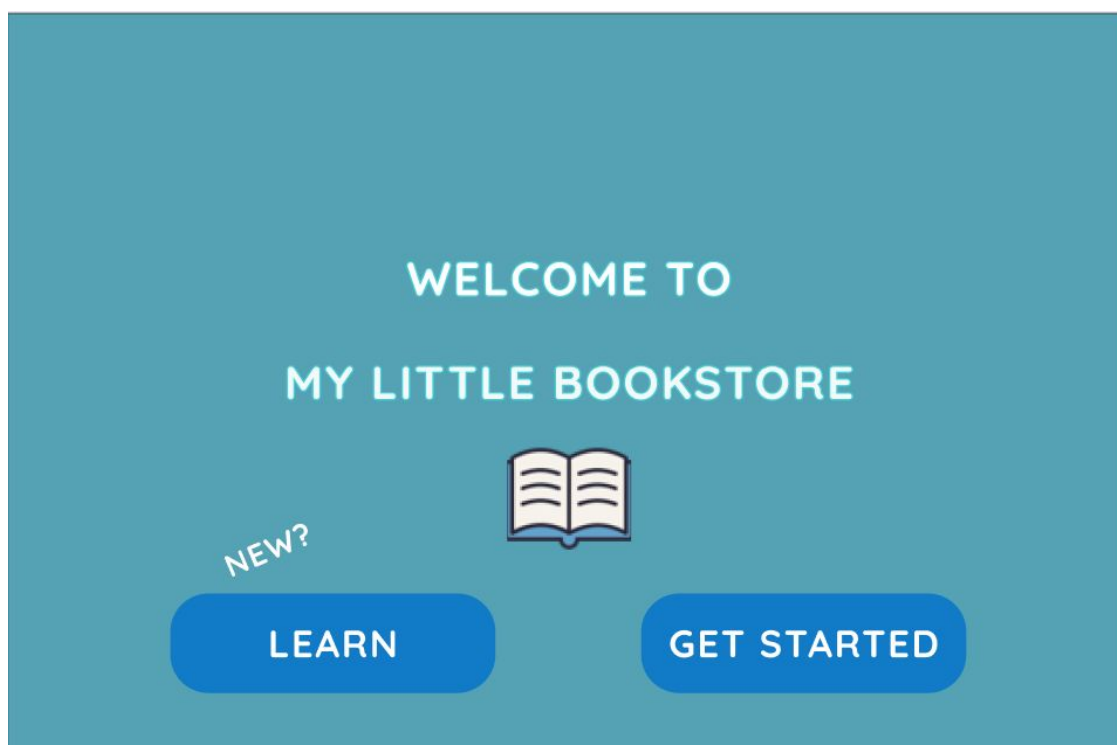


My Little Bookstore

Software Requirements Specification



Team Traders

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1. Introduction

1.1 Product description

People like to read books for personal growth, learning, and pleasure. For people who love books, it is always a great joy to buy books and create a collection of favorite books. However, it is not easy to determine whether this book is a perfect fit unless you read the whole book. These books that are bought but do not belong to are nothing but a problem since they collect dust while taking space. Simply throwing them out as trash can be an option, but it is heart-breaking since you are a book lover, and after all, the book might work out for someone else. If you knew someone interested in the book, you might gladly hand it over, but it is unlikely to find that person among your friends.

As a solution, our team suggests “My Little Bookstore,” a web application that aims to create a community by uploading the books they would like to sell and handing them over in person. People will also be able to view information about books provided by other users to help make the right choice. Our customers include anyone who loves or cares about books and those looking for specific second-hand books. We want to provide a variety of services to support their reading experience.

Our software will provide a bookstore function for individuals, which will let the user list all the books they would like to give to others with the price they are willing to sell. Users can upload their books by either searching the ISBN of the book from our database or manually typing in the relevant information. Other people will be able to view the user’s bookstore and decide whether they want the book or not, based on the price and reviews provided. If people decide they want the book, they can send a request to the bookstore owner to schedule an in-person meeting.

Our software also supports the book review function, letting the users post reviews about each book and discuss it. This function is crucial for both users who are selling the book and buying the book. While sellers provide reviews so that people who really need the book can get it, buyers will gain information about the book to make the right decision. Reviews will be provided on the “Individual Book” page, prioritizing the owner’s review on top and providing others’ reviews as well. We expect that this function will make book trading more efficient while letting people freely share and discuss their thoughts.

