Software Requirements Specification

for

Sneak Peek

Version 1.0 approved

Prepared by Owen Adams, Nisha Adhikari,

Destiny Milsap, and Alison Ho

Department of Computer Science, Mississippi State University

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1. Introduction

1.1   Purpose

The purpose of this SRS document is to provide a comprehensive and detailed overview of the requirements and functionalities expected from the development of Sneak Peak Version 1.0. This document serves as a foundation for the overall design as well as diving into the functionality of Sneak Peak. By clearly defining the functional requirements, non-functional requirements, and quality standards. The primary goal is to ensure collective understanding among all parties involved.

1.2   Document Conventions

This document is organized into different sections, each pertaining to different aspects of the e-commerce store.

'#. Section'
- Font : Times New Roman
- Size: 18
- Is intended to separate the overall sections of this SRS document.

'#.# Topic'
- Font: Times New Roman
- Size: 14
- Subtopic that follows the overarching section.

'#.#.# Subtopic'
- Font: Times New Romen
- Size: 12
- Subsection of the previous subtopic

'**Bold**': Things to pay attention to, as well as separating different titles within the subsections.

'General Description'
- Font: Times New Romen
- Size: 12
- Information following their overarching topics.

Unless stated otherwise each requirement stated has its own priority.

1.3   Intended Audience and Reading

The SRS is designed to help the different parties involved with the creation of Sneak Peak. The parties involved are as follows:

- Developers
- Project Managers
- Marketing Staff
- Users
- Testers
- Documentation writers

The recommended reading sequence for each party is as follows:

Introduction: For all parties to understand the project itself as well as its scope.
Overall Description: Developers, Project Managers, Users
System Features: Developers, Project Managers, Marketing Staff, Testers, Documentation Writers
Other Non-Functional Requirements: Developers, Project Managers, Testers, Documentation Writers
Other Requirements: All Parties to help understand the document
Following this sequence ensures a successful development process.

1.4 Product Scope

Sneak Peek is a shoe e-commerce store striving to be the main hub for all shoe needs. Drawing from multiple different sellers, Sneak Peak ensures that there will be a wide variety of shoe options for a wide audience of shoe buyers. Unlike other shoe stores a buyer doesn't need to search for their perfect shoe at multiple different sites to find the right shoe. Sneak Peak aims for buyers to use our one stop system, allowing them to compare our stock of shoes with one they are interested in. No more clicking through different sites when you only need one.

1.5 References

Roger S. Pressman_ Bruce R. Maxim - Software Engineering_ A Practitioner's Approach-McGraw-Hill Education (2019)

https://msstate.instructure.com/courses/121638/files/9824922?module_item_id=2535540

2. Overall Description

2.1 Product Perspective

Sneak Peek is a new and secure, e-commerce platform that allows customers to purchase items from a variety of shoe brands and shoe types from authorized sellers through a web application. Buyers can create an account and use that account to access the website's wide range of available products. Sellers can also sign up for accounts to distribute their products through the website, but must be approved by the website admin first. This application is a project in the Introduction to Software Engineering course at Mississippi State University, and is meant only to replicate the functionality of an online, e-commerce website application.

2.2 Product Functions

- A buyer will be able to login to the website, search for items, edit their shopping cart, compare items, checkout their cart, return items, and logout of their account.

- A seller will be able to login to the website, add new products to their current selection of products (after approval from admin), edit quantity of products, receive payments if their product is sold, and logout.
- An admin should be able to monitor actions and permissions of buyers and sellers, and approve or deny new buyer or seller account creation requests.

2.3 User Classes and Characteristics

Below are the different classes for users of Sneak Peek:
- Admin – Admin has a username and password that is used to login. Can oversee users and their information.
  - o Approve – Admin approves the creation of a new user account.
  - o Deny – Admin rejects creation of a new user account.
- Seller – Seller can login using a username and password associated with an existing seller account. Must either try login again or create new account if credentials don't match.
  - o Create – Seller can create an account and login if permission is granted by admin
  - o Existing – Seller can login if their credentials match an existing account, and they can have access to different seller functionalities on the website upon logging in.
- Buyer – Buyer has a username and password that is used to login. If the username and password combo do not match a current account, the buyer must create a new account or try their information on login again.
  - o Create – Buyer can create an account and login if permission is granted by admin
  - o Existing – Buyer can login if their credentials match an existing account, and they can have access to different buyer functionalities on the website upon logging in.

2.4 Operating Environment

Windows OS, Visual Studio Code, hosting through cloud, HTML, CSS, Javascript for front-end. Python with SQLite for server-side/back-end.

2.5 Design and Implementation Constraints

The development will be using Python in conjunction with the SQLite DBMS to handle programming of application functionality and users' information storage on the server side, and so the speed of our application may be a little slow due to Python being an interpreted language. We plan to mitigate this potential reduced speed with the use of the quick and lightweight SQLite database management system.

