# Software Requirements Specification

**for**

# E-Commerce Website

**Version 1.3**

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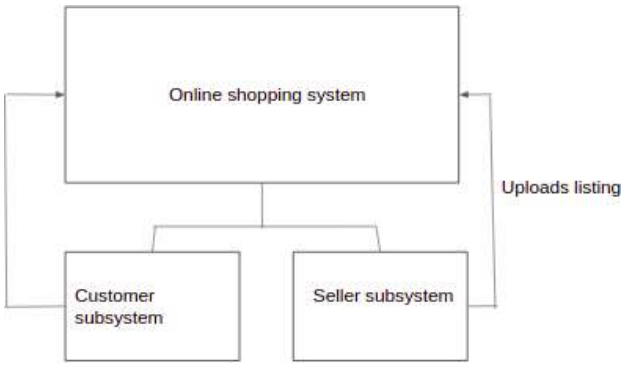
# 1. Introduction

In the dynamic landscape of modern commerce, the integration of technology has reshaped the way businesses operate and interact with customers. The advent of ecommerce platforms has not only revolutionized the shopping experience but has also posed intricate challenges in managing vast arrays of products, transactions, and customer data. This OGTech database system endeavors to address these challenges through the creation of a robust and efficient ecommerce database system tailored for the sale of technical products.The system spans the entire spectrum of an ecommerce ecosystem, encompassing product management, user authentication, order processing, and reporting. Going beyond the conventional ecommerce model, the system integrates a myriad of functionalities to enrich the user experience. Users can effortlessly browse through an extensive catalog of PC packages, monitors, and peripheral devices, select items, and seamlessly proceed to make secure payments. The inclusion of a feedback mechanism ensures a dynamic interaction between buyers and the platform, fostering transparency and trust.The administrator, armed with a feature-rich control panel, gains unprecedented control over the website's operations. From monitoring the remaining stock of items to overseeing website analytics and managing payments, the admin panel serves as the nerve center for efficient decision-making. This level of control empowers administrators to make data-driven decisions, ensuring a responsive and adaptive ecommerce environment.

# 2. Overall Description

## 2.1 Product Perspective

The system includes the user subsystem as well the seller subsystem. The online shopping system provides an outstanding way of bringing sellers and customers on an online platform to sell and make purchases in an efficient and secure manner irrespective of the distance between the two. It is a platform for customers to shop items online without having to visit a store or meet a seller physically, and a platform for vendors to sell their items online without having to meet the customers physically or have a physical store set up for his products. This system is a one stop for customers to shop from millions of products online. The seller uploads his listing to the system and the customers browse from these items and purchase them.



## 2.2 Product Features

Enlisted below are all the major functions supported by the online shopping system along with the user classes.

- **Register:** for customers and sellers
- **Login:** for customers and sellers
- **Logout:** for customers
- **View Account Details:** for customers and sellers
- **Search item:** for customers
- **View item:** for customers
- **Add item to cart:** for customers
- **View shopping cart:** for customers
- **Proceed to buy:** for customers
- **Payment:** for customers
- **Place order:** for customers
- **Review item:** for customers
- **Add items:** for sellers
- **Remove item:** for sellers

## 2.3 User Classes and Characteristics

**Customer** - He/she is a verified user of the system who is intended to buy a product sold by a seller using the platform. The functions used by customer are register, view account, login, browse item, view item, buy item now, add to cart, view cart, proceed to buy, enter mode of payment, make payment, place order, view orders, write review, logout.

**Seller** - He/she is a verified user of the product who is intended to sell items over the platform. The product functions used by sellers are register, view account, login, upload items count, upgrade items, view signup details.

## 2.4 Operating Environment

The e-commerce website is compatible with a variety of operating systems including Windows 7 or later,MacOS, and major Linux distributions, ensuring accessibility across desktop platforms. For mobile users,compatibility extends to iOS and Android devices. It is optimized for modern web browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari, supporting HTML5, CSS3, and JavaScript for optimal performance. A stable internet connection is necessary for seamless browsing and transactional activities, while specific browser versions or plugins/extensions may be recommended for enhanced functionality.

### 2.5 Assumptions and Dependencies

For a basic tool we are also assuming that only one customer may place an order at a given time, but will attempt to expand the scope

# 3. External Interface Requirements

In implementing the Ecommerce Website project, careful consideration has been given to the hardware, software, and database requirements.

