



Case Study: Neighborhood Library

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Project Overview



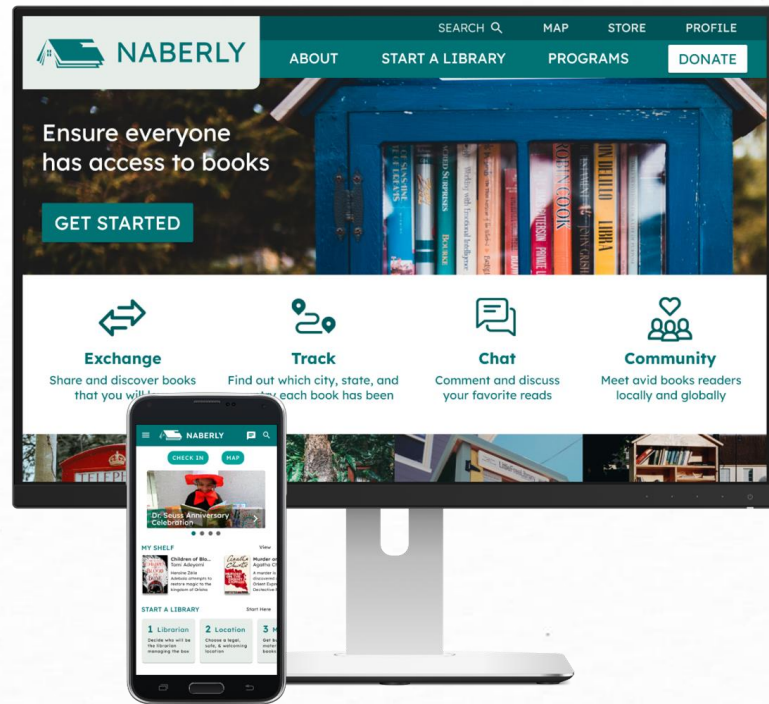
The Product

Naberly is an organizational network of neighborhood libraries. The website allows users to start their own library. And the app is used to facilitate book exchanges and track the general location of books. The app also provides a map of libraries and books nearby.



Project Duration

December 2021 - April 2022



Project Overview



The Problem

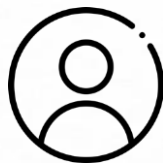
Book readers want to discover books in neighborhoods that interest them and potentially start their own neighborhood library.



The Goal

Design an app and responsive website that encourages users to share/exchange books and engage with others in their community, track the general location of books, and start their own libraries.

Project Overview



My Role

UX designer designing an app for neighborhood library book exchanges through every aspect of the 'EDIPT' design process



My Responsibilities

Conducting user research, interviews, usability studies, and competitive audits; creating paper and digital wireframes; designing low- and high-fidelity prototypes; accounting for accessibility; and iterating on designs



Understanding the User

User Research | Personas | Problem Statements | User Journey Maps

User Research: Summary

My user research began with conducting **interviews** and creating **empathy maps** to understand the users I'm designing for and their needs with respect to accessing books in their neighborhoods.

Two key user groups were identified through my research. One group pertains to adults, particularly parents, wanting access to books about diverse characters written by diverse authors. The second user group refers to people who want to start their own neighborhood library book exchange.

User Research: Pain Points



Availability

Information about book availability is unknown



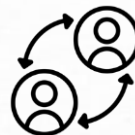
Management

Make it easy to manage available books and logistics



Diversity

Available books lack diverse characters and authors



Engagement

Make the book exchange experience engaging with others

Persona: Imani

Problem statement

Imani is a mother and part-time interior designer who needs access to books written by people of color because she wants her kids to read stories with characters from different backgrounds told from different perspectives.



Imani

Age: 35

Occupation: Interior Design

Education: Bachelor's

Hometown: San Diego, CA

Family: Husband, 2 Children

"My kids love visiting neighborhood book exchanges to find new books."



Goals

Browse through books written by a diverse set of authors

Find nearest neighborhood book exchange



Frustrations

Lack of books written by people of color or about people of color

Bio

Imani is a part-time interior designer.

When she's not working, she spends most of her time with her kids - who are in elementary school.