Also, with the use of the SQLite database, there will exist some restraints concerning how large the database can get. SQLite being a lightweight database means that it can only handle so much data, so if this web application were used in the real-world, it may not hold up quite as well as the larger, more robust DBMSs out there.

3. System Features

3.1 Admin Use Cases

3.1.1 User Login

Use Case: Admin Login
User Class: Admin

Admin can login securely using their registered credentials. The system should perform authentication based on login information.

Functional Requirements:
- The system shall provide a user login form with three options displayed (admin login, seller login and buyer login) for the user to choose from.
- Choosing admin login shall open a form with fields for username, email, and password for the user to fill in.
- The system shall validate/authenticate the user's credentials during login, checking the stored password against the email or username provided.
- If authentication attempt is successful, the user will be taken to the home page where they can view the web page and products and access admin privileges.
- If authentication is unsuccessful, an error message will be displayed, and the user will be prompted to enter their information again.

3.1.2. Admin Privileges

Use case: Approve/Deny Accounts
User class: Admin

Admin has the privilege to manage new accounts on the platform. They should be able to view new account requests and approve or deny account creation.

Functional Requirements:
- The admin shall have an accessible page on the website with new account creation requests. The requests shall be categorized as "Buyer account" and "Seller account" accordingly and listed in ascending order based on date of request.
- The system shall allow admin to click on each request and be able to see the information the user put in during registration of account including name, email, address, ID, and validate the account in their own discretion.
- The system shall allow the admin to approve the creation of account by clicking the "Approve" button on the page.
- The system shall allow the admin to deny the creation of account by clicking the "Reject" button on the page.

Use case: Approve/Deny Products
User: Admin

Admin has privilege to manage posting of new products on the platform. They should be able to view new product requests and approve or deny it.

Functional Requirements:
- The admin shall have an accessible page on the website with new product requests ordered in ascending order based on the date of request.
- The system shall allow the admin to click on each request and view the product information registered by the seller including shoe style, product image, price, quantity, size, and color.
- The system shall allow the admin to approve the product to be posted on the website by clicking the "Approve" button on the page.
- The system shall allow the admin to deny the product to be posted on the website by clicking the "Reject" button on the page.
- The system shall immediately post the product listing on the website upon approval by the admin.

Use case: Approve/Deny Modifications
User: Admin

Admin has privilege to approve or deny the modifications made by the seller on product listings on the e-commerce website.

Functional Requirements:
- The admin shall have an accessible page on the website with new modifications approval requests ordered in ascending order based on the date of request.
- The system shall allow the admin to click on each request and view the product information changes by registered by the seller including shoe style, product image, price, quantity, size, and color.
- The system shall allow the admin to approve the product to be posted on the website by clicking the "Approve" button on the page.
- The system shall allow the admin to deny the product to be posted on the website by clicking the "Reject" button on the page.
- The system shall immediately post the product listing on the website upon approval by the admin.

Use case: Access Account Information
User: Admin

Admin has privilege to access the account information of both buyer and seller accounts on the e-commerce website.

Functional Requirements:
- The admin shall have an accessible page on the website with the user database.
- The system shall allow the admin to search for a user based on their information like username or email and display a list of possible matches.

- The system shall allow the admin to click on a user and view their information like name, user ID and email address.
- For seller accounts, the admin shall further be able to see their product listing history and income through the website.
- For buyer accounts, the admin shall further be able to see their order history.

3.2 Buyer Use Cases

3.2.1 User Registration and Login

Use Case: Account Registration
User Class: New Users

New users can register for an account by putting in their information and their request will be sent to the admin for approval.

Functional Requirements:
- The system shall provide an option on the web page to create an account.
- The new user shall put in information including username, email, phone number, password, address, and their card information.
- The system shall then forward the account approval request to the admin account.

Use Case: Account Login/Logout
User Class: Registered Buyer

Users with approved accounts can login to their account and access the website by putting in their login information.

Functional Requirements:
- The system shall provide a user login form with three options displayed (admin login, seller login and buyer login) for the user to choose from.
- Choosing their respective login shall open a form with fields for username, email, and password for the user to fill in.
- The system shall validate/authenticate the user's credentials during login, checking the stored password against the email or username provided.
- If authentication attempt is successful, the user will be taken to the home page where they can view the web page and products and access admin privileges.
- If authentication is unsuccessful, an error message will be displayed, and user will be prompted to enter their information again.
- The user can see an option on the webpage to log out of the account. The system shall log them out upon confirmation and user must log back in to access the webpage.

3.2.2 Product Interaction

Use Case: Search Product
User Class: Registered Buyer

Users can search for products on the website using specific identifiers.

Functional Requirements:
- The user shall be able to access a search bar on the homepage to search for products.
- The user shall be able to search products using identifiers like name, brand, type, or a combination of those.

Use Case: Compare Product
User Class: Registered Buyer

Users can compare the price of similar products on the website that they are interested in.

Functional Requirements:
- The user shall be able to click on a product and access the compare button.
- The system shall provide a list of similar products based on the type and show the price they are listed at.

