home" button.	The system redirects to the Eid Card page successfully.		
3	Verify the "Return Home" button's visibility and alignment	1. Navigate to the success page. 2. Observe the button's position, visibility.	The button is clearly visible, properly aligned, and labeled as "Return Home" with a responsive design.		
4	Verify behavior when "Return Home" is clicked with a slow network	1. Simulate a slow network environment. 2. Click the "Return Home" button.	The system shows a loading indicator or handles the delay gracefully before redirecting to the home page.		
5	Verify behavior when accessing the success page without completing an order	1. Access the success page URL directly	The system redirects to the appropriate page (e.g., cart or error page) with a relevant message.		
6	Verify that the "Return Home" button is disabled during redirection	1. Click the "Return Home" button. 2. Attempt to click the button again before redirection.	The button is disabled temporarily, preventing multiple clicks until redirection is complete.		

Figure 4.17: Success Test Case

- **Test Case:** Verify the success page appears with the correct elements.
- ## 2. "Return Home" Redirection
- **Functionality:** Redirect users to the appropriate page (e.g., Eid Card page) when the button is clicked.
  - **Test Case:** Verify smooth and accurate redirection.
- ## 3. Button Visibility and Design
- **Functionality:** Ensure the "Return Home" button is visible, aligned, and labeled correctly.
  - **Test Case:** Verify button formatting and responsiveness across devices.
- ## 4. Slow Network Handling
- **Functionality:** Show a loading indicator or handle delays gracefully when the "Return Home" button is clicked on a slow network.
  - **Test Case:** Verify proper feedback and smooth redirection under slow network conditions.
- ## 5. Restricted Success Page Access

- **Functionality:** Prevent unauthorized access to the success page via direct URL.
- **Test Case:** Verify redirection to the cart or error page if accessed without an order.

## 6. Prevent Multiple Clicks

- **Functionality:** Temporarily disable the "Return Home" button after the first click during redirection.
- **Test Case:** Verify the button remains inactive until the process is complete.

## 4.14 Search Result

Search Result					
Test Case ID	Test-1100	Test Case Description	Test authentication by each field		
Created By	Farzana Yeasmin	Received By	Tarikul Islam	Version	1.0
SI	Test Scenario	Test Steps	Expected Result	Actual Result	Remark
1	Verify valid search input returns accurate results	1. Enter a valid keyword (e.g., "iTunes Gift Card"). 2. Click the search icon.	Items matching the keyword are displayed with correct details (name, price, rating, and image).		
2	Verify invalid search input displays a "No items found" message	1. Enter an invalid keyword (e.g., "XYZ123"). 2. Click the search icon.	A message like "No items found" is displayed, and no irrelevant items appear.		
3	Verify search is case-insensitive	1. Enter "itunes". 2. Repeat with "ITUNES".	Both searches return the same relevant results.		
4	Verify sorting options work as expected	1. Perform a search. 2. Select a sorting option (e.g., Price Low (e.g., ascending price for "Price Low-High").	Items are displayed in the selected order.		
5	Verify the behavior for an empty search input	1. Leave the search bar empty. 2. Click the search icon.	Either the full product catalog or a default message like "Enter a keyword to search" is displayed.		
6	Verify special characters in search input	1. Enter special characters (e.g., "@#\$%"). 2. Click the search icon.	A "No items found" message is displayed, and the system does not crash.		
7	Verify accurate product information in search results	1. Perform a search. 2. Compare product details (name, price, description).	Displayed product details match the database accurately.		
8	Verify pagination works for multiple search results	1. Perform a search with many results. 2. Navigate through pages using pagination.	Search results are displayed across pages, and navigation works correctly without skipping items.		
9	Verify network failure during search	1. Disable the network connection. 2. Perform a search.	An appropriate error message (e.g., "Network error. Please try again.") is displayed without crashing.		
10	Verify the search bar updates results dynamically	1. Start typing a keyword (e.g., "iTunes"). 2. Continue typing "Gift Card".	Results update dynamically as the keyword changes.		

Figure 4.18: Search Result Test Case

### • Valid Keyword Search

- **Functionality:** Ensure that searching with a valid keyword retrieves relevant results.