She and her kids visit a little free library every weekend. She loves reading science fiction and biographies. Her kids love to read fantasy and short stories.

User Journey Map: Imani

Browse, select, and exchange books

Imani's journey map revealed that resources should be made available to stewards for expanding and diversifying their book selections.

ACTION	Go to neighborhood book exchange	Browse through books	Choose book
TASK LIST	A. Find nearest location B. Visit location with kids C. Place a book to exchange	A. See what books are available B. Read synopsis and about author	A. Select a book to read B. Take books home
FEELING ADJECTIVE	Excited Disappointed	Curious Dissatisfied	Content Delighted Indifferent
IMPROVEMENT OPPORTUNITIES	Provide resources to improve book exchange environment	Provide opportunities to diversify book selection	Provide opportunity to leave reviews and suggestions

Persona: Itzel

Problem statement

Itzel is a traveling wedding photographer who needs to find book exchanges near wherever her job takes her because she wants to discover books to read during her travels.



Itzel

Age: 24

Occupation: Photographer

Education: Bachelor's

Hometown: Seattle, WA

Family: In a Relationship

"I like discovering uncommon books, and so I'm curious to know what my neighbors are reading."



Goals

Know what books are available at the nearest neighborhood book exchange



Frustrations

The book she's interested in isn't at the neighborhood book exchange

Bio

Itzel is a wedding photographer. Her schedule is often very busy, and she travels across the state frequently.

She loves to read on her spare time - particularly mystery, historical fiction, or self-help books. She chooses books based on reviews and recommendations from people local to the area she finds herself in.

User Journey Map: Itzel

Visit nearest neighborhood book exchange

Listing available books for each book exchange box would likely enhance Itzel's user experience - encouraging her to visit particular locations

ACTION	Search for nearest book exchange	Visit book exchange	Select a book
TASK LIST	A. Search online B. Get directions C. Go to location	A. Browse book selection B. Look for unique, uncommon books C. Leave a book to exchange	A. Choose a book B. Take book home C.
FEELING ADJECTIVE	Eager Confused	Intrigued Yearning	Satisfied Appreciative Optimistic
IMPROVEMENT OPPORTUNITIES	Use current location to make it easy to find nearest locations	View available books online/app at any location	

Persona: Ihsan

Problem statement

Ihsan is a single father and construction worker who needs help setting up and managing a book exchange box because he wants to provide more reading opportunities for his daughters and neighbors.



Ihsan

Age: 42
Occupation: Construction
Education: Bachelor's
Hometown: Baltimore, MD
Family: Single Father

"My daughters are my inspiration for doing creative DIY projects that impact the community."

Goals

- Build a book exchange box with kids
- Maintain a welcoming book exchange environment

Frustrations

- Worried online management will be confusing and frustrating

Bio

Ihsan is a single father with 3 daughters and a dog. His daughters are in middle school.

He likes doing DIY projects with his kids. Ihsan wants to establish a book exchange outside his house for his kids and the neighborhood. He knows many people will appreciate it if it's kept engaging and welcoming.

User Journey Map: Ihsan

Set up and manage a book exchange box

Ihsan's journey map shows that starting a book exchange box can be daunting and overwhelming. The process should be made easy and encouraging to pursue.

ACTION	Research set up process	Purchase registration and materials	Register & set up book exchange box	Manage book exchange box
TASK LIST	A. Look up steps to establish book exchange box B. Carry out pre-registration steps	A. Buy registration and building material B. Get books	A. Build book exchange box B. Register book exchange box online	A. Find ways to encourage people to come back B. Go through available books
FEELING ADJECTIVE	Determined Overwhelmed	Eager Anxious	Excited Unsure	Enthusiastic Optimistic
IMPROVEMENT OPPORTUNITIES	Provide easy to follow steps and resources	Provide resources for diverse book sets		Provide materials that are welcoming and engaging