Use Case: Buy Product
User Class: Registered Buyer

Users can add products to the cart, remove products from the cart and checkout products that they want to buy from the cart.

Functional Requirements:
- The system shall allow the user to click on a product and provide an option to add it to the cart for checkout.
- Adding an item in the cart shall remove the product from inventory database and add it to the Cart database reserving a product for the users until they checkout.
- The system shall allow the user to click on a product in the cart and provide an option to remove it from the cart.
- Removing an item from the cart shall remove the product from cart database and add it back to the inventory database.
- The system shall allow the user to click on a product in the cart and provide an option for checkout.
- Checking out an item in the cart shall remove the product from inventory database and/or cart database and move it to a shipping database, reserving the product for the customer while they have it in their cart.
- The system shall move the account information to the corresponding shipping database and associate it with the user's account ID.

Use Case: Return Product
User Class: Registered Buyer

Users can return the products they buy from the website and get a refund.

Functional Requirements:

- The user shall be able to access the history of bought products on the website.
- Upon clicking the desired product, the system shall provide an option to return it.
- The system shall initiate a return order upon entering user information like name, phone number, email address and order ID.
- Once the return order is initiated, the user shall be able to see the shipping information for the seller warehouse.
- Once the returned product has been received by the seller warehouse, the seller shall return payment to the buyer.

3.3 Seller Use Cases

3.3.1 User Registration and Login

Use Case: Account Registration
User Class: New Users

New users can register for an account by putting in their information and their request will be sent to the admin for approval.

Functional Requirements:
- The system shall provide an option on the web page to create an account.
- The new user shall put in information including username, email, phone number, password, address, and their card information.
- The system shall then forward the account approval request to the admin account.

Use Case: Account Login/Logout
User Class: Registered Seller

Users with approved accounts can login to their account and access the website by putting in their login information.

Functional Requirements:
- The system shall provide a user login form with three options displayed (admin login, seller login and buyer login) for the user to choose from.
- Choosing their respective login shall open a form with fields for username, email, and password for the user to fill in.
- The system shall validate/authenticate the user's credentials during login, checking the stored password against the email or username provided.
- If authentication attempt is successful, the user will be taken to the home page where they can view the web page and products and access admin privileges.
- If authentication is unsuccessful, an error message will be displayed, and the user will be prompted to enter their information again.
- The user can see an option on the webpage to log out of the account. The system shall log them out upon confirmation and user must log back in to access the webpage.

3.3.2 Product Posting

Use Case: Adding Products
User Class: Registered Seller

Users can add products on the website for selling with the approval from the admin.

Functional Requirements:
- The user shall have an option on the webpage to add products for selling.
- The system shall allow the user to add information of products including name, brand, shoe style, size, color, product image, price, and quantity.
- The system shall allow the user to save the posting of product and add it to a pre-approved product database.
- The system shall forward the product approval request to the admin account.
- Upon approval from the admin, the post shall immediately be moved from the pre-approved product database to the inventory database and posted on the website.

Use Case: Editing Product Details
User Class: Registered Seller

Users can edit information of their posted product on the website with approval from admin.

Functional Requirements:
- The user shall be able to view the approved and non-approved product postings on the website.
- The system shall allow the user to add/remove or edit product information of products.

3.3.3 Receive Payment

Use Case: Receive Payment
User Class: Registered Seller

Users can receive payment for their products sold at the website.

Functionalities:
- The system shall provide a page on the website where the user will be able to view the total earnings from the products sold.
- The system shall allow the user to deposit the payment to their bank account.

4. Other Nonfunctional Requirements

4.1   Performance Requirements

- This e-commerce software will be a website.

- The time from when a user enters the website address until the web page loads, will depend on the speed of the internet connection.
- The performance of the website will also depend on the user's hardware capabilities.

4.2   Safety Requirements

- Users' passwords are safely stored in databases.
- Users' passwords are not available to the public and measures are taken for them to be safely stored.
- Users' passwords are saved in the back-ended databases that are restricted to admin viewership only.

4.3   Security Requirements

- The customer's password will be encrypted. The encrypted password will be stored in the back-end database.
- The customer's credit card number will not be displayed after it is entered. In all further processes, it will be referred to as the last four digits.
- The back-end servers will only be accessible to authorized admin users.

4.4   Software Quality Attributes

Availability -The website should be accessible to all users on the release date. The website should stay available to the users ninety percent of the time. There will be scheduled maintenance that users would be notified about.

Usability- The website should have a user interface that is accessible to its users. It should be easy to navigate the website pages.

5. Other Requirements

Appendix A: Glossary

SRS – Software Requirement Specification
DBMS – Database Management System

Appendix B: Analysis Models

N/A

Appendix C: To Be Determined List

Forgotten Password
- In case of forgotten password, users are able to answer a pre-determined security question for the user to answer to be able to log in.
- Mechanism to allow users to reset forgotten passwords on the website.