

***Online Shopping System***

***Author:*** Hisham, Momen, Rashed

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**Revision History**

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| **Si**  **No.** | **Release Date** | **Version**  **No.** | **Prepared**  **By** | **Reviewed**  **By** | **Comments** |
| **1** | **7/7/2004** | **0.1** | **Momen** | **Rashed** | **Initial Version** |
| **2** | **10/7/2005** | **0.2** | **Ali** | **Omar** | **Finalizing requirements**  **For company standards** |

1. **Introduction**

Welcome to our online shopping website! We are your one-stop destination for all your shopping needs, offering a convenient and secure platform to browse and purchase a wide range of products from the comfort of your own home. At our online store, we strive to provide an exceptional shopping experience, catering to diverse tastes and preferences. Whether you're searching for the latest fashion trends, high-quality electronics, home essentials, or unique gifts, our extensive collection has something for everyone.

* 1. **Purpose**

At our online store, we strive to revolutionize the way you shop. Our mission is simple: to connect you with quality products, seamless experiences, and unbeatable convenience. Whether you’re hunting for the latest fashion trends, home essentials, or unique gifts, we’re here to make your shopping journey delightful and efficient.

* 1. **Scope**

Scope of Our Online Shopping Website:

1. **Product Catalog and Listings:**
   * Display a wide range of products, categorized logically (e.g., fashion, electronics, home decor).
   * Include high-quality images, detailed descriptions, and pricing information.
   * Allow users to filter and sort products based on various criteria (price, popularity, etc.).
2. **User Registration and Profiles:**
   * Enable users to create accounts, log in, and manage their profiles.
   * Store user preferences, order history, and shipping addresses securely.
3. **Shopping Cart and Checkout:**
   * Implement a virtual shopping cart where users can add, remove, and modify items.
   * Provide a seamless checkout process with secure payment gateways.
   * Calculate taxes, shipping costs, and discounts accurately.
4. **Search and Navigation:**
   * Offer robust search functionality with auto-suggestions.
   * Facilitate easy navigation through categories, subcategories, and product pages.
5. **User Reviews and Ratings:**
   * Allow customers to leave reviews and rate products.
   * Display aggregated ratings and helpful feedback.
6. **Order Tracking and Notifications:**
   * Provide real-time updates on order status (processing, shipped, delivered).
   * Send email or SMS notifications for order confirmation, shipping, and delivery.
7. **Responsive Design:**
   * Ensure the website works seamlessly across devices (desktop, tablet, mobile).
   * Optimize for different screen sizes and orientations.
8. **Security and Privacy:**
   * Implement robust security measures to protect user data.
   * Encrypt sensitive information (credit card details, passwords).
   * Comply with privacy regulations (GDPR, CCPA, etc.).
9. **Customer Support:**
   * Offer live chat, email, or phone support for customer inquiries.
   * Address returns, refunds, and other customer concerns promptly.
10. **Promotions and Discounts:**
    * Run seasonal sales, discounts, and promotional campaigns.
    * Allow users to redeem coupon codes during checkout.
11. **Analytics and Insights:**
    * Track user behavior (clicks, conversions, bounce rates).
    * Use data to improve user experience and optimize the website.

* 1. **References :**

Here you can find each function with it’s code

<https://drive.google.com/drive/u/0/folders/1fNUxejNnbGyYRDiufO29CqwLBU_HCG4U>

1. **Overall description** 
   1. **Product Perspective :**

This system integrate with :

* + - Google API to register with google email
    - Google maps to deliver orders

The system consist from two modules :

* + - Mobile application
    - Web portal

* 1. **User classes**

**1.Admin (Seller)**:

* + **Attributes**:
    - Id : Unique identifier for the admin.
    - Name : Name of the admin.
    - Email: Email address associated with the admin.
  + **Responsibilities**:
    - Add and remove items to/from the product catalog.

