E-Commerce Website Development Using HTML, CSS and JavaScript

Software Requirements Specification

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Ashutosh Kumar Singh

Roll No: 19

Section: K22LE

Reg No: 12218302

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Revision History

Date	Description	Author		Comments
10/04/2024	Home page designed and linked to corresponding CSS and JavaScript file	Ashutosh		Index.html, style.css and script.js created and linked
12/04/2024	Product page designed to display the contents on clicking a product (headphone image on index.html)	Ashutosh		Product.html and product.css files created
13/04/2024	Cart page, sign-in page and sign-up pages designed	Ashutosh		Cart.html, cart.css, signin.html, signin.css, signup.html, signup.css files created and linked
16/04/2024	The website was made responsive to any possible change in screen size, minimization etc.	Ashutosh		Made the screen responsive and gave final touch to the project

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1. Introduction

*This Software Requirements Specification (SRS) document outlines the functional and non-functional requirements for the development of **Shopkart**, an ecommerce platform. **Shopkart** aims to provide users with a comprehensive online shopping experience, facilitating seamless navigation, secure transactions, and personalized interactions. This document serves as a guide for the design, development, and testing phases of the project.*

1.1 Purpose

*The purpose of the **Shopkart** ecommerce platform is to provide users with a seamless online shopping experience. By offering intuitive sign-in/sign-up processes, a user-friendly interface, and efficient navigation, the platform aims to connect buyers with a wide range of products while facilitating secure transactions and personalized shopping experiences.*

1.2 Scope

- *Development of an ecommerce platform named **Shopkart.***
- *Includes five main pages: sign-in, sign-up, index (home), cart, and product.*
- *Functionalities encompass user authentication, product browsing, cart management, and checkout processes.*
- *Implementation of responsive design for compatibility across various devices.*
- *Integration of basic JavaScript for dynamic page interactions.*
- *Focus on user experience, security, and efficient data management for a seamless shopping journey.*

1.3 Definitions, Acronyms, and Abbreviations

HTML: It stands for Hyper-Text Markup Language which is used to provide the structure of a web page.

CSS: It stands for Cascading Style Sheets. It is used to provide a good styling to the web page.

JS: It stands for JavaScript. It is used to make the a web-page responsive.

1.4 References

This project was inspired by a youtube video whose link is given below:
https://youtu.be/NC0IRIJhFpI?si=M0yLU7H0WKoc4CL-

1.5 Overview

*This Software Requirements Specification (SRS) document delineates the requirements for **Shopkart**, an ecommerce platform. It encompasses the system's purpose, functionalities, non-functional aspects, interfaces, user interfaces, database requirements, assumptions, constraints, and dependencies, providing a comprehensive guide for the project's design, development, and implementation.*

2. Specific Requirements

2.1 External Interface Requirements

2.1.1 User Interfaces:

- *The user interfaces will consist of five main pages: sign-in, sign-up, index (home), cart, and product.*
- *Each page will feature intuitive layouts, clear navigation menus, and interactive elements for user engagement.*
- *Responsive design will ensure compatibility across various devices, including desktops, tablets, and smartphones.*

2.1.2 Hardware Interfaces:

- ***Shopkart** requires standard hardware components such as servers, storage devices, and networking equipment to host the platform.*
- *End-users will access the platform using their own hardware devices, including computers, laptops, tablets, and smartphones.*
- *The system does not have specific hardware dependencies beyond standard computing devices and peripherals.*

2.1.3 Software Interfaces:

- ***Shopkart** will integrate with external software components for essential functionalities such as user authentication, payment processing, and database management.*
- *Authentication interfaces will utilize industry-standard protocols such as OAuth or JWT for secure user login and registration.*
- *Payment processing interfaces will connect with third-party payment gateways or APIs to facilitate secure transactions.*
- *Database interfaces will interact with the underlying database management system (DBMS) for data storage, retrieval, and manipulation.*