- **Test Case:** Validate that the search results display items matching the keyword with correct details (name, price, rating, image).
- **Invalid Keyword Search**
  - **Functionality:** Handle cases where invalid keywords are entered.
  - **Test Case:** Verify that a "No items found" message is displayed without irrelevant results.
- **Case-Insensitive Search**
  - **Functionality:** Verify the search functionality is not affected by case differences.
  - **Test Case:** Confirm that searches with lowercase and uppercase keywords return the same results.
- **Sorting Options**
  - **Functionality:** Enable sorting of search results based on user-selected criteria.
  - **Test Case:** Validate that results are displayed in the selected order, such as ascending or descending price.

## 4.15 Checkout

Checkout						
Test Case ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1.0	
Sl	Scenario	Steps	Expected Result		Actual Result	Remark
1	Place Order - Successful Payment	1. Select "Credit/Debit Card" as payment method. 2. Enter valid card details. 3. Tap "Place Order".	The order is successfully placed, and a confirmation page with the order summary is displayed.			
2	Cancel "X" Icon - Close Checkout Page	1. Tap the "X" icon at the top-right corner of the page.	The checkout page is closed, and the user is redirected back to the previous page (cart or product page).			
3	Credit/Debit Card Option - Selectable	1. Tap on the "Credit/Debit Card" option under "Payment Methods".	The user is redirected to the card details input page.			
4	Place Order - Invalid Card Details	1. Select "Credit/Debit Card" as payment method. 2. Enter invalid card details (e.g., wrong number). 3. Tap "Place Order".	An error message is displayed (e.g., "Invalid card details. Please check and try again.").			
5	Cancel "X" Icon - Unsaved Changes	1. Select a payment method. 2. Tap the "X" icon without completing the order. 3. Tap "Place Order".	A prompt appears asking, "Are you sure you want to cancel the checkout?" with "Yes" and "No" options.			
6	Place Order - Network Failure	1. Select "Credit/Debit Card" as payment method. 2. Tap "Place Order" during a network outage.	An error message is displayed (e.g., "Unable to place order. Please check your connection and try again.").			
7	Credit/Debit Card Option - Non-Clickable	1. Attempt to select the "Credit/Debit Card" option.	The option does not respond, and an error is logged for debugging.			
8	Place Order - Missing Address Details	1. Leave the shipping address section empty. 2. Tap "Place Order".	An error message appears (e.g., "Shipping address is required to place the order.").			
9	Credit/Debit Card - Incomplete Details	1. Select "Credit/Debit Card" as payment method. 2. Enter partial card details. 3. Tap "Place Order".	An error message is displayed (e.g., "Please complete all card details before placing the order.").			
10	Cancel "X" Icon - Invalid State	1. Tap "X" icon when the checkout page is frozen or unresponsive.	Icon does not respond, and an error is logged for debugging.			

Figure 4.19: Checkout Test Case

### 1. Successful Payment

- **Functionality:** Ensure a successful order placement when valid card details are entered.

- **Test Case:** Verify that selecting "Credit/Debit Card" as the payment method and entering valid details redirects to a confirmation page with the order summary.

## 2. Close Checkout Page with Cancel Button

- **Functionality:** Allow users to exit the checkout process without completing the order.
- **Test Case:** Verify that clicking the "Cancel" (X) button closes the checkout page and redirects the user to the previous page.

## 3. Card Option Selectable

- **Functionality:** Validate that the "Credit/Debit Card" payment option is selectable.
- **Test Case:** Ensure selecting the card option redirects the user to the card details page.

## 4. Invalid Card Details

- **Functionality:** Display error messages for invalid card information.
- **Test Case:** Verify that entering incorrect card details triggers an error message like "Invalid card details. Please check and try again."

## 5. Unsaved Changes Warning

- **Functionality:** Notify users when they cancel the checkout process with unsaved details.
- **Test Case:** Confirm that clicking the cancel button prompts a confirmation message like "Are you sure you want to cancel the checkout?" with "Yes" and "No" options.

## 6. Missing Address Detection

- **Functionality:** Ensure a shipping address is mandatory for completing an order.
- **Test Case:** Verify that leaving the shipping address section empty triggers an error message like "Shipping address is required to place the order."

## 4.16 Filter Result

### 1. Apply Filters - Valid Selection

- **Functionality:** Apply valid filters to refine product results.
- **Test Case:** Verify that selecting valid options (e.g., "E-Gift Card", Price: "\$0-\$30") and clicking "Apply Filters" updates the product list correctly.