In conclusion, we would like to create a place where book lovers can feel safe that all books find a proper owner. They will have a place not only to sell books but also to share knowledge gained, ultimately fostering the joy of reading. We hope that “My Little Bookstore”

will create a flow of books via the trade of used books and knowledge sharing so that anyone who loves books can efficiently enjoy the benefit of reading.

1.2 Scope

In addition to encouraging the trade of books, our web application will form a community in which people can share their book experiences. Not limited to book lovers who often read and own lots of books, people who are merely looking for second-hand books will find our application helpful.

As most people are familiar with selling platforms, our application sets a very low entry barrier. Also, configured to be used with any book genre, “My Little Bookstore” will accommodate users with diverse fields of interest and thus is considerably generalizable. Users will be able to access our applications’ functionalities, regardless of their specialties or prior knowledge. Although our application supports bookselling, it will not support an online payment system. All financial transactions will be left to the users’ hands, out of the application’s scope.

My Little Bookstore follows a responsive web design, which automatically adjusts the scaling of the webpage’s layouts based on a hardware device’s screen size. Thus, the application will run on any device that supports web browsing; users will be able to access every function of the application via PC, mobile phones, tablets, etc.

1.3 Users

Users of “My Little Bookstore” can be divided into two groups: those who love books and those looking for specific second-hand books. Both groups’ age will be over nineteen, presuming that they have their own books that they can sell or have enough money to purchase. Inferring from this age, the general education level of users will be high school graduation.

Our formal users, book lovers, are interested in selling books they no longer need and enjoy discussing thoughts gained from books. Since they like books and frequently read them, the knowledge level of this group will be higher than the general population. Also, they will be familiar with all the terms related to books, such as ISBN. They also care about the conditions of second-hand books, along with detailed information about the book, such as publisher and translator.

Other groups of users are the ones looking for cheap second-hand books. They might be less familiar with the terms related to books and care less about the detailed information. They

tend to look for exact books or search for specific categories in their interests. They have less interest in reading reviews and might tend to look for cheaper books instead of looking at the book's condition.

1.4 User feedback

For our product, user feedback will be most useful for determining the priority of functionalities, since it will help determine design decisions while making sure we are developing a useful product. We have received some feedback by interviewing a few book lovers and are planning to conduct surveys and interviews after front-end development to determine required changes in functionalities.

Some potential users have asked to support eBooks since they are getting popular these days, so our team decided to include the eBook uploading functionality. However, only the ones that are copyright-free will be allowed to upload due to legal issues. Hence, we will not allow users to price eBooks since they are free.

One another issue brought up by the interviewees was the need of verification for writing reviews. Since some people might write fake reviews without reading the book to prejudice books, there should be some ways to check whether the one who wrote the review has actually read it. From this feedback, we learned that book lovers not only care about the number of reviews, but also the quality of them and how reliable they are. Our team should figure out ways to support the quality of book information along with user reviews.

1.5 Existing alternatives

1.5.1 Aladin Second-Hand Bookstore

“Aladin” is the biggest second-hand bookstore in South Korea, which is available both online and offline. One of the most significant merits of this existing alternative is that the seller doesn't have to wait for a buyer when selling directly to the store. The disadvantages of this option are that some books are not accepted and that their price is relatively low. Sellers can sell the books themselves, but it requires shipping, which creates a barrier to selling the books. We incorporated the idea of recommending books as well as the general concept of a bookstore such as “Aladin” itself, as it is one of the most popular bookstores.

1.5.2 Daangn Market

“Daangn Market” is one of the popular direct selling platforms in South Korea. It allows users to upload items they want to sell, and other users can view them based on their regions and contact the seller if they want to buy the item. This platform’s strength is that it is easy to upload and sell the products. The weaknesses of this application for book lovers are that it is too general to sell books and that it does not support any methods to add books easily. Furthermore, it does not provide sufficient information about the book. We followed the idea of direct selling and referred to some UI design from this application while adding specialty as a bookselling platform.

1.5.3 Buy My Book

“Buy My Book” is an application that lets users, mostly students, buy or sell academic books, including textbooks and study materials, along with non-academic books. Students can upload the books they have with the price of their choice, and other students near that person can buy those books or get them for free. This application has similar goals and functionalities with “My Little Bookstore” but has a narrower range of users since it only aims for students. By targeting the users as book lovers, we added review and discussion features, which are crucial for providing useful information.

1.6 Definitions

ISBN - International Standard Book Number (ISBN) is a numeric commercial book identifier that is intended to be unique.