2.1.4 Communications Interfaces:

- ***Shopkart*** *will utilize HTTP/HTTPS protocols for communication between the client-side and server-side components.*
- *Secure Socket Layer (SSL) or Transport Layer Security (TLS) encryption will be implemented to ensure secure data transmission over the internet.*
- *Email communication interfaces will be established for user notifications, order confirmations, and password reset functionalities.*
- *APIs may be employed to enable communication with external systems or services, such as inventory management systems or shipping providers.*

2.2 Functional Requirements for *Shopkart*:

User Authentication:

- *Users should be able to sign up for a new account or sign in to an existing account securely.*
- *Passwords should be encrypted and stored securely.*
- *Users should have the option to reset their passwords if forgotten.*

Product Browsing:

- *Users should be able to browse products on the index (home) page.*
- *Products should be categorized and displayed with relevant information such as name, price, and images.*
- *Users should have the option to search for specific products and apply filters for refining search results.*

Cart Management:

- *Users should be able to add products to their shopping cart from the product page or index page.*
- *The cart page should display the list of items added by the user, along with quantities and prices.*
- *Users should be able to update quantities or remove items from the cart.*

Checkout Process:

- *Users should be guided through a secure checkout process to complete their purchases.*
- *Checkout steps should include entering shipping information, selecting a payment method, and reviewing the order summary.*
- *Users should receive confirmation emails after successfully placing an order.*

Product Page:

- *Each product should have a dedicated page displaying detailed information such as description, specifications, and customer reviews.*
- *Users should have the option to add the product to their cart directly from the product page.*
- *Related products or recommendations may be displayed on the product page to encourage additional purchases.*

User Account Management:

- *Users should be able to view and edit their profile information, including personal details and shipping addresses.*
- *Registered users should have access to their order history and status updates.*
- *Users may have the option to save items to a wishlist for future reference.*

Admin Panel:

- *Administrators should have access to an admin panel for managing products, orders, and user accounts.*
- *Admins should be able to add, edit, or delete products from the inventory.*
- *Order management functionalities should allow admins to view, update, and fulfill orders.*

Security and Privacy:

- *The platform should implement measures to protect user data and secure transactions, including encryption and compliance with relevant regulations (e.g., GDPR).*
- *Users' sensitive information, such as passwords and payment details, should be handled securely to prevent unauthorized access or data breaches.*

Non-Functional Requirements

Performance:

- *The platform should have fast response times to ensure a smooth browsing and shopping experience.*
- *Page load times should be optimized to minimize user wait times, especially during peak traffic periods.*

Scalability:

- *The system should be designed to handle increasing numbers of users and products without significant performance degradation.*
- *Scalability measures should allow for easy expansion of server capacity and resources as the platform grows.*

Security:

- ***Shopkart** should implement robust security measures to protect against unauthorized access, data breaches, and cyber threats.*
- *User authentication mechanisms should be secure, with options for multi-factor authentication where applicable.*
- *Payment transactions should be encrypted and comply with PCI DSS standards to ensure secure handling of sensitive financial information.*

Usability:

- *The user interface should be intuitive and easy to navigate, catering to users of all levels of technical proficiency.*
- *Accessibility features should be implemented to accommodate users with disabilities, ensuring compliance with accessibility standards (e.g., WCAG).*

Reliability:

- *The platform should be highly available, with minimal downtime for maintenance or upgrades.*
- *Failover and redundancy mechanisms should be in place to ensure continuous service availability in the event of server failures or disruptions.*

Compatibility:

- ***Shopkart*** *should be compatible with a wide range of web browsers and devices, including desktops, laptops, tablets, and smartphones.*
- *Compatibility testing should be conducted to ensure consistent functionality and user experience across different platforms and screen sizes.*

