LAB 1 – ONLINE SHOPPING SYSTEM

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AIM - To write the Problem Statement and Software Requirements Specification (SRS) for Online Shopping System.

Problem Statement:

The current library management system is inefficient and outdated, causing delays and errors in book borrowing, returning, and inventory management. There is a need to develop a new and modern library management system that can streamline the process of book circulation, reduce human errors, and provide real-time access to inventory and borrowing information. The new system should also be user-friendly and accessible for both library staff and patrons, with features such as online book reservations, automated notifications, and easy-to-use interfaces for staff to manage the library's collection.

Software Requirement Specification (SRS)

1 Introduction:

1.1 Purpose:

The purpose of this document is to provide a detailed description of the Online Shopping System. The document will explain the functional and non-functional requirements of the software system to be developed.

1.2 Scope:

The document covers the functional and non-functional requirements of the Online Shopping System. It also includes design constraints, interface requirements, performancerequirements, non-functional attributes, and a preliminary schedule and budget.

1.3 Overview:

An online shopping system is a digital platform that allows users to purchase products or services over the internet. The system typically consists of a website or mobile application where users can browse a catalog of products, add items to a virtual shopping cart, and check out by providing payment and shipping information. It provides a seamless and convenient shopping experience for users, while also ensuring the security and privacy of their personal and financial information.

2 General Description:

An online shopping system is a type of e-commerce platform that allows customers to purchase goods or services over the internet. It typically consists of a website or mobile application that serves as an interface between the customers and the merchants.

The general description of an online shopping system includes several key components such as product catalog, shopping cart, checkout process, payment gateway, order management, and customer support.

Overall, an online shopping system provides customers with a convenient and efficient way to shop from anywhere, at any time, and allows merchants to reach a broader customer base beyond their physical location.

3 Functional Requirements:

Functional requirements are specific actions that an online shopping system should perform to satisfy the needs of its users. Here are some functional requirements of an online shopping system:

- User Registration and Login: The system should provide users with the ability to create an account, login, and manage their profile information.
- Product Catalog: The system should provide a searchable and categorized product catalog with detailed product descriptions, prices, and images.
- Shopping Cart: The system should allow users to add, remove, and modify items in their shopping cart, view the total cost of the order, and apply any applicable discounts or coupons.
- Checkout and Payment: The system should provide a seamless and secure checkout process, allowing users to enter their shipping and billing information, choose a shipping method, and make payment using a variety of payment methods.
- Order Management: The system should provide users with the ability to view their order history, track the status of their orders, and receive updates on the delivery status of their orders.
- Customer Support: The system should provide users with multiple channels of customer

support, including email, chat, and phone, to assist them with any issues or concerns.

4 Interface Requirements:

Interface requirements of an online shopping system refer to the design and layout of the system's user interface, which includes the website or mobile application. The goal is to provide users with an intuitive and easy-to-use interface that facilitates their shopping experience. Here are some interface requirements of an online shopping system:

- Responsive Design: The system should have a responsive design that adapts to different screen sizes and devices, ensuring that the website or mobile application is accessible on all devices.
- Simple Navigation: The system should provide users with simple and intuitive navigation, making it easy to find products, browse categories, and access different sections of the website or application.
- Search Functionality: The system should provide a search bar that allows users to search for products by name, category, price, or any other relevant attribute.
- Product Listings: The system should display product listings that are easy to read and visually appealing, with high-quality product images and detailed product descriptions.

5 Performance Requirements:

The performance requirements of an online shopping system can vary depending on the specific needs and goals of the system. However, some common performance requirements that are important to consider include:

- Availability: The system must be available 24/7, with minimal downtime and maintenance windows.
- Scalability: The system must be able to handle large amounts of traffic and scale up or down based on demand.
- Security: The system must provide robust security measures to protect user data and prevent fraud.
- Reliability: The system must be reliable and provide consistent performance, even during high traffic periods.

6 Design Constraints

Design constraints are limitations or restrictions that must be considered when designing an online shopping system. Some common design constraints for an online shopping system include:

- User interface design: The system must be designed with a user-friendly interface that is easy to navigate and intuitive to use.
- Compatibility: The system must be designed to work on a variety of devices and platforms,

such as desktops, tablets, and smartphones, and should be compatible with different web browsers.

- Integration with other systems: The system may need to integrate with other systems, such as third-party payment gateways, shipping providers, and customer relationship management (CRM) systems.

- Legal requirements: The system must be designed to comply with legal requirements, such as data protection laws, online consumer protection regulations, and tax laws.

7 Non-Functional Requirements:

Non-functional requirements refer to aspects of a system that are not directly related to its functional behavior, but rather describe how well the system performs its functions. Here are some examples of non-functional requirements for an online shopping system:

- Performance: The system should be able to handle a high volume of users and transactions without significant delay or downtime.
- Reliability: The system should be highly reliable and available, with minimal downtime or interruptions to service.
- Compatibility: The system should be compatible with a wide range of devices, browsers, and operating systems.
- Accessibility: The system should be accessible to users with disabilities, including those who use assistive technologies such as screen readers or voice commands.
- Maintainability: The system should be easy to maintain and update, with clear documentation and support for ongoing development.
- Interoperability: The system should be able to communicate and exchange data with other systems and applications, including third-party vendors and suppliers.

8 Preliminary Schedule and Budget:

Schedule:

Requirements Gathering and Analysis - 2 weeks
Design and Architecture - 3 weeks
Development - 10 weeks
Testing and Quality Assurance - 3 weeks
Deployment and Launch - 1 week
Post-launch Maintenance and Support - Ongoing

Total project duration: 19 weeks (Approximately 5 months)

Budget:

Requirements Gathering and Analysis - $10,000
Design and Architecture - $15,000
Development - $150,000
Testing and Quality Assurance - $30,000
Deployment and Launch - $5,000
Post-launch Maintenance and Support - $20,000 per year

Total project cost: $230,000