**Software Requirement**

**Specification**

# **for**

**Book Broker**

## ***Version 1.0***

## ***Prepared by***

## **B4 Dawn Development**

## **4.29.2020**

## 

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# **Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Gina Krynski, TaJah Reynolds | 04-29-20 | Initial Version | 1.0 |

# **Introduction**

1. **Purpose**
   1. **Vision Statement**

The goal of this project is to create a catalog of books that can be viewed and manipulated by users so that they can keep track of the books they have read and want to read. Many people will be able to use this to share their opinions on books and find other books that are recommended to them by the software.

* 1. **Scope**

The scope of this project includes the development of a database to store user, administration, and book data for the catalog as well as Driver, Book, BookList, Catalog, User, Admin and Login classes written in Java.

1. **Document Conventions**

This document follows the MLA Format. The bold-faced text has been used to emphasize section and sub-section headings. Highlighting is used to point out words in the glossary and italicized text is used to label and recognize diagrams.

1. **Intended Audience and Reading Suggestions**

This document is to be read by the B4 Dawn Development team, which includes the project manager, technical manager, developers, and testers. Our client and stakeholders may review the document to learn about the project and understand the requirements

1. **Project Scope**

The Book Broker has features that enable any one person to find books they are or may be interested in reading in the catalog and allows them to organize these books on a personal list to keep track of books they have or want to read. It also allows users to communicate their opinions of a specific book with other users and makes it easier for users to find books that are well-liked or rated.

1. **References**

Please refer to CSE201 Client Project shared drive to access the Use Case Diagram, Statechart Diagram, Sequence Diagram, and Class Diagram for further information regarding this project and its scope.

# **2 Overall Description**

1. **Product Perspective**

The software being developed is for people to search and save books from a catalog as well as view others' feedback of a specific book. . Ideally, a user would access the the software through a web application that they would be required to log in to. Once a user is logged in, they will have full access to the book catalog and all of the different functionality available to that user type. There is no specifically designed hardware for this project, as users would be able to access it through the internet on their own devices.

1. **Product Features**

Book Broker contains the following key features:

1. Displays a catalog of books that can be searched, sorted, or filtered by a user. For example, a user can type search an author’s name and the system would display all books containing that author’s name. The user could then sort the books in alphabetical order or filter the books to find those published in a certain year.
2. Saves books to a personal list that only the user can view. For example, if a user finds a book in the catalog that they want to read in the future, they can ‘save’ the book. This would add the book to their personal list, giving them easy access to it in the future.
3. Accepts requests to add a specific book to the catalog from a user. The request form is filled out by a user, then is reviewed by a system administrator. The admin will have the ability to accept the request and add the book to the catalog or decline the request.
4. Allows users to provide comments or rate a specific book that other users can view. For example, after a user selects a book from the catalog, they would have the option to type a comment to post or rate the book out of 5
5. Provides books that the user might like based on the authors and genres that the user has saved to their personal lists.
6. Allows users to mark books as read. For example, a user can search a book on the catalog and mark it as read, they can also mark a book in their personal list as read.
7. **User Classes and Characteristics**
   1. **Customers:**

For this project, customer refers to a user that is not a system administrator. The customers most frequently use the software to view and search the catalog as well as saving books to their personal list. The customers are not expected to have a high educational level or technical expertise beyond basic internet usage.

* 1. **Admin:**

An admin refers to a system administrator. Admins have special access to the catalog and are allowed to add or remove books from the catalog. They handle all book request forms from the customers and have final say on whether the request will be granted or not. The admin is expected to have knowledge in areas of computer science and software engineering so that they can successfully manage the software.

1. **Operating Environment**
2. **Design and Implementation Constraints**
3. **User Documentation**

User documentation will consist of a Frequently Asked Questions (FAQs) document that will contain questions that users are likely to ask as well as answers to those questions.

1. **Assumptions and Dependencies**

It is assumed that both the customers and the admins will have their own devices with which they can access the internet.

