Software Requirements Specification Document Version 1

Book Master

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Project General Description:

This is an interactive application that allows people to buy books of a specific topic or genre. The goal of this application is to give an easy resource to get books without having to physically go to the library to figure out which book they would like to read.Users are able to browse and find books that are of interest to them and buy them as well at a certain quantity. Users are also able to sell any kind of book by giving them their own profile and setting them up in our interactive marketplace. This application has a variety of well written books that can aid the needs of a reader.

Product features:

Reader Profile: The reader will be able to make their own customer profile that allows them to put the genres they like to read. They will be able to put information about themselves and say who they are so they can be matched with a variety of books ranging from Scientific education books to romance novels. The profile will also allow them to list books they have read in the past so the website can get an idea of other books that fall in the same category that they can be matched with.

Book Profile: Book vendors are able to make their own profile and profiles for the books they sell. These profiles include information about the book such as the year it was published, the description, and what genre the book falls in. Books also have a specific price that it can be sold at and the buyer is able to buy a book at any quantity.

Book matcher: The app provides a book matching feature like never before that allows the user to be matched with a book with the click of a button. They are matched with this book based on information they put in their profile such as the genres they are into, the jobs, and even down to the languages they speak. The software interacts with there profile trying examine their information to find the perfect books that matches their personality or what they are looking for specifically.

Seller Profile: Sellers can make profiles putting in information on the books they sell. Sellers are able to set up a profile and establish a complete inventory of books they would like to put on the market. If they have multiple copies of the same book they are able to indicate the amount of each book they have.

Interactive Book Market: The application has an interactive book market installed that has all the possible genres users could read. The minute you load onto the screen you are met with books that are recommended to you based on the interest and information you put in your profile. If users still don't find themselves satisfied with the books they are met with they are able to search the search bar for books using the title or inputting a keyword.

Seller Subscription feature: If the user constantly finds themselves buying from the same book seller they are able to subscribe to get deals for books being sold by the seller. This also gives the seller the ability to make money when they gain subscribers.

Use Cases:

- **Customer Use Cases:** Laquan Crawford

  Create/modify customer profile: The app will allow the user(customer) to create an account to view, subscribe, and write reviews on services.

  View available services: View pricing and description that the user intends to purchase.

  Subscribe to available services: After the user has figured out what book service best fits what he/she likes he will then use this function to subscribe to the sellers service if it is available.

  Write review: After the user has experienced the services he will be free to write a review on his experience positive or negative.

- **Provider Use Cases**: Lucas Walton

  Creating book seller - (Create/modify/withdraw provider profile): This allows a book seller to make a profile containing information about them and the books they sell.

  Post books on market (Create services): This use-case allows a seller to post a new book that they wish to sell on the open book marketplace

  View book sales (View customer statistics): This use case allows users to see statistics on the books they sell/sold in a span of time, how many subscribers they have, and how much money they earn from books.

  Reply to book reviews (Reply to review): This use case lets the seller see the reviews on the books they sell and allows them to reply to reviews if necessary.

- **SysAdmin Use Cases**: Grume Fikre

  Manage user access: The admin can oversee user accounts, including customers and book providers. If a customer repeatedly posts inappropriate reviews or violates guidelines, the admin can suspend or ban their account. Similarly, providers with consistently poor reviews or violations of terms may be restricted or removed from the system.

  Moderate services: The admin can review book listings to ensure they meet the platform's quality and content guidelines. If a book listing contains false information, offensive material, or violates policies, the admin can remove or modify it.

  Moderate reviews: The admin can view all customer reviews and provider replies. If a review contains offensive language, false claims, or spam, the admin can delete it to maintain a fair and respectful platform.

  View usage statistics: The admin can access reports on user activity, popular books, sales trends, and engagement metrics. This helps in monitoring platform performance and making informed decisions for improvements.