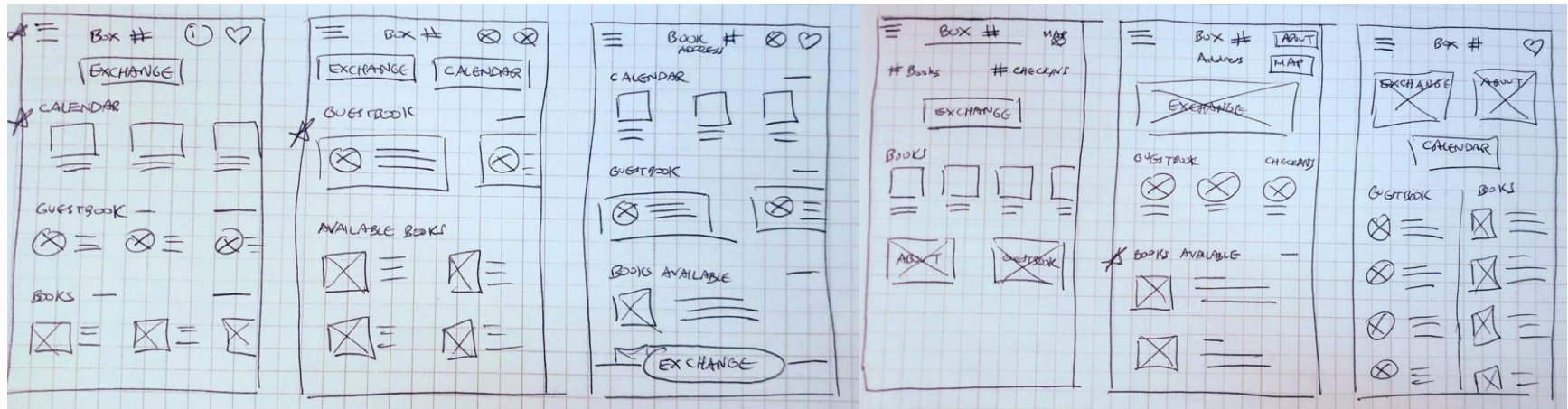


Starting the Design

Paper Wireframes | Digital Wireframes | Low-Fidelity Prototype | Usability Studies

Paper Wireframes

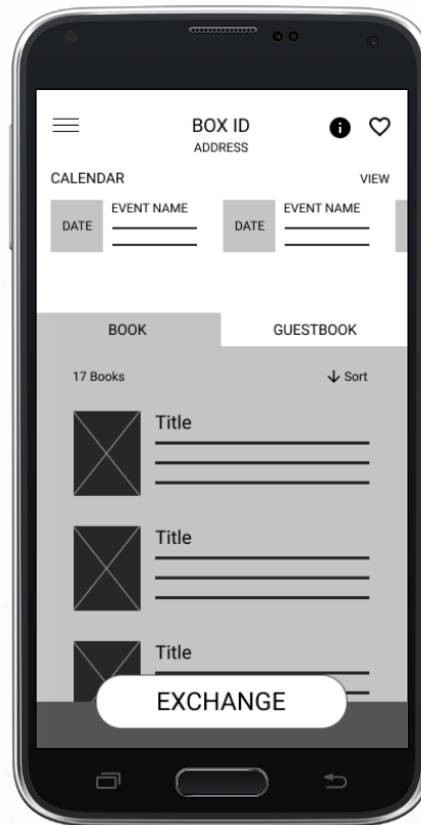
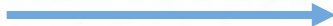
The page for a book exchange library needs to list available books and an exchange call-to-action button. To encourage user engagement, a calendar and guestbook features are included in the wireframes.



Digital Wireframes

As I transitioned from paper wireframes to digital wireframes, I decided to **use tabs** to separate the list of books and guests. This looks more visually appealing while also adhering to Gestalt principles on **similarity** and **proximity**.