1.7 References

Aladin - Provides examples of UI and concept of bookstores.

Daangn Market - Provides based functional ideas of direct selling platform.

Buy My Book - Provides similar concepts and interface for our product.

SaveBook - Provides design ideas for adding books and maintaining stores.

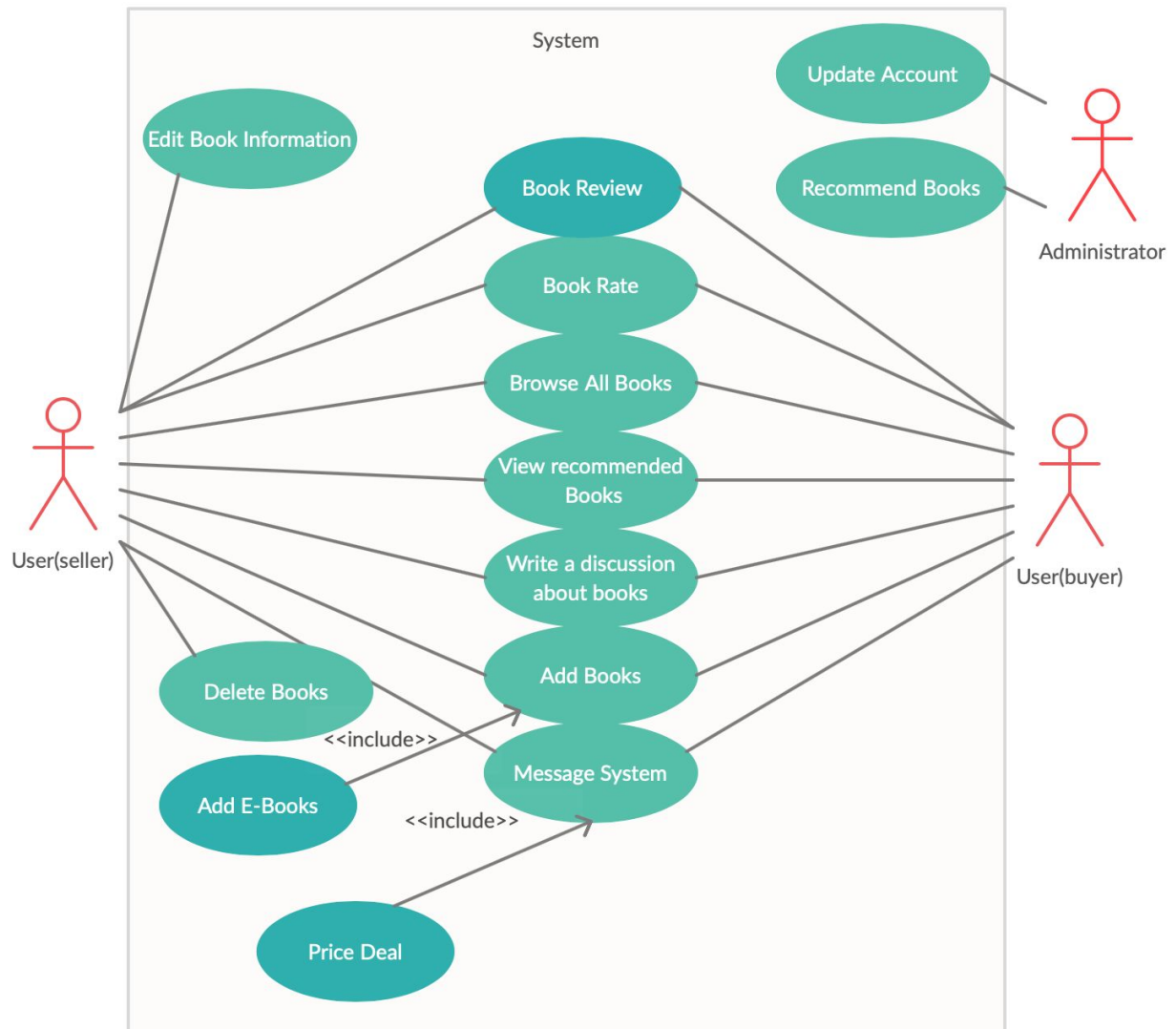
2. Requirements

2.1 Functional Requirements

- Sign Up (Authentication): Users can sign up for the system by providing personal information (including user location, book preference) and confirming to join. An empty bookstore will be created automatically with the default name “<User name>’s Bookstore.”
- Login/Logout: Registered users can log in to their account or log out from their account at any time.
- Edit profile: Users can edit their profile on the “Profile” page by entering new information. Users can update their location, preference, and contact information.
- Add Books To the Bookstore: Sellers can add books to their bookstores by clicking the “Add a Book” button, typing in the corresponding ISBN in the search box, and confirming the retrieved information. Instead of searching for the ISBN and retrieving corresponding data, sellers can manually type in the relevant information. Sellers also have to provide a price for the book that they are willing to sell.
- Add eBooks To the Bookstore: Sellers can also add eBooks to their bookstores by clicking the “Add a Book” button and providing the title and author along with the eBook file or a link to a document. Sellers can only add eBooks that are copyright-free and are not allowed to price them.
- Delete Books From the Bookstore: Sellers can delete books if they wish to remove them from their sales list. Such cases include the seller not willing to sell a book or the seller already having sold the book. Sellers can do this by clicking the trash bin icon next to the panel of the book.
- Edit Book Information: Sellers can edit book information by clicking the “Edit” button next to the book panel on the list from the “My Bookstore” page.
- Buy Books from Bookstore: Buyers can purchase a book from another bookstore by initially searching the title on the “Browse Books” page. After clicking the desired book, the buyer proceeds to the “Individual Book” page, in which he/she can send a request. By clicking the request button, the buyer will send a private message to the book owner.

- Browse all books: Users can browse all books uploaded by accessing the “Browse Books” page. Filtering those books by genre or the user’s location, as well as sorting by rating, price, or alphabetical order, is supported.
- View Recommended Books (by personal preferences/ user ratings): Users can view recommended books on the main page. Such recommendations are decided according to the user’s preferred genres and location, which can be initialized when signing up and can be edited on the “Profile” page. If users are not logged in or have not provided personal preferences, books with the highest user ratings will be shown.