# **3 System Features**

1. **Use case name and identifier - Login (U1)**
   1. **Objective** - The purpose of the U1 use case is to allow the users to login to the system using an email/username and password that allows them to access their account.
   2. **Priority** - This requirement is high priority.
   3. **Source** - The source of this use case is a stakeholder (Viji) project requirement.
   4. **Actors** - A user or admin
   5. **Flow of events**
      1. **Basic Flow**
         1. User types in their email address.
         2. User types in their password.
         3. User presses enter key.
         4. User is allowed access to their account.
      2. **Alternative Flow** - Not applicable
      3. **Exception Flow - At step 3.1.5.1.4 the system encounters a problem**
         1. The System provides an error message indicating the email and/or user name is invalid.
         2. The user can either reenter their email and password correctly or leave the login page.
   6. **Includes** - Typing in user email and password, checking data in the database.
   7. **Requirements -** 
      1. The system shall receive text input from the user.
      2. The system shall check the input to the database.
      3. The system shall allow the user access to their account if the input matches the database.
      4. The system shall display an error message if the input does not match the database.
   8. **Preconditions -** Users must navigate to the Book Broker Login page.
   9. **Post Condition -** The user has been allowed access to their account and is able to view the catalog.
   10. **Nonfunctional Requirements**
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements** - Users are only allowed access to an account if they provide the correct email-password pair.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements** - None
2. **Use case name and identifier - Display catalog (U2)**
   1. **Objective -** A user will be able to view the catalog of books. The user will be able to see the title, author, date published, and the publisher of the book as well as ratings and comments provided by other users.
   2. **Priority -** This requirement is a high priority
   3. **Source -** The source of this use case is a stakeholder (Viji) project requirement.
   4. **Actors -** A user or admin.
   5. **Flow of Events**
      1. **Basic Flow**
         1. User logs in to the system
         2. System displays the catalog on the users screen.
         3. User scrolls down/up in the catalog to view the different books
         4. User clicks on a specific book to expand the information displayed
      2. **Alternative flow - Not Applicable**
      3. **Exception flow - Not Applicable**
   6. **Includes -** None
   7. **Requirements -** 
      1. The system shall display the catalog listing all of the books
      2. The system shall display the information of a specific book that the user selects
   8. **Preconditions -**  The user or admin is logged in.
   9. **Post conditions -** The catalog has been displayed on the users screen and shows the desired book information.
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  The database holding the book information needs to frequently updated by admins in order to display books that have been requested by users
3. **Use case name and identifier - Search for books(U3)**
   1. **Objective -** A user will be able to search for a specific book, author, publisher, etc in the catalog and will be able to view all results matching the search.
   2. **Priority -** This requirement is high priority
   3. **Source -** The source of this use case is a stakeholder (Viji) project requirement.
   4. **Actors -** Users and Admin
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user types a book title, author, publisher, etc into the search bar.
         2. The user clicks the enter button
         3. The system compares the user’s search to the book information in the catalog
         4. The system displays all of the books that match the user’s search
         5. The user selects a specific book to view more information on
      2. **Alternative Flow - After step 3.3.5.1.4, the user does not have to select a book in from the search results**
         1. The user searches a different book title, author, publisher, etc.
         2. The system displays the results from the new search query.
      3. **Exception Flow - At step 3.3.4.1.3, the system does not find any book in the catalog that matches the users search query**
         1. The screen displays a message saying “No results found”
         2. The user makes a different search.
   6. **Includes -** Typing text into the search bar, comparing to the catalog database, displaying results.
   7. **Requirements -** 
      1. The system shall compare the searched term to all book titles, author names, publisher names, and other relevant records in the catalog database.
      2. The system shall display the result of the search on the users screen
   8. **Preconditions -**  The user or admin is logged in and is viewing the catalog.
   9. **Post conditions -** The results of the search are displayed on the users screen
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  None.
4. **Use case name and identifier - Sort catalog (U4)**
   1. **Objective -** A user will be able to sorts the results of the catalog alphabetically by title, author, or publisher and by date published.
