
Software Requirements Specification

for



Bully Books

Version 1.0 approved

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1. Introduction

1.1 Purpose

This Software Requirements Specification (SRS) outlines the necessary features and functionalities for the development of an online bookstore. The current revision number of the product is #01. The scope of this document encompasses the entire system architecture and functionality required for the online bookstore platform.

1.2 Document Conventions

This document follows standard conventions for software requirements specifications. Requirements are prioritized based on their importance to the overall system, with higher-level requirements assumed to be inherited by detailed requirements. Key terms and requirements may be highlighted for emphasis and clarity.

1.3 Intended Audience and Reading

This document is intended for various stakeholders involved in the development and management of the online bookstore, including developers, project managers, marketing staff, users, testers, and documentation writers.

The SRS contains an overview of the software's scope, followed by detailed requirements organized into sections pertinent to each reader type. We recommend starting with the Overall Description to gain a comprehensive understanding of the software's purpose and functionality before delving into specific requirements.

1.4 Product Scope

The software specified in this document is an online bookstore designed to facilitate the browsing, purchasing, and selling of books over the internet. Its primary purpose is to provide a user-friendly platform for customers to explore a wide range of books, make purchases securely, and manage their orders. Additionally, it offers features for book vendors to manage their inventory, process orders, and track sales.

The goals of the online bookstore include enhancing the book-buying experience for customers, promoting literacy and education, and fostering a vibrant online community of readers and authors. By providing a secure and efficient platform, the software aims to contribute to the corporate goals and business strategies of

1.5 References

Software Requirements Specification (SRS) Book E-Commerce System (BECS): A SRS document based on a book e-commerce store Blossom, A., Gebhard, D., Emelander, S., & Meyer, R. (2007)

Design and Development of E-commerce: Web-application for Cooperative Store: A document that discusses the implementation of an e-commerce store, Tenzin, S., Lhamo, T., & Dorji, T. International Research Journal of Engineering and Technology (IRJET) (2022)

These references may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a separate vision and scope document. They provide additional context and information that complements this SRS.

2. Overall Description

2.1 Product Perspective

Bully Books is a new, self-contained product which provides users the ability and functionality to buy and sell new and secondhand books with fellow students through a social commerce marketplace. It is a replica of the already known and vastly popular commerce marketplace Poshmark but combines the functionality with Barnes and Noble bookstore for physical and ebooks. Bully Books is a work product designed for the partial fulfillment of credits for the Introduction to Software Engineering course at Mississippi State University.

The usage of the product is limited to the bounds of the concerned department and permissions granted by the said University.

The purpose of the product is to replicate an ecommerce store, like Poshmark, for students to be able to sell textbooks and ebooks between themselves with easier access as a part of project work.



2.2 Product Functions

- A user will be able to log in to his/her account
- A user will be able to edit account information
- A user will be able to upload books to sell
- A user will be able to add books to cart
- A user will be able to access and interact with cart items
- A user will be able to purchase or delete cart
- A user will be able to leave a comment on purchases

2.3 User Classes and Characteristics

The initial users of our software frontend will be actively enrolled students attending said university who are familiar with navigating e-commerce marketplaces on a desktop or laptop.

User classes for Bully Books are as follows:

- 1) Users- Users must have a valid userID and password to use Bully Books, if not Bully Books requires them to create an account.
 - a) Returning- Can use features mentioned in section 3
 - i) Buyer- interact with cart functions, add address, and card information
 - ii) Seller- able to upload product information and add to database
 - b) New- Will need to create a new account with a unique password and valid email to gain access to the features supported by Bully Books. Chooses if they
- 2) Admin- Admin has access to user emails and passwords. Admin is able to monitor activities on Bully Books and verifies accounts as students before granting seller permissions.

2.4 Operating Environment

Bully Books will act as a web service that will be supported on web browsers. We assume the underlying operating system will be Windows. Bully Books will utilize a server that runs MySQL, Python 3.9, and Django.

2.5 Design and Implementation Constraints

Design:

Language: Javascript, HTML, Angularjs

Database: MySQL

Constraints:

There are no known limitations right now. The development team will be hosting the 'live' version of the application on a MySQL database. (Further constraints TBD.)