### 2. Back Button - Return to Previous Page

Filter Results						
Test Case ID	Test-1100	Test Case Description	Test authentication by each field			
Created By	Sakib Akhter	Received By	Tarikul Islam	Version	1.0	
SI	Scenario	Steps	Expected Result	Actual Result	Remark	
1	Apply Filters - Valid Selection	1. Select filter options (e.g., Category: "E-Gift Card", Price Range: "\$0-\$30"). 2. Tap "Apply Filters".	The product list is updated according to the selected filter criteria, showing relevant results.			
2	Back Button - Return to Previous Page	1. Tap the "Back" button in the top-left corner of the page.	The user is redirected back to the previous page (Search or Product List page).			
3	Filter Icon - Open Filter Menu	1. Tap the filter icon (top-right corner of the page).	The filter options panel slides open, displaying available filtering criteria.			
4	Apply Filters - No Selection	1. Do not select any filter options. 2. Tap "Apply Filters".	An error message is displayed (e.g., "Please select at least one filter option before applying.") or no changes occur.			
5	Back Button - Unsaved Changes	1. Make filter selections (e.g., Material: "Paper"). 2. Tap the "Back" button.	A prompt appears asking, "You have unsaved changes. Do you want to discard them?" with "Yes" and "No" options.			
6	Apply Filters - Invalid Range	1. Enter an invalid price range (e.g., \$30-\$0). 2. Tap "Apply Filters".	An error message is displayed (e.g., "Invalid price range. Please enter a valid range.")			
7	Filter Icon - Page Frozen/Unresponsive	1. Tap the filter icon during a page freeze or unresponsive state.	The filter menu does not open, and an error is logged for debugging.			
8	Apply Filters - Backend Error	1. Select valid filter options. 2. Tap "Apply Filters". 3. Simulate a server error.	An error message is displayed (e.g., "Unable to apply filters. Please try again later.")			
9	Back Button - Invalid State	1. Tap the "Back" button when the page is frozen.	The button does not respond, and an error is logged for debugging.			
10	Filter Icon - Incorrect Redirection	1. Tap the filter icon while already on the Filter Results page.	No redirection occurs; the filter options panel remains open as expected.			

Figure 4.20: Filter Result Test Case

- Functionality:** Navigate back to the previous page using the back button.
- Test Case:** Confirm that clicking the “Back” button returns the user to the previous page (e.g., Search or Product List).

### 3. Filter Icon - Open Filter Menu

- Functionality:** Open the filter options panel.
- Test Case:** Ensure tapping the filter icon opens the filter menu, showing available filtering options.

### 4. Back Button - Unsaved Changes

- Functionality:** Warn users about unsaved changes when leaving the filter page.
- Test Case:** Check if a prompt appears (e.g., “You have unsaved changes. Discard them?”) when clicking “Back” after making changes.

### 5. Apply Filters - Invalid Range

- Functionality:** Validate and reject invalid price range inputs.
- Test Case:** Confirm that entering an invalid range (e.g., “\$30-\$50”) shows an error like “Invalid price range.”

# Chapter 5

## Conclusion and Future Work

### 5.1 Conclusion

This eCommerce application created for gift stores signifies a huge leap in bringing the usual ways of doing business in gift shops into a modern digital world. Customizable recommendations, user-friendly interfaces, and reliable stock management combine in this platform to cater for the special requirements of gift shop proprietors. Not only does this solution streamline the daily operations of the business, it greatly improves customer service which in turn allows the businesses to extend their market availability and be able to compete in the rapidly growing digital market space. Since shopping via the internet, particularly for gifts that are unique becomes popular, this software offers an integrated solution that gives a competitive edge to gift shops. It serves to enable envisaging of the future's most remarkable and pleasurable gift shopping experience that can in fact be seamless to consumers of gift items.

### 5.2 Future Work

- **AI-Powered Insights:** Implement AI for advanced customer analytics and personalized product recommendations.
- **Global Accessibility:** Add multi-language support for a diverse, global customer base.
- **Mobile Optimization:** Develop native mobile apps for seamless Android and iOS experiences.
- **Enhanced Security:** Incorporate advanced cybersecurity, including biometric authentication and fraud detection.
- **Third-Party Integrations:** Partner with popular payment gateways, shipping providers, and social media platforms.
- **Sustainability Features & Community Engagement:** Promote eco-friendly products and encourage green practices while building a strong community through interactive features such as customer reviews, forums, and loyalty program

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