   2. **Priority -** This requirement is high priority
   3. **Source -** The source of this use case is a stakeholder (Viji) project requirement.
   4. **Actors -** Users and Admin
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user selects the option to sort the catalog in alphabetical order by title.
         2. The system displays the new view of the catalog that has the books sorted in order by title.
         3. The user selects the specific book to view more information on.
      2. **Alternative Flow - At step 3.4.5.1.3, the user does not have to select a book in from the sorted catalog**
         1. The user selects a different option to sort the catalog by.
         2. The system displays the new view of the catalog.
      3. **Exception Flow - Not applicable**
   6. **Includes -** Selecting a pre existing option to sort the list by.
   7. **Requirements -** 
      1. The system shall display the sort options that the user is allowed to select
      2. The system shall sort the books in the catalog in the order that is selected by the user
   8. **Preconditions -**  The user or admin is logged in and viewing the catalog
   9. **Post conditions -** The results of the sort are displayed on the users screen.
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  None.
5. **Use case name and identifier - Filter catalog (U5)**
   1. **Objective -** A user will be able to filter the books in the catalog by genre, author, publisher, etc.
   2. **Priority -** This requirement is high priority
   3. **Source -** The source of this use case is a stakeholder (Viji) project requirement.
   4. **Actors -** Users and Admin
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user selects the option to filter the books by the science fiction genre.
         2. The system only displays the books in the catalog that are considered science fiction
         3. The user selects a specific book to view more information on
      2. **Alternative Flow - After step 3.5.5.1.3, the user does not have to select a book in from the search results**
         1. The user filters the catalog by a different option..
         2. The system displays the new filtered catalog results..
      3. **Exception Flow - Not Applicable**
   6. **Includes -** Selecting a filter option to filter the catalog by
   7. **Requirements -** 
      1. The system shall display the filter options on the users screen
      2. The system shall display the result of filtered catalog on the users screen
   8. **Preconditions -**  The user or admin is logged in and is viewing the catalog
   9. **Post conditions -** The filtered results are displayed on the users screen
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  None.
6. **Use case name and identifier - Save book to personal list(U6)**
   1. **Objective -** The user will be able to select books from the catalog to add to a personal subset that only they can view. The user will be able to view all of the books they have selected for their personal list on a page separate from the regular catalog.
   2. **Priority -** This requirement is medium priority
   3. **Source -** The source of this use case is a client requirement.
   4. **Actors -** Users
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user selects a book from the catalog.
         2. The system displays the book’s information.
         3. The user selects the option to save the book to their personal list.
         4. The system displays a confirmation that the book has been saved.
      2. **Alternative Flow - After step 3.6.5.1.3, the user decides they do not want to add the book to their personal list**
         1. The user toggles the option to unsave the book from their personal list.
         2. The system displays a confirmation that the book has been unsaved.
      3. **Exception Flow - Not Applicable**
   6. **Includes -** None.
   7. **Requirements -** 
      1. The system shall display the option to save the book to the users personal list
      2. If already saved, the system displays the option to unsave the book
      3. The system shall remove unsaved books from the personal list.
   8. **Preconditions -**  The user has selected a book from the catalog
   9. **Post conditions -** The book information page is displayed
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** Only the logged in user can save a book to their own personal list, and not to other’s personal lists.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  None.
7. **Use case name and identifier - request adding books (form) (U7)**
   1. **Objective -** The user will be able to fill out a form to request to add a book to the catalogue. This form will include author information, the title, genre, an optional summary, and an optional file upload for an image of the cover of the book.
   2. **Priority -** This requirement is medium priority
   3. **Source -** The source of this use case is a client requirement.
   4. **Actors -** Users
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user is viewing the catalog
         2. The system displays the option to fill out a book request form
         3. The user selects the option to fill out a book request form
         4. The system displays the book request form.
         5. The user types in the author name, title, genre, and an optional summary.