3. System Features

3.1 User Registration/Authenticate Pre-Existing User

3.1.1 Description and Priority

This feature will allow user to create account and register onto the website. Pre-existing users will be able to use their credentials to securely login. HIGH PRIORITY.

3.1.2 Stimulus/Response Sequences

- Upon opening the website, user will be greeted with a login page with the option to either login or signup.

- If decided to signup, user will be presented with a user registration form. The form will include email, username, password, type of user and additional information.

- After registration, the system will validate the email. (1. Check if the email is correct. 2. Check if the email already exists to make sure no duplicate accounts exist.) After successful validation, the system will save the credentials and create a new account for the user.

- If decided to login, the user will be asked to submit their login credentials.
- After the user input, the system will validate their login credentials to see if the respective user exists in the system. Popup error if the credentials are wrong.

3.1.3 Functional Requirements

1. REQ – 1: User Registration

- *The system will present user with a registration form. The form includes email, username, password, and type of user (user or seller).*
- *The system will validate if the email address is valid or not, as well as if it exists in the database to ensure no duplicate email address.*
- *The system will safely store the credentials after successful validation.*

2. REQ – 2: User Authentication

- *The system will present a login form, and ask the user to enter their login credentials.*
- *The system will authenticate the email. If failed, it will display an error message. If successful, the user will be able to access their account.*
- *After authentication, the user will be directed to the landing page/Home page.*

3.2 Manage Profile/Personal Info

3.2.1 Description and Priority

User will be able to change and edit their personal information (information related to transactions and shipping) as well as their password. Medium to Low Priority.

3.2.2 Stimulus/Response Sequences

- *Pressing the profile icon does a drop down menu to either logout or edit profile*
- *By pressing the edit profile button, user will be directed to a page with all of their personal information as well as the option to edit them right beside each respective information. (The information will be partially blurred until the user decides to edit them.)*
- *After successful edit, the old information is replaced by the new information and the user is redirected to the edit profile page.*

3.2.3 Functional Requirements

1. REQ – 1: Display Account Information

- *In the edit profile tab, the system will display all of the profile information.*
- *The information will be partially-blurred/partially-read from the database for security purposes.*

2. REQ – 2: Edit Account Information

- *Each information will have their own respective edit button.*
- *Clicking the button will present the user with an edit information form.*
- *If the new information is the same as the old one, the system will display an error message.*
- *After successful edit, the system save the new information and delete the old one.*

3.3 Item Listing and Search/Main Menu

3.3.1 Description and Priority

The main menu. Users will be directed here after successfully logging into the website. The main menu will include all available listings of the books, their information (seller, quantity, and price) as well the option to search if a specific book as available for purchase.

3.3.2 Stimulus/Response Sequences

- *The home page will be similar to eBay.*
- *Clicking on an item will lead you to a separate page with all of its respective information available. This page will also give you the option to either add the item into your cart or checkout.*
- *In the search function, you can search for a book by its name, author, or ISBN. You can also search the items by genre in a separate tab.*

3.3.3 Functional Requirements

1. REQ – 1: Display All Available Items in the Database

- *The system will parse through the item database and find all items available for purchase. In the main menu, it will only display the name, price and quantity of the item.*
- *If a user clicks on an item, it will lead them to a different page with all information of the item. This also includes the book seller, author, ISBN, date released, language etc.*
- *The user will also be presented with an option to add the item of their choice, and the quantity into their shopping cart as well as the option to checkout.*
- *Clicking the shopping cart button will add the item to the shopping cart.*
- *Clicking the checkout button will lead you to the checkout page.*

2. REQ – 2: Search Items in the Database

- *At the top of the home page, there will be box you can search specific books with.*
- *After typing in a keyword/name/ISBN, the system will search the database to see if such item exists. If not successful, it will display an error message. If successful, the system will direct the user to the page from the “REQ - 1” section.*

3.4 Shopping Cart

3.4.1 Description and Priority

The shopping cart will be able to hold/memorize whatever the user has put into it. By implementing a shopping cart, it will prevent user from checking out item one by one, and reduce redundancy by checkout everything in the shopping cart at once. Logging out from the website will wipe the shopping cart.