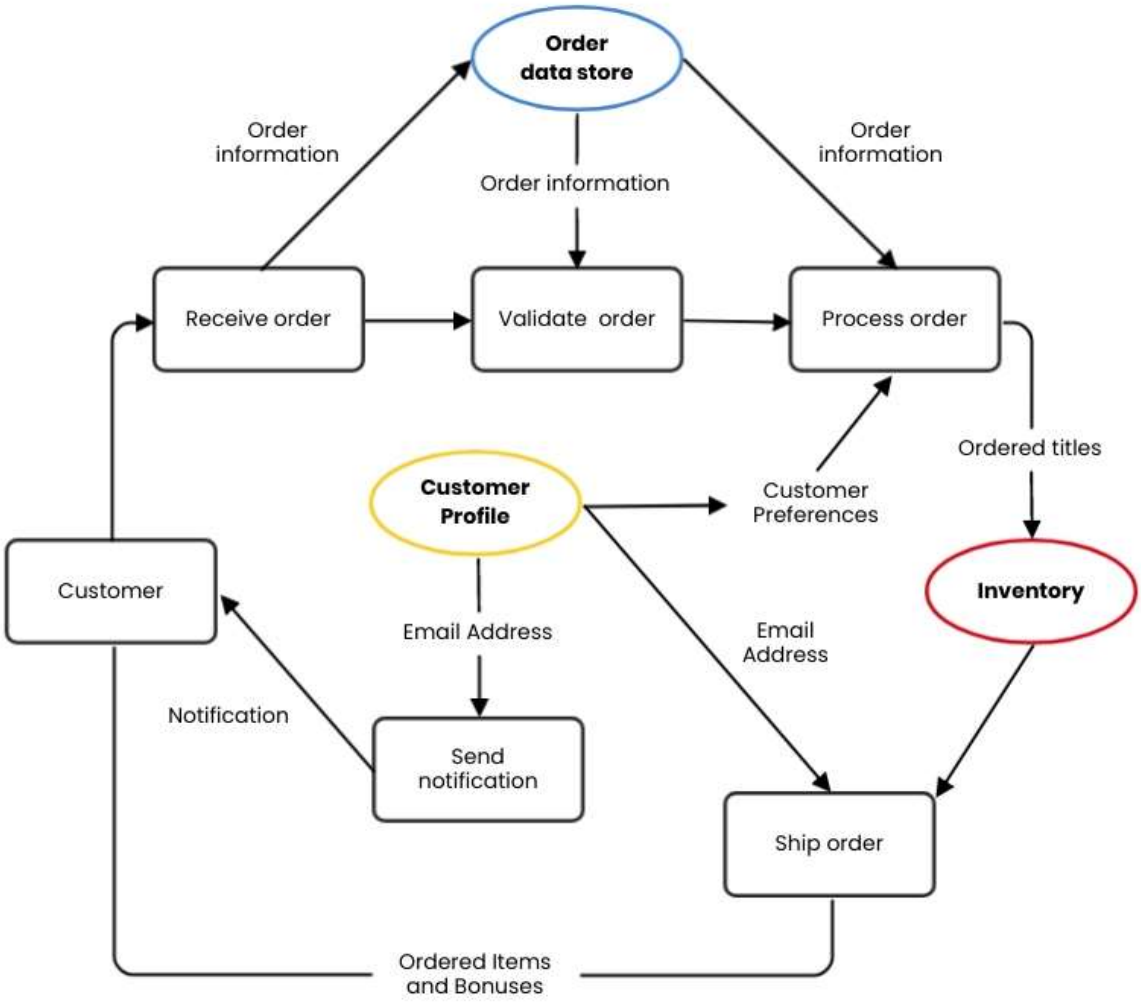
Maintainability:

- *The codebase should be well-organized and modular, facilitating ease of maintenance, updates, and future enhancements.*
- *Documentation should be comprehensive and up-to-date, providing guidance for developers, administrators, and end-users.*

Performance Monitoring and Logging:

- *The platform should incorporate monitoring and logging capabilities to track system performance, identify bottlenecks, and troubleshoot issues proactively.*
- *Logs should be generated for critical system events, user actions, and error conditions to aid in debugging and auditing.*

3. Data Flow Diagram (DFD)



4. GitHub Link: https://github.com/ashutosh12505/ShopKart