         6. The user presses send on the form
         7. The system displays a confirmation that the request has been sent
         8. The user is brought back to the catalog view.
      2. **Alternative Flow - After step 3.7.5.1.2, the user decides they do not want to request a book.**
         1. The user selects the option to cancel the request
         2. The system displays a confirmation that the request has been cancelled
         3. The system displays the catalog view.
      3. **Exception Flow - Not Applicable**
   6. **Includes -** Typing in text to fill out the form.
   7. **Requirements -** 
      1. The system shall display the option to request a book from the catalog view display
   8. **Preconditions -**  The user is viewing the catalog
   9. **Post conditions -** The system displays the catalog
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  None.
8. **Use case name and identifier - Comment on books (U8)**
   1. **Objective -** The user will be able leave comments to describe their thoughts on the book’s information page
   2. **Priority -** This requirement is low priority
   3. **Source -** The source of this use case is a client requirement.
   4. **Actors -** Users
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user is viewing a book’s information page
         2. The user types in a comment in the comments section
         3. The user selects the ‘post’ button to post the comment to the page
         4. The system displays the user’s comment in the comments section
      2. **Alternative Flow - At step 3.8.5.1.3, the user decides they do not want to post their comment**
         1. The user selects the option to cancel the comment.
         2. The system displays the book’s information page.
      3. **Exception Flow - Not Applicable**
   6. **Includes -** Typing in text.
   7. **Requirements -** 
      1. The system shall display the option to post a comment
      2. The system shall display the option to cancel a comment before it is posted.
   8. **Preconditions -**  The user is viewing a book’s information page
   9. **Post conditions -** The system displays the book’s information page
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  Administrators will have to monitor the comments to ensure that nothing inappropriate is posted by a user.
9. **Use case name and identifier - Rate books (U9)**
   1. **Objective -** The user will be able to rate a book out of five stars. The system will display the average rating each book has on the book’s information page.
   2. **Priority -** This requirement is low priority
   3. **Source -** The source of this use case is a client requirement.
   4. **Actors -** Users
   5. **Flow of Events -** 
      1. **Basic Flow -**
         1. The user is viewing a book’s information page
         2. The system displays the rating that the book is given as an average of what other user’s have rated it.
         3. The user selects the option to rate the book.
         4. The user rates the book out of five stars
         5. The system displays the new rating for the book with the user’s rate factored into the average.
      2. **Alternative Flow - Not Applicable**
      3. **Exception Flow - Not Applicable**
   6. **Includes -** selecting a star rating, 1-5
   7. **Requirements -** 
      1. The system shall display the average rating for the book
      2. The system shall display the option to rate the book to the user
   8. **Preconditions -**  The user is viewing a book’s information page
   9. **Post conditions -** The system displays the book’s information page with the new rating for the book.
   10. **Nonfunctional Requirements -** 
       1. **Performance Requirements -** None.
       2. **Safety Requirements -** None.
       3. **Security Requirements -** None.
       4. **Software Quality Requirements -** None.
   11. **Notes/Issues -** None
   12. **Special Requirements -**  None.
10. **Use case name and identifier - Mark books (Want to read) (U10)**
11. **Objective -** The user will also then be able to mark books on their wishlist that they have read and completed.
12. **Priority -** This requirement is low priority
13. **Source -** The source of this use case is a client requirement.
14. **Actors -** Users
15. **Flow of Events -** 
    1. **Basic Flow -**
       1. The user is viewing a book’s information
       2. The user toggles the option to “mark” the book as read
       3. The system displays the book as “read”
    2. **Alternative Flow - At step 3.10.5.1.3, the user decides they want to unmark the book**
       1. The user toggles the option to unmark the book
       2. The system displays the book as unread
    3. **Exception Flow - Not Applicable**
16. **Includes -** Typing in text.
17. **Requirements -** 
    1. The system shall display the toggle option
18. **Preconditions -**  The user is viewing a book’s information page
19. **Post conditions -** The system displays the book’s information page
20. **Nonfunctional Requirements -** 
    1. **Performance Requirements -** None.
    2. **Safety Requirements -** None.
    3. **Security Requirements -** None.
    4. **Software Quality Requirements -** None.
21. **Notes/Issues -** None
22. **Special Requirements -**  Administrators will have to monitor the comments to ensure that nothing inappropriate is posted by a user.

