Software Requirements Specification Document

Project Title: HandMeDowns

Team Members:

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1. Project General Description

The HandMeDowns App is a platform designed to facilitate the exchange of books within a local community, particularly targeting students. Instead of relying upon money, users can trade books with one another, promoting sustainable practices through book exchanges. In addition to trading, users can also choose to donate books or sell them, with a percentage of the sale amount contributing to local community help initiatives. This approach supports the local community by increasing the reusability of resources, especially for students at the end of their semesters when they no longer need their textbooks.

2. Product Features

HandMeDowns is a positive facilitation of recycling used books and/or textbooks throughout the community. Here are some specific features of this application that shape the goals and journey of developing this application.

Profile Customization: Users can create and modify their profiles that can express their personality and interests by displaying their book collection or inventory. This also doubles to facilitate conversations for possible book exchanges or book sales.

Book Content Customization: Users are able to view available books in their local community that can be available for exchanges or for sale, based on preference (i.e. college textbooks, required class readings, book clubs). Users are also able to receive notifications about new book listings or updates from other users based on their selected preferences.

Community Support Integration: Users can donate books to others within the community instead of selling or exchanging books. These books can be used for community support initiatives such as a fund for a local community service group or goal. A percentage of overall book sales will also be collected in order to assist with these initiatives.

Community Interactions and Reviews: Users will be able to write reviews for other Users and Providers. These will reflect book trading experiences based on book quality, friendliness, and ease of transaction. System Admins will be required to moderate these reviews for any troublesome reviews without proof.

3.

Functional Requirements

- FR0: The app will allow all users to create a profile.

- FR1: The app will allow all users to modify their profiles, including updating personal information and book collection.

- FR2: The app will allow all users to browse books available for trade within their local community and filter by genre, author, book condition, and location.

- FR3: The app will allow all users to subscribe to notifications about new book listings or updates.

- FR4: The app will allow all users to write reviews and rate their book trading experiences.

- FR5: The app will allow all users to donate books to the community.

- FR6: The app will allow all users the option to sell books.

- FR7: The app will allow all providers (local libraries, bookstores) to create, modify, and remove their own profiles.

- FR8: The app will allow all providers to manage/edit book inventory.

- FR9: The app will allow all providers to view and reply to reviews.

- FR10: The app will allow all providers to view customer statistics and book statistics.

- FR11: The app will allow all SysAdmin to manage user access, moderate services and reviews, and view usage statistics.

- FR12: The app will support messaging between users to negotiate book trades, donations, or sales, with options for safe and secure communication.

- FR13: The app will allow all users to track the status of book exchanges, including pending requests, in-progress trades, and completed transactions.

- FR14: The app will allow integration with third-party payment gateways for seamless and secure transactions when books are sold.

- FR15: The app will allow all users to report inappropriate content or user behavior, which will be reviewed by the SysAdmin.

- FR16: The app will allow all SysAdmin to manage system logs and audit trails for security and transparency.

5.

Non-Functional Requirements

- NFR0: Content cards will be generated 5 at a time, with a new card generated whenever the user swipes on the current card, ensuring a quick and responsive system.

- NFR1: The system will load user profiles and book listings within 5 seconds.

- NFR2: Flagging and deleting inappropriate content should take less than 10 seconds.

- NFR3: The app should be compatible with both iOS and Android platforms, ensuring consistent user experiences across devices.

- NFR4: The system will support at least 10,000 concurrent users without performance degradation.

- NFR5: Data integrity and security must comply with industry standards, including data encryption and secure authentication methods.

- NFR6: The system should be maintainable, allowing developers to easily update or add new features.

- NFR7: The application will have a user-friendly interface that is accessible to people with disabilities, following WCAG 2.1 guidelines.

Scenarios

a. <u>Users – Customer (Student/Bookstore/Libraries)</u> Husnain Rafique

- **Scenario**: Book Exchange   o **Initial Assumption:** The user is

logged in and on the main page.

- o **Normal:** The user browses available books, applies filters, and selects one for exchange. The user can communicate with the other party to arrange the trade.