Users would scroll horizontally to view calendar events specific to this library box

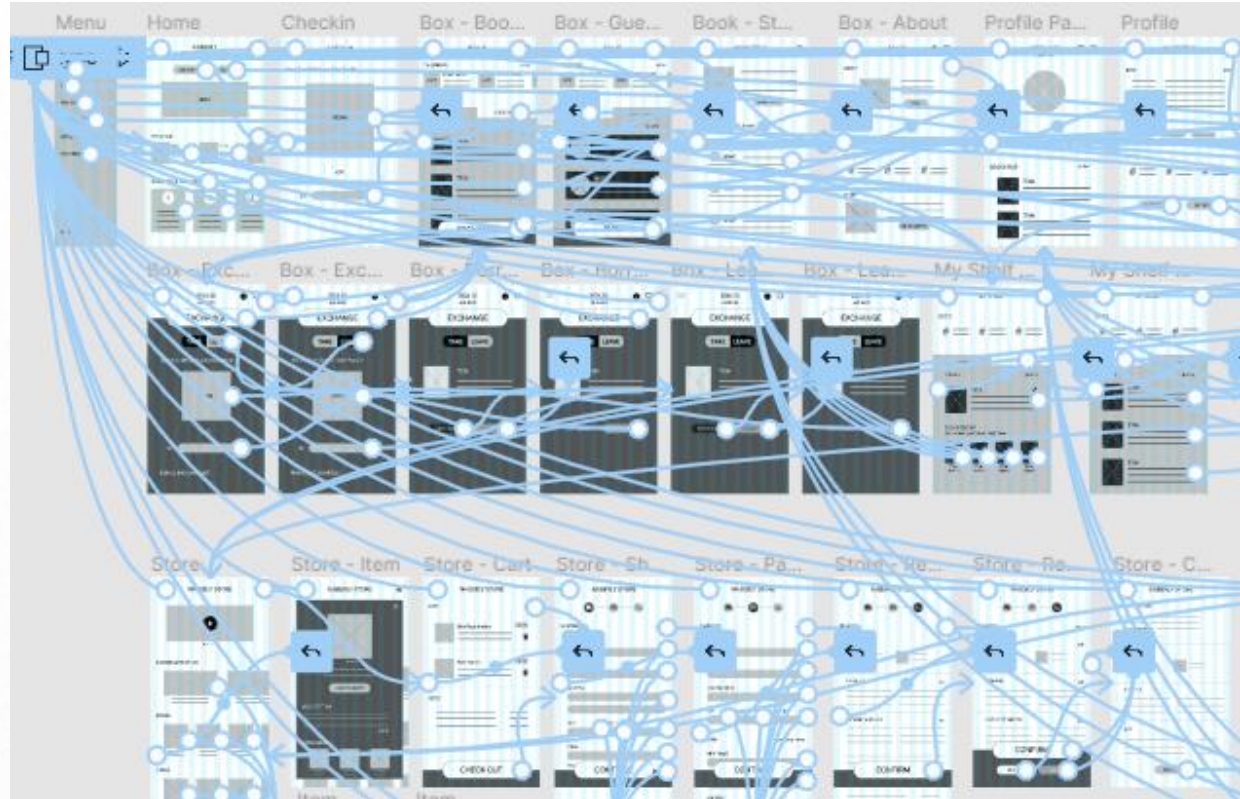


The 'Guestbook' tab lists what each guest has signed, and the call-to-action button text changes to 'Sign'

Low-Fidelity Prototype

The low-fidelity prototype has 2 key user flows. One user flow is exchanging books at a library. The other is starting your own book exchange library.

[View Naberly app prototype](#)



Usability Study (1st)

For my first usability study, I had participants test both user flows in the low-fidelity prototype. Below are key insights that came from the study. I then updated the low-fidelity prototype to address the insights.

1

Process steps need to be separated onto different screens for users to easily complete