**3.1 Hardware Requirements**

The system operates efficiently on standard computing hardware,requiring a minimum of:

· Dual-core processor
· 8 GB RAM
· Adequate disk space for data storage
· Reliable internet connection for seamless client and administrator interaction

**3.2 Software Requirements**

The project leverages the following technologies:

· PHP as the primary scripting language
· MySQL as the database management system
· Compatible web server (e.g., Apache or Nginx) for hosting PHP scripts
· Modern web browsers (e.g., Google Chrome, Mozilla Firefox, Safari) for client access

**3.3 Database Requirements**

The backbone of the system relies on MySQL (Version 5.7 or later):

· Database schema efficiently stores and retrieves information related to customers, orders
· Adequate indexing and normalization techniques are employed for optimized database performance and data integrity.

# 4. Functional Requirements

1. Member Table:
   FR-1: The system must allow users to register as members by providing necessary information such as username, email, password, etc.
   FR-2: Members should be able to log in using their credentials.
   FR-3: The system must store member details in the Member table, including unique member IDs.
2. Payment Table:
   FR-4: Members must be able to add multiple payment methods (credit cards, PayPal, etc.).
   FR-5: The system should store payment details in the Payment table, including payment method type, card number (if applicable), and member ID.
3. Order Table:

FR-6: Authenticated members should be able to create orders by adding items to their shopping cart.
FR-7: The system must generate a unique order ID for each order.
FR-8: Orders should be associated with the member who placed them.
FR-9: The Order table should store information such as order ID, member ID, order date, and order status.

4. OrderItem Table:
   FR-10: The system must allow members to add items to their shopping cart.
   FR-11: Each order item should be associated with a specific order and item.
   FR-12: The OrderItem table should store information such as order item ID, order ID, item ID, quantity, and price.
5. Item Table:
   FR-13: The system must have a catalog of items available for purchase.
   FR-14: Each item should have details such as item ID, name, description, price, and available quantity.
   FR-15: The system must update the available quantity of items in real-time based on purchases.

Common Functional Requirements:
FR-16: The system should calculate the total price of an order based on the items and quantities selected.
FR-17: Members should be able to view their order history.
FR-18: The system should implement security measures, such as encryption, to protect sensitive member and payment information.

# 5. Non Functional Requirements

*1 Performance:*
*Database queries should be optimized to provide quick response times for user interactions*

*2. Security:*
*User passwords must be stored securely using encryption*

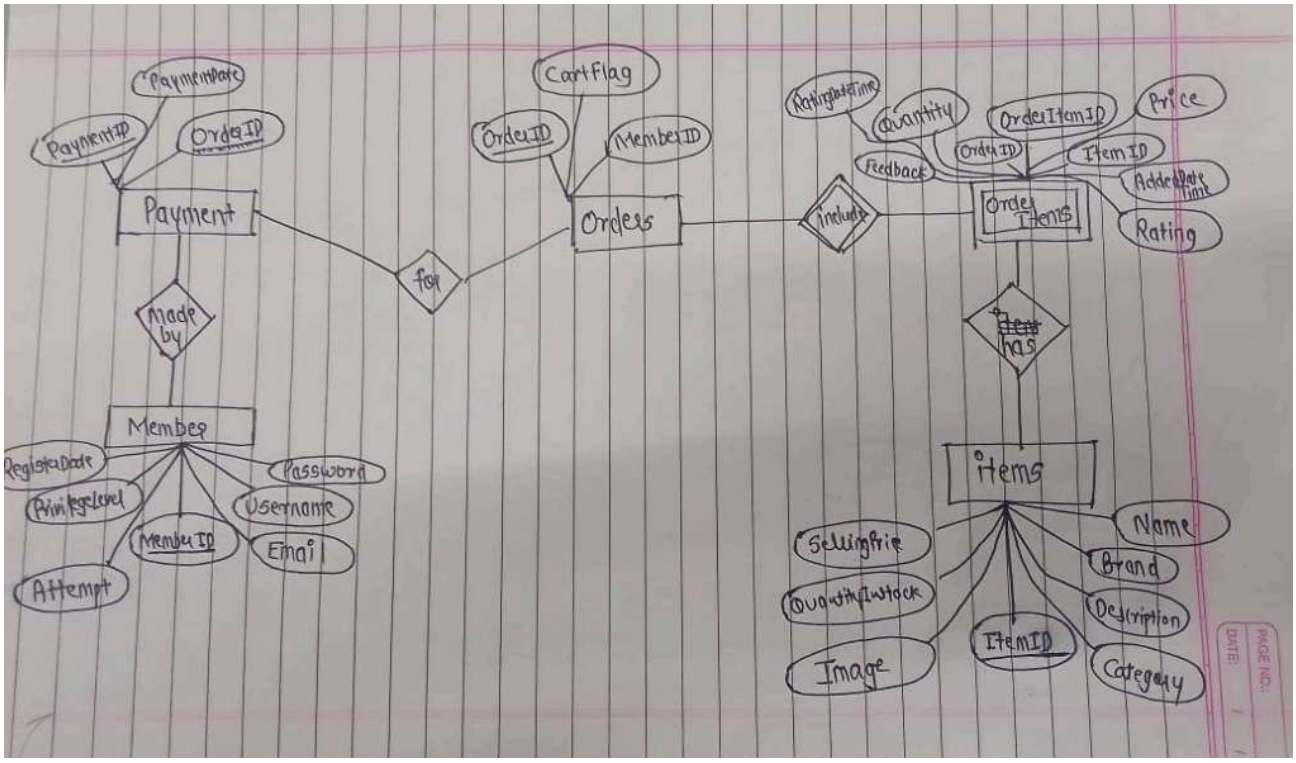
*3. Usability:*
*The website should follow responsive design principles to ensure a consistent and user-friendly experience across various devices.*