- Rate books (Book rating system): Sellers can rate books by clicking the star icons next to the book panels they have on the “My Bookstore” page. Buyers can rate books on the “Individual Book” page by clicking the “Rate” button next to the star icons.
- Write reviews about the Book: Sellers can write reviews about each book by clicking the “Review” button next to the book panels on the “My Bookstore” page. Buyers can write reviews by initially proceeding to the “Individual Book” page and clicking the “Add Review” button.
- Read reviews about the Book: All users can read reviews about each book by accessing the “Individual Book”. If they want to read more about each review, they can click the “Read more” button to see a detailed review.
- Write a discussion about the Book: Users can participate in a discussion about a book by clicking on a discussion box on the “Discussions” page. Users can also start his/her own discussion by clicking the “Start A New Discussion” button. Users have to tag the book title when creating a new discussion.
- (Stretch Goal) Add books using Barcode: Users can add books to the “My Bookstore” page by capturing the barcode on the book, from which the system will automatically retrieve information.
- (Stretch Goal) Payment System: Users can pay for a book online by providing payment information.

2.2 Use Case Diagram



2.3 Use Cases

2.3.1 Add Books to the Bookstore Use Case

Use Case:	Add Books to the Bookstore
Primary Actor:	Seller

Priority:	Essential
Goal in Context:	The seller wishes to upload books to his/her bookstore page.
Preconditions:	The seller is viewing the 'My Bookstore' page.
Scenario:	<ol style="list-style-type: none"> 1. The seller clicks the 'Add a Book' below the list of books he/she had uploaded previously. 2. The seller views a modal with a search box. 3. The seller types in the ISBN number of the book he/she wishes to upload. 4. The seller clicks the 'Confirm' button
Extensions:	<p>2a. The seller clicks the 'Manual Entry' tab on the left of the modal.</p> <p>2a.1 The modal displays empty input boxes instead of a search box, and prompts the seller to type in relevant information, such as title and author.</p> <p>3a. The seller clicks the 'Upload E-Book' tab on the left of the modal.</p> <p>3a.1 The modal prompts the seller to upload a digital file.</p>
Postconditions:	The seller is viewing the updated list of books on the 'My Bookstore' page.

2.3.2 Delete Books from the Bookstore Use Case

Use Case:	Delete Books from the Bookstore
Primary Actor:	Seller

Priority:	Essential
Goal in Context:	The seller wishes to delete a book from his/her bookstore page.
Preconditions:	The seller is viewing the 'My Bookstore' page.
Scenario:	<ol style="list-style-type: none"> 1. The seller clicks the trash bin icon next to the book that he/she had uploaded before. 2. System asks the seller to confirm the deletion. 3. The seller clicks the 'Confirm' button
Postconditions:	The seller is viewing the updated list of books on the 'My Bookstore' page.