2

The store icon alone is not sufficient enough for users to get to the store

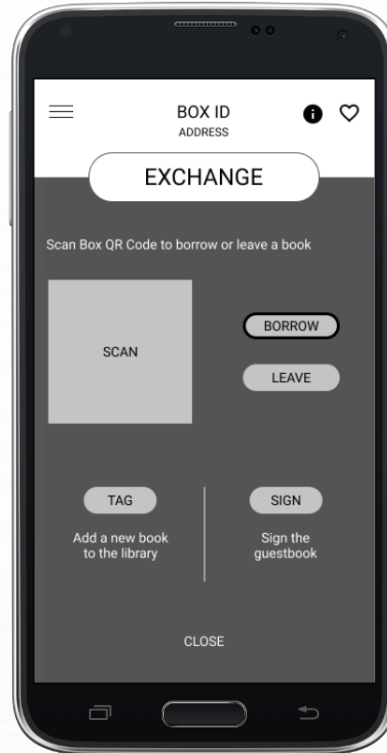
3

The register library screen needs to have intuitive interactive features

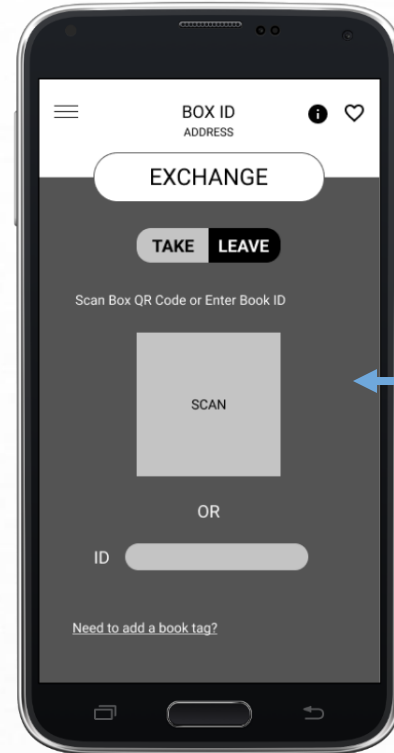
Digital Wireframes

Based on feedback from the 1st usability study, I updated the 'Exchange' screen so that it's **less cluttered** and **focuses solely on the book exchange process**.

Before 1st Usability Study



After 1st Usability Study



The idea is that each book has a QR code or ID to track its status

Digital Wireframes

Users would be able to register their library into the network system from the mobile app by following a **4-step** process

The progress bar contains icons related to each step



The first step is to enter in the library registration number and box ID, which a user would get after purchasing registration prior to entering this screen

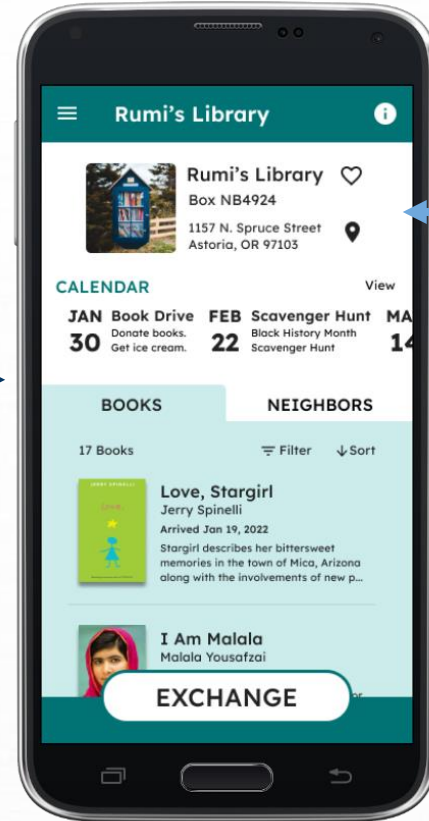
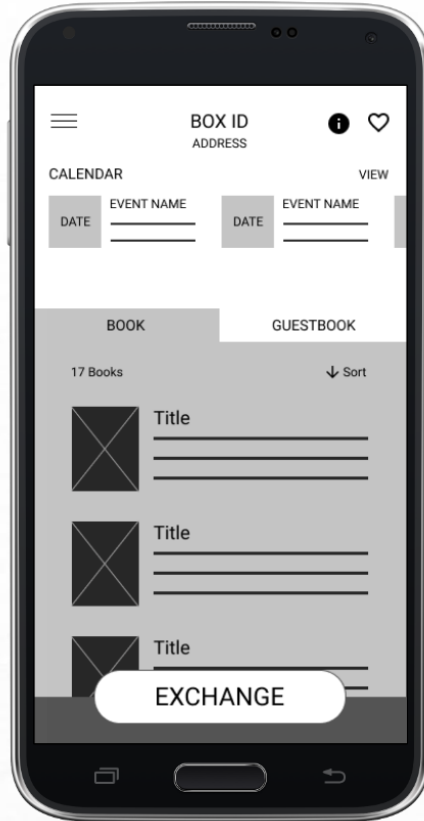


Refining the Design

Mockups | High-Fidelity Prototype | Accessibility

Mockups

As I started adding visual elements to this screen, something felt missing. I added a picture of a library box for users to better connect with the respective library.