*4. Maintainability:*
*Code should be well-documented, and the development team should follow coding standards.*

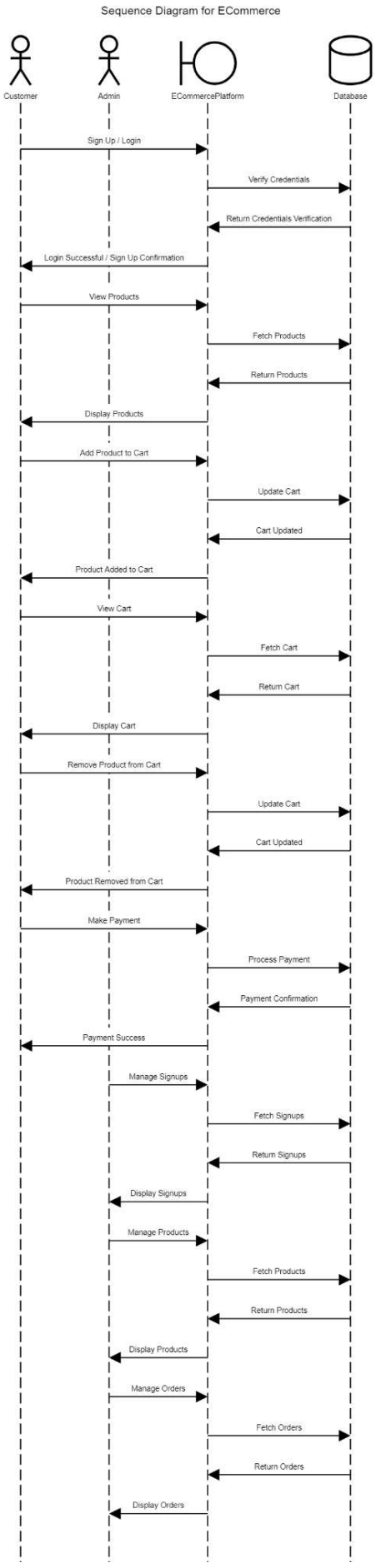
*5. Compatibility:*
*The system should be compatible with popular operating systems.*

# 6. Diagrams:

## 6.1 ER Diagram




## 6.2 Sequence Diagram


Sequence Diagram for ECommerce
Customer
Admin
ECommercePlatform
Database
Sign Up / Login
Verify Credentials
Return Credentials Verification
Login Successful / Sign Up Confirmation
View Products
Fetch Products
Return Products
Display Products
Add Product to Cart
Update Cart
Cart Updated
Product Added to Cart
View Cart
Fetch Cart
Return Cart
Display Cart
Remove Product from Cart
Update Cart
Cart Updated
Product Removed from Cart
Make Payment
Process Payment
Payment Confirmation
Payment Success
Manage Signups
Fetch Signups
Return Signups
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