

Scientific References Ecommerce Website

1. Project Overview

Introduction:

This document outlines the comprehensive requirements for an ecommerce platform dedicated to scientific references. The website will serve as an online marketplace where researchers, academicians, and professionals can discover, browse, and purchase scholarly materials such as books, research papers, and journal articles.

Objectives:

- Enhance accessibility to a broad range of scientific literature.
 - Deliver a secure, intuitive, and user-friendly purchasing experience.
 - Support robust search and filtering capabilities to streamline content discovery.
 - Build a scalable platform designed for current needs with room for future expansion.
-

2. Business Requirements

Scope:

- **In Scope:**
 - Development of a complete online catalog of scientific references.
 - User registration, product browsing, advanced search, and filtering functionalities.
 - Comprehensive shopping cart and multi-step checkout process.
 - Integration with secure payment gateways for real-time transactions.
 - Administrative interfaces for order processing and reporting.
- **Out of Scope:**
 - Features such as multi-vendor support, subscription-based access, or extensive analytics may be deferred to later phases.

Stakeholders:

- **Development Team:**
 - Ahmed Bahnasy / Full-Stack
 - Ahmed Fayad / Data-Scientist
 - **End Users:**
 - Researchers, academicians, and other professionals within the scientific community.
-

3. Functional Requirements

User Roles and Permissions:

- **Guest Users:**
 - Browse the catalog and view detailed product information.
 - Utilize basic search functionalities.
- **Registered Users:**
 - Register and securely log in.
 - Manage personal profiles and view order histories.
 - Save products to wish lists and provide product reviews.
- **Administrators:**
 - Oversee order processing and customer support.
 - Generate and review reports on sales and user activity.

Product Management and Stock Control:

- Each product page will display detailed information including title, author, publication date, abstract, high-resolution imagery, and relevant identifiers (e.g., ISBN).
- The system shall include a stock view for products. When a user purchases a book, the available stock quantity is automatically reduced by one.
- Support for both digital and physical copies of references.

Shopping Cart and Checkout Process:

- Allow users to add, update, or remove items from their shopping cart.
- Implement a secure, multi-step checkout process including order review, shipping details entry, and payment processing.
- Provide options for guest checkout as well as account-based order history tracking.

Payment Integration:

- Integrate with reliable payment gateways (e.g., Stripe, PayPal) to process secure transactions.
- Support multiple currencies and calculate taxes as applicable.

Search and Filtering:

- Develop an advanced search engine that allows queries by title, author, ISBN, keywords, or subject.
- Implement filtering options such as publication date, reference type, and subject category to refine search results.

User Accounts:

- Secure user registration, login, and account management.
 - Enable users to view their order history.
-

4. Non-Functional Requirements

Performance:

- Target page load times under 3 seconds under typical usage conditions.
- Optimize database queries and utilize caching strategies to maintain performance during peak traffic periods.

Security:

- Implement HTTPS across the site and data encryption for sensitive transactions.

Accessibility:

- Ensure the website is usable across various devices and screen sizes with a responsive design.

Browser and Device Support:

- Ensure compatibility with major modern browsers (Chrome, Firefox, Safari, Edge).
 - Provide a responsive experience optimized for desktops, tablets, and mobile devices.
-

5. Technical Requirements

Technology Stack:

- **Frontend:** Vue.js
- **Backend:** Laravel with PHP
- **Database:** MySQL

Hosting and Deployment:

- There is no hosting requirement defined at this time.

Scalability:

- Design the system architecture to support future growth in product offerings and user base.
 - Implement load balancing and optimized database indexing to handle increasing demand.
-

6. Content Requirements

Product Descriptions:

- Establish standardized formats for product details including title, author, abstract, publication date, and unique identifiers.
- Use metadata effectively to enhance SEO and facilitate seamless navigation.

Imagery:

- Use high-resolution images for product representations with predefined dimensions and resolution guidelines.
- Ensure images include alternative text for accessibility.

Static Pages:

- Develop key informational pages (Home, About Us, Contact, FAQ, Privacy Policy, Terms of Service) with consistent branding and clear content.
 - Consider including a blog or news section to share scientific updates and industry insights.
-

7. Compliance Requirements

Legal Considerations:

- Ensure adherence to online sales regulations, intellectual property rights, and data protection laws.
- Provide clear Terms of Service and Privacy Policy documentation to inform users of their rights and data handling practices.

Standards Adherence:

- Follow industry best practices and web standards in coding and design to ensure long-term maintainability and cross-browser compatibility.
-

8. Assumptions and Constraints

Project Limitations:

- Budget and timeline constraints will define the initial scope; advanced features may be incorporated in later development phases.
- The primary target market may initially be limited to specific geographical regions with a roadmap for global expansion.

Dependencies:

- Product data may be supplemented or validated by integrating with external academic databases or libraries.
-

9. Appendices

Glossary:

- **Scientific Reference:** A scholarly work such as books, research papers, or journal articles used in academic and professional contexts.

- **SKU (Stock Keeping Unit):** A unique identifier for each product in the catalog.

References:

- Market research documents and internal stakeholder interviews.
- Industry guidelines for ecommerce platforms and best practices.