- o **What Can Go Wrong:** The selected book is no longer available, or the user faces connectivity issues.   o   **Other Activities:** The user can save books for later, add books to their wishlist, or share book details with friends.

- o **System State on Completion:** The book is added to the user's collection, and notifications are sent. If the trade is confirmed, the status changes to 'In-Progress' and then 'Completed' upon exchange.

- **Scenario**: Search and Filter Books o **Initial Assumption:** The user is

logged in and has access to the search bar.

- o **Normal:** The user enters search criteria (e.g., author, genre) and the system displays relevant books.

- o **What Can Go Wrong:** No results are found, or the filter does not work correctly.

- o **Other Activities:** The user can sort the results by date, popularity, or price. They can also clear filters or start a new search.

- o **System State on Completion**: The user sees a list of books matching the criteria or a message indicating no results.

7.

b. Providers – Local Libraries/Bookstores Anthony Lai   • **Scenario**:

Manage Inventory   o **Initial Assumption:** Provider is logged in as a

verified user.

- o **Normal:** The provider adds new books to the inventory, updates details, or removes books that are no longer available.

- o **What Can Go Wrong:** Error in uploading book details or data synchronization issues.

- o **Other Activities:** The provider can set discounts, highlight featured books, or manage promotional campaigns.

- o **System State on Completion:** Inventory is updated, and the book is visible to users. Any changes are reflected in real-time.
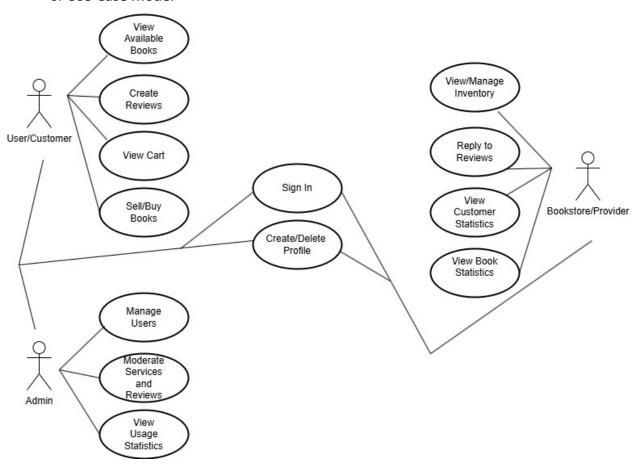
c. <u>SysAdmin</u>   Brian Grandos

- **Scenario**: Moderate Services and Reviews   o **Initial Assumption:**
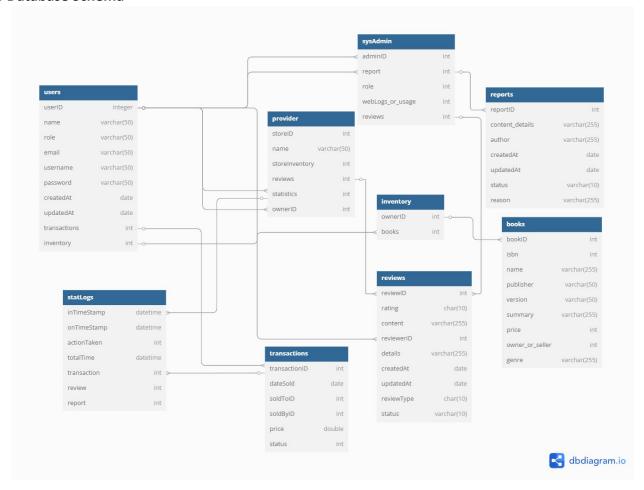
Admin is logged in with appropriate privileges.

o **Normal:** Admin reviews and approves book listings, moderates user reviews, and resolves flagged content.

o **What Can Go Wrong:** Technical issues in approving or flagging content, or delays in reviewing reports.

o **Other Activities:** Admin can generate reports on flagged content, user behavior, or system performance for analytics.

o **System State on Completion:** The platform maintains a positive and respectful community. Flagged content is either removed or reinstated, depending on the review outcome.