3.4.2 Stimulus/Response Sequences

- *After clicking on an item in the main menu, the user will be presented with an option to add the item into their shopping cart.*
- *Next to the search box, there will be a separate tab for you to look through your shopping cart.*
- *The shopping cart tab will display all the items the user have put into their shopping cart, and the option to increase/reduce the quantity, remove item from the shopping cart, as well as the option to proceed to the checkout.*
- *Reducing an item count to 0 will automatically remove the item from the shopping cart.*

3.4.3 Functional Requirements

1. REQ – 1: Shopping Cart Tab

- *The system will parse through the user’s shopping cart and display all the items present in the shopping cart.*
- *There will be option for each items to change the quantity and remove.*

If the item quantity reaches zero, the item will be removed from the cart.

2. REQ – 2: Button to Proceed to the Checkout Menu

- *If desired, the user can click on the checkout button to proceed to the checkout with all of the items present in the shopping cart.*

3.5 Checkout

3.5.1 Description and Priority

The checkout page for the website. It will collect payment information from the users and allow them to check out the item of their choice. If accessed from the shopping cart, it will check out all items in the shopping cart at once.

3.5.2 Stimulus/Response Sequences

- *Can be accessed from individual item page or the shopping cart page.*
- *If accessed from an individual item page, it will only check out that one item. But if it's accessed from the shopping cart page, it will check out everything that is present in the shopping cart at that moment.*

3.5.3 Functional Requirements

1. REQ – 1: Option to Proceed to Checkout

- *In the checkout menu, the system will parse through the shopping cart and calculate the total.*
- *After user confirmation, the system will direct the user to a different page to fill out the payment information form and address form.*
- *Upon successfully verifying the payment information, the system will complete the transaction, and send a notification to the user's email.*
- *After sending out the email, the correct number of items will be deducted from the shopping cart, and database to correctly assess the inventory.*
- *If any error occurs during payment process, it will display an error message and abort the process. The shopping cart will still have the items, but the user must have to repeat the process from the beginning.*

4. Other Nonfunctional Requirements

4.1 Performance Requirements

Bully Books will be run using a web server. The performance of the website will vary based on internet connection and hardware of the user. The database will be hosted using SQLite, and response time during queries to the website will be limited based on the response time of the hosted database.

4.2 Safety Requirements

Before users are able to access Bully Books, admins will verify both buyers and sellers before administering them an account. Admins will be able to revoke access to the site and certain privileges such as adding products at any time due to violations of rules by users. Products uploaded by sellers will be verified by admins before being accessible on the store. After users have gained access to a Bully Books account, the user's login and payment information will be stored in a secure database accessible only to admins.

4.3 Security Requirements

Users will need to email verification through the account creation process. Once verified any changes to account information such as a change to their password will notify the user and allow the user to lock their account if the change was not made by them. Payment information in the database will be encrypted using a private key not accessible to users.

4.4 Software Quality Attributes

Bully Books will be accessible on web browsers that support modern HTML with JavaScript. Unit tests will be made to test any notable features using Pytest and Jest. The interface will use standard conventions similar to other sites such as Barnes and Noble's web services and Amazon.

5. Other Requirements

In regards to legal requirements, we would need to get permission from said university, MSU, for their authentication system for returning users to be able to go through for security purposes. There are possibly other permissions needed to be granted, regarding book copyrights as well (TBD).

Appendix A: Glossary

AWS- Amazon Web Services

ISBN- International Standard Book Number

MySQL- open source relational database management system that uses structured query language

SRS- System Requirements and Specifications- Document that defines all system features, functions, nonfunctional requirements, and classes in order to convey the objectives of the software.

Appendix B: Analysis Models

#TODO

Appendix C: To Be Determined List

1. *Section 2.5 Design and Constraints: possible constraints to develop over time*
2. *Section 5 Other Requirements: legal and copyright constraints needed to be investigated regarding buying and reselling for e-books, more so than physical copy books.*