1. **Customer (Buyer)**:
   * **Attributes**:
     + id: Unique identifier for the customer.
     + name: Name of the customer.
     + email: Email address associated with the customer.
     + delivery\_address : Address where the purchased items will be delivered.
   * **Responsibilities**:
     + Place orders.
     + View order history.
     + Make payments.
     + Provide feedback and reviews.
   1. **Design and implementation constraints :** 
      * Colors match program logo
      * Friendly design
   2. **User Documentation**
2. **Knowledge Base or Help Center**:
   * Set up an **online knowledge base** where users can find answers to common questions.
   * Organize articles by topic (e.g., account setup, product search, checkout process).
   * Include step-by-step guides, FAQs, and troubleshooting tips.
3. **User Guides and Manuals**:
   * Provide **user manuals** or guides in digital formats (PDFs, web pages).
   * Cover essential topics such as account management, product browsing, and payment methods.
   * Explain any unique features specific to your platform.
4. **Video Tutorials**:
   * Create short **video tutorials** demonstrating key actions (e.g., adding items to the cart, applying discounts).
   * Host these videos on your website or a platform like YouTube.
   * Visual demonstrations can be very effective for users.
5. **Contextual Help**:
   * Implement **contextual help** within the website interface.
   * For example, tooltips that explain buttons, icons, or form fields.
   * Provide relevant information exactly where users need it.
6. **Searchable Documentation**:
   * Ensure that users can **search** within the documentation.
   * Include a search bar or use tags/keywords for easy retrieval.
   * Users should find answers quickly without browsing extensively.
7. **Screenshots and Illustrations**:
   * Use **screenshots** to illustrate steps or processes.
   * Visual cues help users understand complex tasks.
   * Highlight important elements on the screen.
8. **Release Notes and Updates**:
   * Keep users informed about **new features, enhancements, and bug fixes**.
   * Regularly update your documentation to reflect changes.
   * Include version-specific details.
9. **Feedback Mechanism**:
   * Allow users to **provide feedback** on documentation.
   * Include a rating system or comment section.
   * Use this feedback to improve content.
10. **System Features**
11. **User-Friendly Navigation**:
    * **Logically categorize** products to help customers find what they need quickly.
    * Prioritize popular categories in the navigation menu.
    * [Example: Sephora’s navigation bar reflects brand-specific and category-based shopping1](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/).
12. **Site Search**:
    * Allow users to **search directly** for specific products.
    * Provide search suggestions and auto-complete.
    * [Example: Nordstrom’s site search offers brand and product suggestions](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[1](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/).
13. **Footer Navigation**:
    * Utilize the footer to link to **top products, services, and information**.
    * Make essential content easily accessible from any page.
    * [Example: T-Mobile’s footer directs users to social media, support, and featured phones](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[1](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/).
14. **Product Videos**:
    * Enhance product pages with **videos** highlighting features.
    * Over 50% of shoppers find online videos influential in their purchase decisions.
    * [Example: Apple uses videos to showcase iPhone features](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[1](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/).
15. **Product Reviews**:
    * Include **user-generated reviews and ratings**.
    * Provide social proof that products meet customer needs.
    * [Example: eBay displays reviews below product descriptions](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[1](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/).
16. **Content Management**:
    * Manage product descriptions, images, and other content efficiently.
    * Keep product information up-to-date.
    * [Example: Content management tools streamline website maintenance](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[2](https://www.outerboxdesign.com/web-design-articles/ecommerce-website-features).
17. **Promotions and Discounts**:
    * Implement tools for **discount codes, coupons, and special offers**.
    * Boost sales by enticing customers with deals.
    * [Example: Offering limited-time discounts during holiday seasons](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[2](https://www.outerboxdesign.com/web-design-articles/ecommerce-website-features).
18. **Easy-to-Use Checkout**:
    * Simplify the checkout process with **clear steps**.
    * Minimize form fields and ensure secure payment options.
    * [Example: A straightforward checkout flow like Shopify’s](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[2](https://www.outerboxdesign.com/web-design-articles/ecommerce-website-features).
19. **SEO-Friendly Code and Layout**:
    * Optimize your website for search engines.
    * Use clean code, descriptive URLs, and responsive design.
    * [Example: SEO-friendly practices improve visibility](https://www.searchenginejournal.com/ecommerce-guide/must-have-website-features/)[2](https://www.outerboxdesign.com/web-design-articles/ecommerce-website-features).
20. **Reporting and Analytics**:
    * Track website performance using **reporting tools**.
    * Monitor user behavior, conversion rates, and sales.
    * [Example: Custom reports help analyze trends and make informed decisions2](https://www.outerboxdesign.com/web-design-articles/ecommerce-website-features).
21. **External Interface Requirements** 
    1. **User interfaces Requirements**

* **Functional requirements**:

These are the features and operations that enable a user to take action on the website, such as adding products to the cart, filtering products by categories, or checking out securely. [They can be implemented as single website features and form the basis of the whole software development process1](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/).