6. Use-Case Model

7. Database Schema

Scenarios With Screenshots

Provider: create provider profile use-case, display all available providers, view provider details, inventory, and reviews, login functionality, and create use case of books.

1. Jango Fett creates provider profile after viewing P1 store. (The Cantina)
2. Leia Skywalker demonstrates login to profile. Leia edits profile.
3. Leia creates several book listings.

Customer: Create user profile, edit user profile. View use-cases displaying provider profile, inventory, reviews. C1 purchases a book.

1. Max Fury decides to create a user profile.
2. Max demonstrates looking at providers available, inventory, reviews, etc.
3. Max views The Cantina profile and checks The Cantina details.

Customer: demonstrates ability to write reviews, provider replies to reviews.

1. Bugs Bunny logs in for the first time after a recent visit to the Skywalk store.
2. Bugs writes a positive review for Skywalk.
3. Max writes negative review for The Cantina.

Provider: edit profile, edit book, delete book. Delete profile. View customer usage and reply to reviews.

1. Leia and Jango logs in (separately) and reply to great reviews with enthusiasm, and negative reviews with apologetic customer service.
2. Leia views store statistics. Leia modifies profile.

SysAdmin: Logs in, view/delete reviews, view usage statistics, manage users

1. Admin logs in an views statistics for the webapp
2. Views all reviews and deletes inappropriate Max review.
3. Admin bans Max account, and review is gone
4. Max tries to log in but account is gone.

Add Book

Title:

Author:

ISBN:

Category: Sell Image URL:

Paste image link here

Price (USD):

0

Save

Book List

Add Book

ID	Image	Title	Author	ISBN	Category	Price	Actions
5		Web	Sunny	0201202	sell	$500	Edit	Delete
7		Web123	Sun	02012025	sell	$100	Edit	Delete
20		phy	newton	01110001	sell	$150	Edit	Delete
24		asd	bcd	12346678	sell	$100	Edit	Delete
26		abcd	son	0102102	trade	$1	Edit	Delete
27		abcd	bcd	12346678	donate	$10	Edit	Delete

Create an Account

Name:

Email:

Password:

Register

📊 Admin Dashboard - HandMeDowns
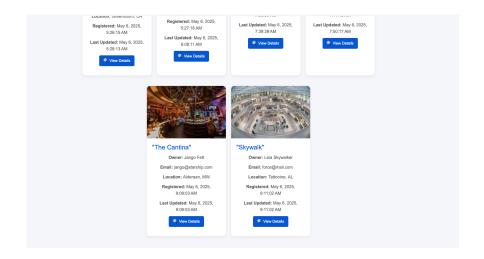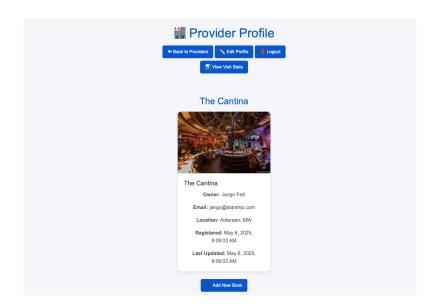
⚙️ Admin Controls

📊 Manage Reviews

Reviews Type: [Book Listings ▾] Review ID: [_____] [Delete Review]

Review ID: [_____] Reply: [_____] [Reply to Review]

Location: Greensboro, CA
Registered: May 6, 2025, 5:26:15 AM
Last Updated: May 6, 2025, 5:28:13 AM
[🔍 View Details]

Registered: May 6, 2025, 5:27:18 AM
Last Updated: May 6, 2025, 6:08:11 AM
[🔍 View Details]

Last Updated: May 6, 2025, 7:39:39 AM
[🔍 View Details]

Last Updated: May 6, 2025, 7:50:17 AM
[🔍 View Details]

"The Cantina"

Owner: Jango Fett

Email: jango@starship.com

Location: Alderaan, MW

Registered: May 6, 2025, 9:09:03 AM

Last Updated: May 6, 2025, 9:09:03 AM

[🔍 View Details]

"Skywalk"

Owner: Leia Skywalker

Email: force@mail.com

Location: Tattooine, AL

Registered: May 6, 2025, 9:11:02 AM

Last Updated: May 6, 2025, 9:11:02 AM

[🔍 View Details]

🏬 Provider Profile

The Cantina

The Cantina

Owner: Jango Fett

Email: jango@starship.com

Location: Alderaan, MW

Registered: May 6, 2025, 9:09:03 AM

Last Updated: May 6, 2025, 9:09:03 AM

➕ Add New Book

Biology

ISBN: 2344883726

Publisher: Lightspeed Learning

Price: $132

Summary: Learn about the biology of the 10 most popular species.