# **4 External Interface Requirements**

**4.1 User Interface**

The Book Broker Catalog App has been specifically designed with efficiency in mind, giving customers a streamlined platform to search for and track their favorite books. The Book Broker Catalog App makes sure at every point, that customer can do exactly what they want to do without guessing to figure it out.

The home screen offers a menu with a list of functions that the Catalog App can perform. Searching, sorting, and filtering the catalog are available to all users, registered and anonymous, but the personal bookshelf and book request from are only available to those who log in. The user can select any of the options on the screen, and is taken to the respective screen. A “close” button is provided on these pages for the user to return to the home screen menu.

**4.2 Hardware Interfaces -Not applicable**

**4.3 Software Interfaces**

The Book Broker Catalog App software runs on Windows 10 operating system. The Catalog app contains a built-in book database containing title, author, genre, and dates published. The database can be updated with additional books by requesting them via from, and being approved by an administrator.

**4.4 Communications Interfaces - Not applicable**

**5 Other Nonfunctional Requirements**

For other information regarding non functional requirements, refer to section 3: System Features. Each feature has its requirements listed alongside the feature information. Also refer to the Use Case Diagram that is attached at the end of this document. There are no additional Non Functional requirements.

# **6 Other Requirements**

For other information regarding non functional requirements, refer to section 3: System Features. Each feature has its requirements listed alongside the feature information. Also refer to the Use Case Diagram that is attached at the end of this document. There are no additional Non Functional requirements.

# **7 System Requirements Chart**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID** | **Priority** | **Type**  **F = Functional**  **NF= Non Functional** | **Source** | **Used in**  **Use Case(s)** | **Description** |
| 3.1.7.1 | high | F | Viji | (U1) | The system shall receive login information input from the user. |
| 3.1.7.2 | high | F | Viji | (U1) | The system shall check user login information input to the database |
| 3.1.7.3 | high | F | Viji | (U1) | The system shall check user input to the database |
| 3.1.7.3 | high | F | Viji | (U1) | The system shall display an error message if the input does not match the database |
| 3.2.7.1 | high | F | Viji | (U2) | The system shall display the catalog listing all of the books |
| 3.2.7.2 | high | F | Viji | (U2) | The system shall display the information for the book that the user selects |
| 3.3.7.1 | high | F | Viji | (U3) | The system shall compare the searched term to all book titles, author names, publisher names, and other relevant records in the catalog database. |
| 3.3.7.2 | high | F | Viji | (U3) | The system shall display the results of the search |
| 3.4.7.1 | high | F | Viji | (U4) | The system shall display the sort options that the user is allowed to select |
| 3.4.7.1 | high | F | Viji | (U4) | The system shall sort the books in the catalog in the order that is selected by the user |
| 3.5.7.1 | high | F | Viji | (U5) | They system shall display the filter options on the users screen |
| 3.5.7.2 | high | F | Viji | (U5) | The system shall display the results of the filtered catalog |
| 3.6.7.1 | medium | F | Client | (U6) | The system shall display the option to save the book to the users personl list |
| 3.6.7.2 | medium | F | Client | (U6) | The system displays the option to unsave a previously saved book. |
| 3.6.7.3 | medium | F | Client | (U6) | The system shall remove unsaved books from the personal list |
| 3.7.7.1 | medium | F | Client | (U7) | They system shall display the option to request a book from the catalog view display |
| 3.8.7.1 | low | F | Client | (U8) | The system shall display the option to post a comment |
| 3.8.7.2 | low | F | Client | (U8) | The system shall display the option to cancel a comment before it is posted |
| 3.9.7.1 | low | F | Client | (U9) | The system shall display the average rating for the book |
| 3.9.7.2 | low | F | Client | (U9) | The system shall display the option to rate the book |
| 3.10.7.1 | low | F | Client | (U10) | The system shall display the mark toggle option |

# **8. Use Case Diagram**