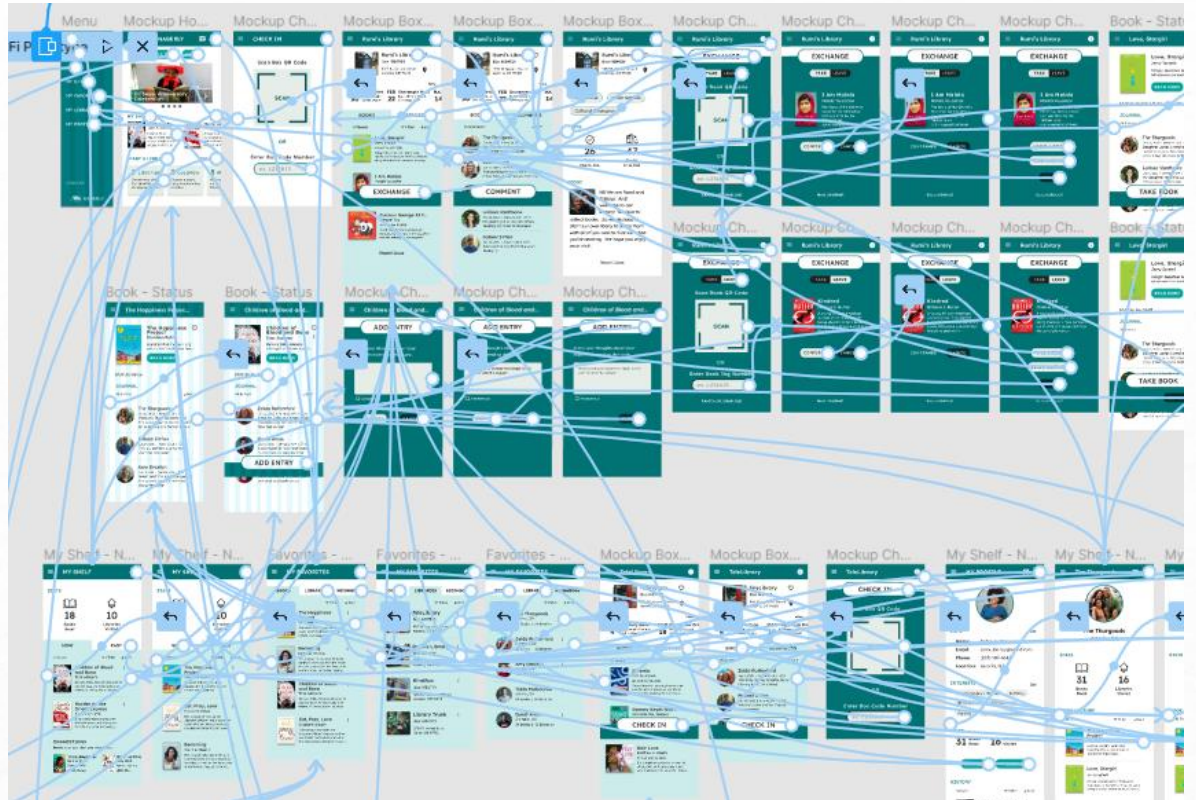


Users would be able to tap on the address or map icon to pull up directions

High-Fidelity Prototype

The high-fidelity prototype has improved processes for exchanging books and for registering a library. Plus, screens about books and users have been brought to life in the prototype.

[View Naberly app prototype](#)



Usability Study (2nd)

Participants tested the high-fidelity prototype in the second usability study, which revealed the findings below. I then made modifications to the prototype based off these findings.