✏️ **Edit**

⭐ **Reviews**

"By far the cleanest bookstore in the 9 galaxies!"
Rating: 5/5
Status: pending
Reply from Provider: Thank you! We try to do our best.
— Reviewed by User ID 66 on 2025-05-06 09:16
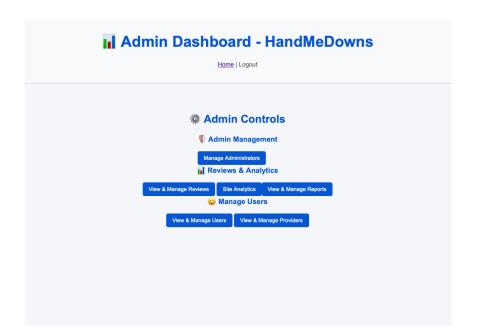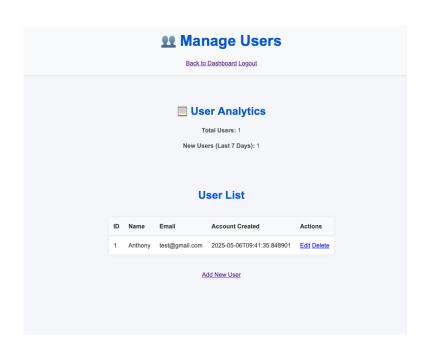
Add a New Book to Skywalk

Add Book

Book Name

Biology

ISBN

2344883726

Publisher

Lightspeed Learning

Summary

Learn about the
biology of the 10
most popular
species.

Price

132

Book Image URL

s://tinyurl.com/ymv2pe9u

📊 Admin Dashboard - HandMeDowns

⚙️ Admin Controls

🛡️ Admin Management

Manage Administrators

📊 Reviews & Analytics

View & Manage Reviews   Site Analytics   View & Manage Reports

😃 Manage Users

View & Manage Users   View & Manage Providers

👥 Manage Users

🗒️ User Analytics

Total Users: 1

New Users (Last 7 Days): 1

User List

ID	Name	Email	Account Created	Actions
1	Anthony	test@gmail.com	2025-05-06T09:41:35.848901	Edit Delete

Add New User

Design Document

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7. Database Schema

sysAdmin

adminID	int
report	int
role	int
webLogs_or_usage	int
reviews	int

users

userID	integer
name	varchar(50)
role	varchar(50)
email	varchar(50)
username	varchar(50)
password	varchar(50)
createdAt	date
updatedAt	date
transactions	int
inventory	int

provider

storeID	int
name	varchar(50)
storeInventory	int
reviews	int
statistics	int
ownerID	int

reports

reportID	int
content_details	varchar(255)
author	varchar(255)
createdAt	date
updatedAt	date
status	varchar(10)
reason	varchar(255)

inventory

ownerID	int
books	int

books

bookID	int
isbn	int
name	varchar(255)
publisher	varchar(50)
version	varchar(50)
summary	varchar(255)
price	int
owner_or_seller	int
genre	varchar(255)

reviews

reviewID	int
rating	char(10)
content	varchar(255)
reviewerID	int
details	varchar(255)
createdAt	date
updatedAt	date
reviewType	char(10)
status	varchar(10)

statLogs

inTimeStamp	datetime
onTimeStamp	datetime
actionTaken	int
totalTime	datetime
transaction	int
review	int
report	int

transactions

transactionID	int
dateSold	date
soldToID	int
soldByID	int
price	double
status	int

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