Functional Requirements:

Customer Functional Requirements: Laquan Crawford

- App allows customer to create a profile
  - Enter first & last name. (String) firstName, lastName
  - Enter a unique username. (String) userName
  - Enter a password. (String) password
  - Optional picture upload. (img src)
  - Ask what type of genre interests you. ArrayList genre<String>
- App allows customer to purchase books
  - Users can view the price. (double) bookPrice
  - Users must enter their email and password before making a purchase. (String) email, password
  - Users can choose multiple books to purchase. (int) quantity
- App allows customer to subscribe to a seller's subscription
  - Users can view prices. (double) subPrice
  - Users must enter their email and password before making a purchase. (String) email, password
  - Alter the frequency which is monthly and yearly. (int/String) int frequency, string frequency
  - Users can purchase sellers' subscriptions. (double) subPrice
- Payment process
  - Enter cc number. (int) cardNum
  - User is emailed a receipt. (string) receipt
  - Refund policy. (String) policy
- Allows customer to search for books
  - Allows users to search for a specific book. (String) search
  - Allows users to use a filter through genre, year, author, etc. (String) filter

- Customers can write reviews on books and sellers subscription
  - Write the review. (String)
  - Upload an img. (img src)
  - Rating service (1-5) stars. (int) rating
  - Show or display user information. (boolean) showUser
  - View the policy/terms & conditions

Provider Functional Requirements: Lucas Walton

- App allows Sellers to create a seller profile
  - String firstName

- String lastName
- String userName
- String password
- String dob(date of birth)
- String email
- Int phoneNumber
- App allows Sellers to modify their profile
    - String userName
    - String password
- App allows Sellers to post books on market
    - String userName
    - String password
    - Int bankId
    - Int bankAcctNum(bank account number)
- App allows users to create a book profile containing the description, cost, and how much of the book is left.
    - String bookName
    - String description
    - Int bookId
    - String datePub(date published)
    - String genre
    - String author
- App allows sellers to give the option to subscribe to user who like their book content.
    - Int priceOfSub(price of subscription)
    - String typeOfSub(type of subscription)
    - Int monthDuration(how long subscription is for in months)

- App allows sellers to view their book sales statistics.
    - Double moneyMade
    - Int bookSold
    - Int subscribers

System admin Functional Requirements : Grume Fikre

1. User Access Management

- String userID – Unique identifier for each user
- String username – The user's login name
- String passwordHash – Encrypted password for security
- String email – Email associated with the account
- boolean isBanned – Flag to indicate if a user is banned
- Date lastLogin – Timestamp of the user's last login
- List<String> userRoles – Roles assigned to a user (e.g., "Customer," "Provider")
- String banReason – Reason for banning a user

2. Service Moderation

- String serviceID – Unique identifier for each service listing
- String providerID – ID of the provider who created the service
- String serviceTitle – Name of the service
- String serviceDescription – Details about the service
- List<String> serviceImages – URLs of images associated with the service
- boolean isApproved – Flag to indicate if a service is approved or removed
- String removalReason – Reason for removing a service

3. Review Moderation

- String reviewID – Unique identifier for each review
- String reviewerID – ID of the customer who wrote the review
- String providerID – ID of the provider being reviewed
- int rating – Star rating (1-5)
- String reviewText – The actual review content
- boolean isFlagged – Indicates if a review has been reported
- String moderationAction – Action taken (e.g., "Deleted," "Approved")

4. Usage Monitoring & Statistics

- int totalUsers – Total number of registered users
- int activeUsers – Number of users active in a given timeframe
- int totalServices – Number of active service listings
- int flaggedServices – Count of services flagged for review
- int flaggedReviews – Count of reviews flagged for moderation
- Map<String, Integer> topCategories – Most popular service categories and their counts
- double avgUserSessionTime – Average time users spend on the platform

Non - Functional Requirements

Customer Non - Functional Requirements: Laquan Crawford

Performance

- The website should load within 3 seconds under normal network conditions.
- The search functionality should return results within 2 seconds.
- Payment processing should complete within 5 seconds.

Security & Usability

- User passwords must be encrypted and stored securely
- Data encryption should be used for sensitive transactions.
- The website should be user-friendly and intuitive for all age groups.
- The UI should support dark and light mode preferences.

Scalability & Compatibility

- The system should be able to handle at least 1000 concurrent users.
- The database should be optimized to support an increasing number of books and customer profiles without performance degradation.
- The website should be compatible with all modern web browsers (Chrome, Firefox, Safari, Edge, Opera).
- It should be mobile-responsive and function seamlessly on smartphones and tablets

Provider Non- Functional Requirements: Lucas Walton

1. Performance & Availability
   - User will be able to access seller page and see books in no more than 5 seconds
2. Usability & Reporting
   - User will be able to constantly see how much there is left in stock for a particular book
3. Purchasing & Product Attainability.
   - Users will be able to obtain progress on book purchase and how long it will take to obtain it.