1

Users want to take a book by selecting it from the list of available books

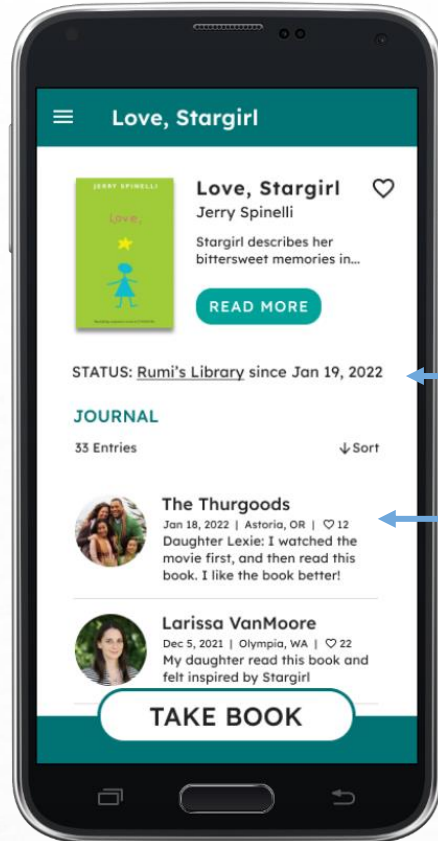
2

Users need more icons to assist in viewing content and they need consistency in how icons are use

3

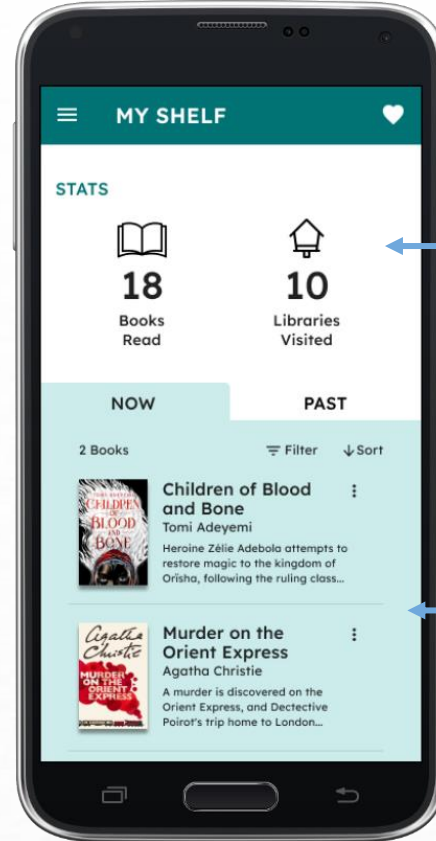
Users need better guidance on the library registration process

Mockups



Including a book's arrival date may spark user interest

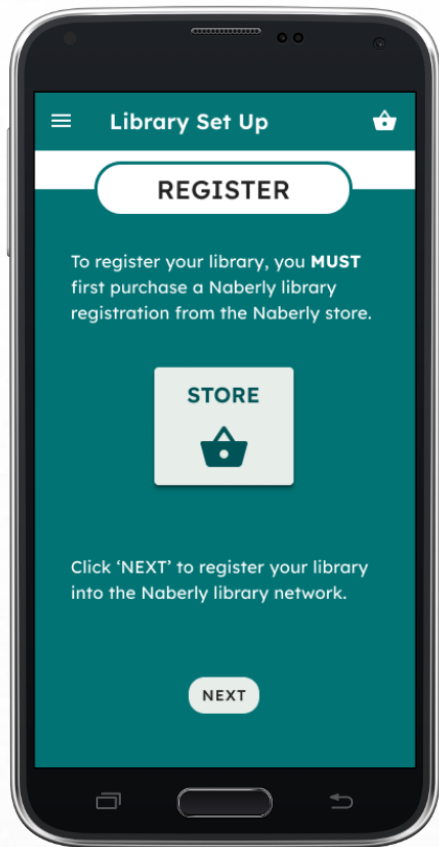
The option to like a journal entry provides more user engagement



