

## **EXPERIMENT NO.:03**

**Date of Performance:**

**Date of Submission:**

**Aim: Preparation of Software Requirement Specification (SRS) document in IEEE format**

**Software Used: Ms-Word**

### **Theory:**

The purpose of this document is to give a detailed description of the requirements for the software. It will illustrate the purpose and complete declaration for the development of system. It will also explain system constraints, interface and interactions with other external applications. This document is primarily intended to be proposed to a customer for its approval and a reference for developing the first version of the system for the development team.

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## 1.Introduction

### 1.1Purpose

The purpose of this document is to specify the requirements for developing a product price comparison website. This website will enable users to compare prices of products from various online retailers, helping them find the best deals efficiently. By providing a centralized platform for price comparison, the website aims to enhance user shopping experiences and facilitate better purchasing decisions.

### 1.2Scope

The project involves creating a web application with functionalities including product search, price comparison, and price alerts. The website will be accessible via major web browsers and will integrate with retailer APIs to fetch real-time product and price data. Key features will include user accounts for personalized settings, price tracking alerts, and various filtering and sorting options to refine search results.

### 1.3 Definitions, Acronyms, and Abbreviations

- **API:** Application Programming Interface, a set of rules for interacting with external systems or services.
- **UI:** User Interface, the visual elements through which users interact with the website.
- **SKU:** Stock Keeping Unit, a unique identifier for each product.
- **CMS:** Content Management System, used for managing and organizing website content.

### 1.4 References

- [Retailer API Documentation]: Documentation from various retailers providing APIs for accessing product data.
- [Web Accessibility Guidelines (WCAG)]: Standards for making web content accessible to people with disabilities.
- [Data Protection Regulations (GDPR, CCPA)]: Legal requirements for data protection and privacy.

## 2. Overall Description

### 2.1 Product Perspective

The product is a web-based application designed to work on standard web browsers. It will serve as a platform for users to search for products, compare prices from different online retailers, and view detailed product information. The application will integrate with retailer APIs to retrieve real-time data and ensure accuracy.

## 2.2 Product Functions

- **Search Functionality:** Users can enter product names or SKUs to find items quickly.
- **Price Comparison:** The website will display a list of prices for the searched product from multiple retailers, enabling easy comparison.
- **Filter and Sort:** Users can refine their search results based on various criteria such as price range, retailer, and product ratings.
- **Product Details:** Detailed information about each product will be displayed, including specifications, images, and reviews.
- **Price Alerts:** Users can set alerts to be notified when a product's price falls below a specified threshold.
- **User Accounts:** Users can create accounts to manage saved searches, alerts, and personalize their experience.

## 2.3 User Characteristics

- **General Users:** Individuals who visit the site to search for and compare product prices. They do not need to register to use basic features.
- **Registered Users:** Users who create accounts to access additional features like saving searches and setting price alerts. They can manage their profiles and preferences.
- **Administrators:** Users who manage the website's content, oversee user accounts, and perform maintenance tasks.

## 2.4 Constraints

- **Performance:** The website must efficiently handle high volumes of data and traffic to ensure fast response times and reliable performance.
- **Security:** The system must implement strong security measures to protect user data and comply with privacy regulations, such as GDPR and CCPA.
- **Compliance:** The website must adhere to web accessibility standards (WCAG) to ensure usability for users with disabilities.

## 2.5 Assumptions and Dependencies

- The website will rely on reliable and stable access to retailer APIs for fetching up-to-date product and price information.
- The system depends on web hosting services and a robust database management system for storing product, user, and alert data.

## 2.6 Apportioning of Requirements

- **Phase 1:** Implementation of core features, including search functionality and price comparison.
- **Phase 2:** Addition of user account management, price alerts, and other advanced features.
- **Phase 3:** Further enhancements, such as advanced filtering options and integration with additional retailer APIs.

### 3. Specific Requirements

#### 3.1 Interface Requirements

##### 3.1.1 User Interfaces

- **Search Bar:** An input field where users can type product names or SKUs.
- **Results Page:** Displays search results with price comparisons from various retailers.
- **Product Detail Page:** Provides comprehensive information about selected products, including specifications, images, and reviews.
- **Account Management Page:** Allows registered users to manage their profiles, saved searches, and price alerts.
- **Admin Dashboard:** Provides administrators with tools for managing site content, user accounts, and monitoring website performance.

##### 3.1.2 Hardware Interfaces

- The application will operate on standard web server hardware and be accessible from user devices such as desktops, laptops, tablets, and smartphones.

##### 3.1.3 Software Interfaces

- **Retailer APIs:** Interfaces for retrieving product data and prices from various online retailers.
- **Database:** A relational database management system for storing product information, user profiles, and alert data.
- **CMS:** A system for managing and updating website content.

##### 3.1.4 Communications Interfaces

- **HTTP/HTTPS:** Protocols for secure communication between the web application and users.
- **Email:** Used for sending notifications and alerts to users about price changes and other relevant updates.

#### 3.2 Functional Requirements

##### 3.2.1 User Class 1: General Users

- **Search:** Ability to search for products using keywords or SKUs.
- **Compare:** View prices and availability from multiple retailers.
- **Product Details:** Access detailed product information.

##### 3.2.2 User Class 2: Registered Users

- **Account Management:** Create, update, and delete user accounts.
- **Saved Searches:** Save and revisit search queries for future reference.
- **Price Alerts:** Set alerts to receive notifications when product prices drop below a specified threshold.

##### 3.2.3 User Class 3: Administrators

- **Content Management:** Update and manage product information and other site content.
- **User Management:** Oversee and manage user accounts and permissions.

#### 3.3 Performance Requirements

- **Response Time:** Web pages should load within 2 seconds to ensure a smooth user experience.

- **Scalability:** The system should support up to 10,000 concurrent users without performance degradation.
- **Data Accuracy:** Product prices should be updated at least once every 24 hours to ensure users receive accurate information.

### 3.4 Design Constraints

- **Responsive Design:** The website must be fully functional and visually appealing on devices of various sizes, including desktops, tablets, and smartphones.
- **Browser Compatibility:** The website must be compatible with major web browsers, including Chrome, Firefox, Safari, and Edge.

### 3.5 Software System Attributes

- **Reliability:** The website should maintain 99.9% uptime to ensure consistent availability for users.
- **Security:** Implement encryption and other security measures to protect user data and ensure compliance with privacy regulations.
- **Usability:** The website should be user-friendly with an intuitive interface that enhances user experience.
- **Maintainability:** The codebase should be modular and well-documented to facilitate future updates and maintenance.

## 4. Prioritization and Release Plan

### 4.1 Choice of Prioritization Method

- **MoSCoW Method:** Features will be prioritized into four categories:
  - **Must-have:** Essential features such as search functionality and price comparison.
  - **Should-have:** Important features like user accounts and price alerts.
  - **Could-have:** Additional features such as advanced filtering options.
  - **Won't-have:** Features like advanced analytics will be excluded from the initial release but considered for future phases.

### Conclusion:

Thus we have prepared the SRS for our mini project.

### Sign and Remark:

R1	R2	R3	Total Marks	Signature
(5)	(5)	(5)	(15)	