System Admin Non-Functional Requirements: Grume Fikre

Non-Functional Requirements

1. Security & Access Control
   - Implement role-based access control (RBAC) to ensure only authorized admins can perform actions.
   - Maintain audit logs of all administrative actions for at least 12 months.
2. Performance & Availability
   - Ensure 99.5% uptime for admin functionalities.
   - Actions like banning users or removing reviews should reflect in the system within 2 seconds.
3. Usability & Reporting
   - The admin dashboard should allow actions to be completed in three clicks or less.
   - Reports should be generated within 5 seconds to aid decision-making.

Scenarios:

Customer: Laquan Crawford

1. Customer creating a Profile

Initial Assumption: The customer is on the sign-up page and is ready to create a profile.

Normal: The user will enter their first and last name, create a unique username, and set a password. They can optionally upload a profile picture and select their favorite book genres. The system will validate the username's uniqueness before proceeding.

What Can Go Wrong:

- The username might already be taken, requiring the user to enter a different one.
- The password might not meet security requirements (e.g., too short, lacks special characters).
- The user might not upload a valid image format.

Other Activities:

- Users can update their profile details later.
- They can modify their selected genres at any time.

System State on Completion: The user profile is successfully created and stored, allowing the customer to login and start using the platform.

2. Purchasing Books

Initial Assumption: The customer is logged in and browsing available books.

Normal: The customer selects one or more books, views the price, and proceeds to checkout. They enter their email and password to confirm their identity before completing the payment.

What Can Go Wrong:

- The user might enter an incorrect password, preventing checkout.
- The selected books might go out of stock before the purchase is completed.
- The payment might fail due to incorrect card details or insufficient funds.

Other Activities:

- Users can add books to their wishlist for future purchases.
- They can apply discount codes if applicable.

System State on Completion: The books are successfully purchased, and an order confirmation is sent to the user's email.

3. Subscribing to a Seller's Subscription

Initial Assumption: The customer is viewing a seller's profile and is interested in subscribing.

Normal: The user selects a subscription plan (monthly or yearly), views the price, and logs in to confirm payment. The system processes the transaction and grants access to the seller's exclusive content.

What Can Go Wrong:

- The user might enter incorrect login credentials.
- The payment might fail due to insufficient funds or incorrect card details.
- The subscription might not be available in the user's region.

Other Activities:

- Users can cancel or change their subscription frequency at any time.
- They can view their subscription history and renewal date.

System State on Completion: The user successfully subscribed, gains access to the seller's content, and receives an email confirmation.

4. Payment Process

Initial Assumption: The customer has items in their cart or a subscription ready for checkout.

Normal: The user selects a payment method, enters their credit card details, and confirms the purchase. A receipt is generated and sent via email.

What Can Go Wrong:

- The card number might be entered incorrectly.
- The payment processor might experience downtime.
- The refund policy might not cover the user's request.

Other Activities:

- Users can save payment details for faster future transactions.
- They can view past transactions and request refunds if eligible.

System State on Completion: The transaction is processed, the user is charged, and a receipt is sent via email.

5. Searching for Books

Initial Assumption: The customer is on the bookstore page and wants to find a specific book.

Normal: The user types in a book title, author name, or keyword into the search bar. They can refine results using filters such as genre, publication year, or price range.

What Can Go Wrong:

- The search query might not match any available books.
- Filters might be too restrictive, returning no results.
- The system might experience slow loading times due to high traffic.

Other Activities:

- Users can sort search results by popularity, price, or ratings.
- They can save searches or receive notifications when out-of-stock books become available.

System State on Completion: The user finds and selects a book, leading to further actions like purchase or adding it to their wishlist.

Provider: Lucas Walton

1. **Creating book seller (Create/modify/withdraw provider profile)**

- **Initial Assumption:** The Provider has signed up as a seller and is now on the vendor profile page.
- **Normal:** The user will be brought to a page where they fill in information about them, books they sell, and bank information to receive money from the book payment.
    - They will be able to put information such as the genre of books they sell and what books they like personally.
- **What can go wrong:** The user can input incorrect information. Once a profile is saved there will be an option to modify the profile.
- **Other Activities:** Through the profile the user will be able to see the books they posted for sale. The user can upload a picture of themselves along with their favorite book. They will also have an option to post most recommended book
- **System State on Completion:** The user will have a complete profile where there will be options to view their public books, book sale statistics, and their profile.