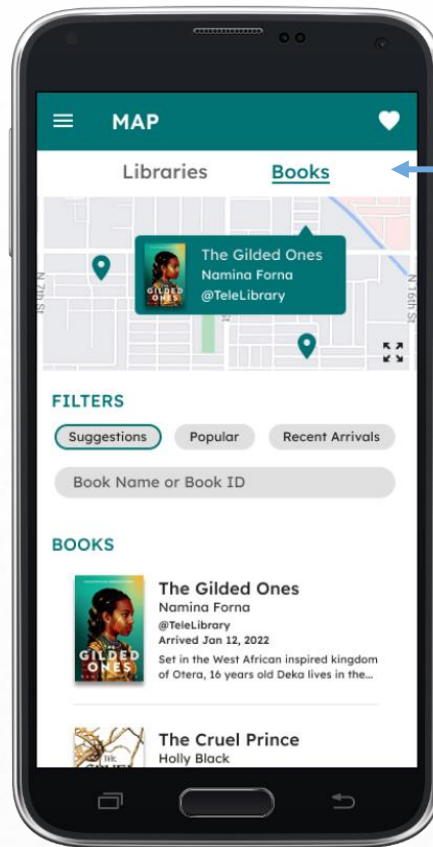
Pairing icons with stats allows the data to stand out more for the users

Dividers were added wherever there were lists to help with the spacing

Mockups



← This entire page was added because the study participants kept trying to register a library before having purchased registration



→ The 'Books' tab was added so users can track and search for certain books

← Users can toggle between suggested books, popular books, or books recently added to a library

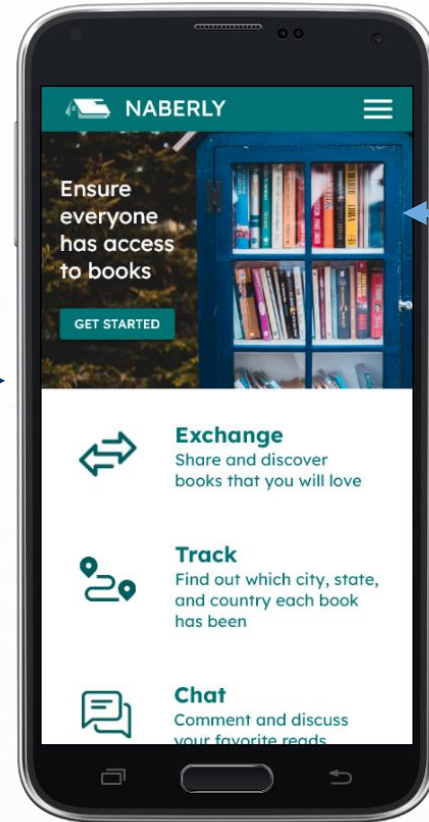


Responsive Web Design

Wireframes | Mockups | Prototypes

Mockups

I went on to design a responsive website by going with a mobile-first approach. In understanding that websites are more informative than apps, the focus of this website is more on how to start a neighborhood library.



Filled in the text with a unique tagline and interesting features about Naberly

Mockups



The design system for the app was carried over and expanded for the website. And more interactive and animated features were added in transition from the smaller to larger website, such as hovering over images to view more information.

[Mobile Website](#)

[Desktop Website](#)

Accessibility Considerations

Blind

Libraries can add the “Brill Braille” badge to their info page indicating that they have books written in braille

Language

Libraries can add the “Bilingual Bin” badge to their info page indicating that they have books written in other languages

Color

The color scheme of the Naberly neighborhood library app meets accessibility levels



Going Forward

Takeaways | Next Steps

Takeaways



Impact

The app offers a sense of community and engagement at the center of book exchanging

One quote from a study participant:

"This app seems fun to use and would encourage me to read more."



What I Learned

I learned how to incorporate Google's Material Design Kit in Figma, which helped speed up the process of creating mockups and a high-fidelity prototype

Next Steps

1

Design a responsive website associated with the Naberly mobile app

2

Conduct usability studies on the responsive website design

3

Propose the idea to Little Free Library

Let's Connect

Thank you for taking the time to review my mobile app design. This was my third user experience design project as part of the Google UX Design Certificate program.

If you would like to discuss my work further or simply get in touch, my contact information is provided below.

Email: maryamaw@yahoo.com

[LinkedIn](#)

[Website Portfolio](#)