2.3.3 Edit Book's information Use Case

Use Case:	Edit Book's information
Primary Actor:	Seller
Priority:	Essential
Goal in Context:	The seller wishes to change the book information such as price, title, author and rate.
Preconditions:	The seller views the list of books he/she uploaded.
Scenario:	<ol style="list-style-type: none"> 1. The seller clicks the 'Edit' button next to the book panel. 2. The seller views a modal containing book information in the editable input boxes.

	<ol style="list-style-type: none"> 3. The seller clicks the price, title and rate input box on the modal and changes the book information. 4. The seller clicks the 'Save' button on the bottom of the modal.
Postconditions:	The seller views the list of books with updated information on the 'My Bookstore' page.

2.3.4 Buy a Book from Bookstore Use Case

Use Case:	Buy a Book from Bookstore
Primary Actor:	Buyer
Priority:	Essential
Goal in Context:	The buyer wishes to purchase a book from another user.
Preconditions:	The buyer clicks on a specific book which he/she wants to purchase and proceeds to the Book information page.
Scenario:	<ol style="list-style-type: none"> 1. Among the list of sellers, the buyer selects a person from whom he/she will purchase the book. 2. The buyer clicks the 'Contact Seller' button next to the seller on the list. 3. System displays a modal with an input text box, in which the buyer can type in a private message to the seller for purchasing the book. 4. The buyer clicks the 'Confirm' button to send the message.
Postconditions:	The buyer views the detailed information of the book and the list of sellers.

2.3.5 Browse All Books Use Case

Use Case:	Browse All Books
Primary Actor:	User
Priority:	Essential
Goal in Context:	The user wishes to view all the books on the website.
Preconditions:	The user is on the “Browse Books” page of the website.
Scenario:	1. The user views the list of all books that are currently uploaded by other users and sorted by alphabetical order.
Extension:	1a. The user can sort the books by rate and price. 1b. The user can filter the books by genre and location.
Postconditions:	The user is viewing the sorted list of books.

2.3.6 View Recommended Books Use Case

Use Case:	View Recommended Books
Primary Actor:	User
Priority:	Essential
Goal in Context:	The user wishes to view the recommended books.
Preconditions:	The user is on the main page

Scenario:	1. The user views the list of books that are filtered based on the user's preferred genre and location, both of which can be edited in the "Profile" page.
Postconditions:	The use remains on the main page.

2.3.7 Rate a book Use Case

Use Case:	Rate a book
Primary Actor:	Buyer
Priority:	Essential
Goal in Context:	The buyer wishes to rate a specific book.
Preconditions:	The buyer is viewing the 'Book Information' page.
Scenario:	<ol style="list-style-type: none"> 1. The buyer clicks a 'Rate' button next to the star icons. 2. The user views a modal with a selection box. 3. By clicking the selection box, the user can choose a rating option, ranging from one to five stars. 4. User clicks the 'Confirm' button to confirm.
Postconditions:	The user is viewing the updated 'Book Information' page.

2.3.8 Rate a book Use Case

Use Case:	Rate a book
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Primary Actor:	Seller
Priority:	Essential
Goal in Context:	The seller wishes to rate a specific book.
Preconditions:	The seller is viewing the 'Add a book' page.
Scenario:	1. By clicking the 'STAR' buttons, the user can choose a rating option, ranging from one to five.
Postconditions:	The user is viewing the updated 'My Bookstore' page.

2.3.9 Write a Book Review Use Case

Use Case:	Write a Book Review
Primary Actor:	User
Priority:	Essential
Goal in Context:	The user wishes to write a review about a specific book.
Preconditions:	The user is viewing the 'Book Information' page.
Scenario:	<ol style="list-style-type: none"> 1. The seller clicks the 'Write a Review'. 2. System displays a modal with an input text box, in which the seller can write a review. 3. The seller clicks the 'Confirm' button.
Extensions:	2a. The user can edit or delete his/her past review at any time.

Postconditions:	The user is viewing the updated list of reviews on the 'Book Information' page.
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2.3.10 Read a Book Review Use Case

Use Case:	Read a Book Review
Primary Actor:	User
Priority:	Essential
Goal in Context:	The user wishes to read a review about a specific book.
Preconditions:	The user is viewing the 'Book Information' page.
Scenario:	1. The user views a list of brief heads of reviews on the bottom-right of the page.
Extensions:	2. The user clicks a 'Read More' button next to a row of review he/she wants to read in detail.
Postconditions:	The user is viewing the list of reviews on the 'Book Information' page.