2. **Post books on market (Create services):**

- **Initial Assumption:** The provider has found a book that they want to sell and is planning to upload it to their book market.
- **Normal:** The seller will be brought to a page to set up a profile for the book
    - They will put information about the book such as the description of the book, price, and how much of the book is left in stock.
    - He will have many options that can be selected that are associated with the book such as enabling comments.
- **What can go wrong:**
- Incorrect information can be inputted into the book. Each book profile can be modified to fit the sellers standards.
- Books can be out of stock without the buyer knowing. Each book will have an indication of how many books are
- **Other Activities:** Sellers are able to save profile templates for their books. They will also be able to create deals for and decide which books go under a certain discount category.
- **System State on Completion:** The sellers will view all the books in the sellers market place. They will also be able to filter and view specific types of books that they posted in their marketplace.

3. **View book sales (View customer statistics)**:

- **Initial Assumption:** Seller has logged in and has gone through the profile page and pressed a button to take them to their sales statistics page
- **Normal:** On the statistics page they can swipe through to see the sales they have had spanning from 1 day to 1 year.
    - There are also other options visible such as sales for 1 month and 6 months.
    - This feature can also show sellers which book and which genre had sold the most during that time span
    - Amount of subscribers and their statistics can be viewed as well.
- **What Can go Wrong:** Others could potentially gain access to private information. There will be a quick authentication process to verify the right provider is on the page.
- **Other Activities:** You can get future sales predictions about books you have based on how the market treats that book and certain other factors.
- **System State on Completion:** Providers will see a graph of their sold books and have options to view graphs for other collected data and the time span of the data collection.

4. **Reply to book reviews (Reply to review)**:

- **Initial Assumption:** You pressed on one of the books in your market and clicked on its reviews.
- **Normal:** You should see how many stars on average the book got and any reviews or comments people had on the books
    - Each person that commented should also have the stars the rated the book next to their name.
- **What Can Go Wrong:** You might have made a typo or accidentally responded. You are allowed to edit or delete responses.
- **Other Activities:** You are able to see how many stars customers rated it out of 5
- **System State on Completion:** All reviews for each book can be seen by clicking on the book. When you make a response to a comment a notification will be sent to the customer to indicate that you responded to their comment. Everyone will be able to see your comment to them in the reviews.

Scenarios for System Admin: Grume Fikre

Scenario 1: Managing User Access
Use Case: Ban a Customer for Posting Inappropriate Reviews

1. The admin logs into the system with their credentials.
2. They navigate to the "User Management" section.
3. They search for the reported customer by name or email.
4. They review the customer's past reviews and flagged content.
5. If the content violates platform guidelines, the admin selects "Ban User."
6. A confirmation prompt appears, and the admin confirms the action.
7. The system revokes the user's access and logs the action.

Scenario 2: Moderating Services
Use Case: Remove a Service Listing with Misleading Information

1. The admin accesses the "Service Listings" dashboard.
2. They filter listings to find reported or flagged services.
3. They review the service details, including the title, description, and images.
4. If the service is misleading or inappropriate, the admin selects "Remove Listing."
5. A reason for removal is provided in a dropdown menu.
6. The service is removed from public view, and the provider is notified.

Scenario 3: Moderating Customer Reviews
Use Case: Delete a False Customer Review

1. The admin navigates to the "Reviews" section.
2. They filter reviews based on reports or flagged content.
3. They review the reported comment and analyze its legitimacy.
4. If the review is false or spam, the admin selects "Delete Review."
5. A confirmation prompt appears, and the admin confirms the action.
6. The review is permanently removed from the system.

Scenario 4: Viewing Usage Statistics
Use Case: Generating a Report on Platform Activity

1. The admin logs into the system and navigates to the "Analytics" section.
2. They select a report type (e.g., "Monthly User Engagement").
3. They set a date range for the report.
4. The system generates a real-time summary of user activity, service usage, and transactions.
5. The admin downloads the report for further analysis.