* **Non-functional requirements**:

These are the quality attributes of the website that form the user experience, such as performance, usability, security, or reliability. [They imply some global, abstract expectations from the product and are implemented as a sum of web features1](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/).

* **User research**:

This is the process of analyzing and understanding the habits, preferences, and needs of the potential customers. [It helps to design the website’s interface and feel that best accommodates the expectations of the target audience](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/)[2](https://www.oberlo.com/ecommerce-wiki/user-interface-ui).

* **Information architecture**:

This is the structure and organization of the website’s information that helps shoppers to find what they are looking for in a matter of seconds. [It includes elements such as navigation, search, breadcrumbs, and pagination](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/)[2](https://www.oberlo.com/ecommerce-wiki/user-interface-ui).

* 1. **Hardware interface requirements**

1. **CPU (Central Processing Unit)**:
   * For basic web hosting, a **1.6 GHz CPU** is sufficient.
   * If you’re handling both web and database hosting, consider using **4 x 1.6 GHz CPUs** for better performance.
2. **RAM (Random Access Memory)**:
   * Allocate a minimum of **4GB RAM** for your server.
   * More RAM can improve response times and handle concurrent user requests effectively.
3. **Database Space**:
   * Reserve at least **10GB** of database space.
   * This ensures you have enough storage for product data, customer information, and order records.
   1. **Communication interface requirement**
4. **Functional Requirements (FRs)**:
   * **Input Controls**:
     + Include elements such as checkboxes, radio buttons, dropdown lists, toggles, and text fields.
     + [These allow users to interact with the website, select products, and input information](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[1](https://www.oberlo.com/ecommerce-wiki/user-interface-ui).
   * **Navigational Components**:
     + Essential for seamless user experience:
       - **Search Field**: Enables users to search for specific products.
       - **Breadcrumbs**: Show the user’s location within the website hierarchy.
       - **Pagination**: Divide long product lists into manageable pages.
       - [**Sliders and Image Carousels**: Showcase featured products or promotions](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[1](https://www.oberlo.com/ecommerce-wiki/user-interface-ui).
5. **Non-Functional Requirements (NFRs)**:
   * **User-Friendly Product Display**:
     + Ensure products are easily found and visually appealing.
     + [Optimize image quality and layout for a pleasant browsing experience](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[2](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/).
   * **Responsive Design**:
     + The website should adapt seamlessly to different devices (desktop, tablet, mobile).
     + [Users expect consistent functionality across platforms](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[2](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/).
   * **Performance and Speed**:
     + Minimize loading times to prevent user frustration.
     + [Optimize server response time and reduce latency](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[2](https://elogic.co/blog/functional-and-non-functional-requirements-for-ecommerce-websites/).
   * **Security**:
     + Implement secure communication protocols (e.g., HTTPS) to protect user data during transactions.
     + [Ensure encryption and authentication mechanisms](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[3](https://www.freestudentprojects.com/studentprojectreport/project-srs/online-shopping-system-software-requirements/).
   * **Feedback Mechanisms**:
     + Provide confirmation emails after orders.
     + [Keep users informed about their purchase status](https://www.oberlo.com/ecommerce-wiki/user-interface-ui)[3](https://www.freestudentprojects.com/studentprojectreport/project-srs/online-shopping-system-software-requirements/).
6. **Other nonfunctional requirements :**

**5.1 Performance Requirements :**

**Response time should be within 2 seconds for all user interactions .**

**5.2 Safety Requirements :**

**Repairing damage or issues in a few minutes or as a few as possible must be considered**

**5.3 Security Requirements :**

**• SSL (Secure Sockets Layer) encryption for data transmission.**

**• Secure storage of user passwords using hashing algorithms.**