2.3.11 Write a discussion about a Book Use Case

Use Case:	Write a discussion about a Book
Primary Actor:	User
Priority:	Essential

Goal in Context:	The user wishes to discuss a book.
Preconditions:	The user is viewing a list of discussions on the “Discussions” page.
Scenario:	<ol style="list-style-type: none"> 1. The user clicks on a specific discussion he/she feels interested in. 2. The user proceeds to a new page with the ongoing discussion and an input text box at the bottom. 3. The user leaves a comment or any discussion in the box and clicks the ‘Comment’ button.
Extensions:	<p>1a. The user can either start a new discussion by clicking the “Start a Discussion” button or participate in a pre-existing discussion.</p> <p>1b. The user can filter the discussions by searching for a specific book in the search box.</p> <p>1c. The user can sort the discussions by number of likes, number of comments, or date.</p> <p>3a. The user can click the “edit” or “delete” buttons to edit or delete its comments any time.</p>
Postconditions:	The user is viewing an updated list of discussions on the “Discussion” page.

2.4 User Interface

Mockup and annotation is in the separate document, which is stated below. Annotations are written in red.

Figma Link for My Little Bookstore Mockup

<https://www.figma.com/file/qPVJyKKgHxhYV8p1VStulV/My-Little-Bookstore-Mockup?node-id=0%3A1>

2.5 Non-functional Requirements

2.5.1 Performance Requirements

Under both normal and peak workload conditions, the application does not generate any substantial delays in users' tasks. At least 90% of tasks that involve database modification, such as creating a library or uploading a book, shall be processed in less than 3s, regardless of the hardware used; those that generate a delay of over 10s will be automatically terminated, prompting a user to reload the page. Other tasks that do not involve database modification, such as login and browsing books or libraries, shall be processed in less than 1s. The application supports more than 1,000 terminals simultaneously.

2.5.2 Reliability

The web application should work reliably in terms of recovery. The application should handle an unexpected termination of a session and allow users to continue with the previous tasks through automatic backup. Furthermore, countermeasures for primary database crash, corruption, or loss are achieved through daily database backups.

2.5.3 Availability

Our application is available to users seven days a week, 24 hours a day, except for the maintenance period. In cases of system failures, which may result from an overload of access, users receive a notification regarding the failure and its causes. Subsequently, users are asked to reload or re-enter the website. The recovery time varies depending on the severity of the failure.

2.5.4 Security

Utilizing GraphQL as the database query language, our application may expose vulnerabilities against attacks like deeply nested queries, leading to network quality disruption. The system will incorporate appropriate protection techniques, such as depth limiting, to respond to such threats.

To prevent unauthorized access, it is also necessary to have a set of security measures, such as a complexity requirement for passwords, a restriction on the number of login trials, and automatic logout. A user session that has been idle for a certain amount of time will be automatically terminated.

2.5.5 Maintainability

Consistency of the source codes that build up our web application is crucial for the ease of maintenance, as it ensures a uniform environment for possible administrators or developers. Modular programming approaches and appropriate uses of interfaces also allow the ease of maintenance by reducing the source codes' complexity.

2.5.6 Legal

All the private information users supply should be protected. When a user creates an account, his/her private information, including email address, phone number, and address, is collected. Such information is guaranteed not to be distributed to a third party for commercial benefit. Prior to signing up, users must agree to the collection and use of his/her personal information.

Ebooks uploaded by users should be copyright-free; unauthorized ebooks will be filtered out during the upload, using the Google Books API.

2.5.7 Usability

To aid new users in becoming acquainted with our functionalities, our platform introduces a help-guide with visual materials, downloadable in a section of our web application. Furthermore, by giving an intuitive interface and rich iconography, the application can further help users interact with our platform.

2.5.8 Operating constraints

Since our application runs on a web platform, it requires internet connection and web browser software, including Google Chrome, Safari, Firefox, etc.

3. Contributions

Jongsun Park: Mainly worked on the use case diagram, Use cases and overall revising.

Daye Eun: Mainly worked on writing introduction part of Software Requirements Specification. Designed the “Individual Book” page and “Login” page for the mockup.

Donghun Kim: Mainly worked on use cases, user interface in Figma, and non-functional requirements.

Hyeon Joon Lee: Mainly worked on creating the mockup user interfaces, use cases, and non-functional requirements.