



# MONASH CAULFIELD LIBRARY WAYFINDING

CDS2001 2024

UX Workshop: Find a Way in the Library

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Documentation by Sean Do

# CONTENTS

UX Research	3
IA, Lo-fi Wireframes & Video Test	12
Moodboard & Style Guide	17
Hi-fi Wireframes	21
Digital Signage	30
Reflection	35
References	36

# UX Research

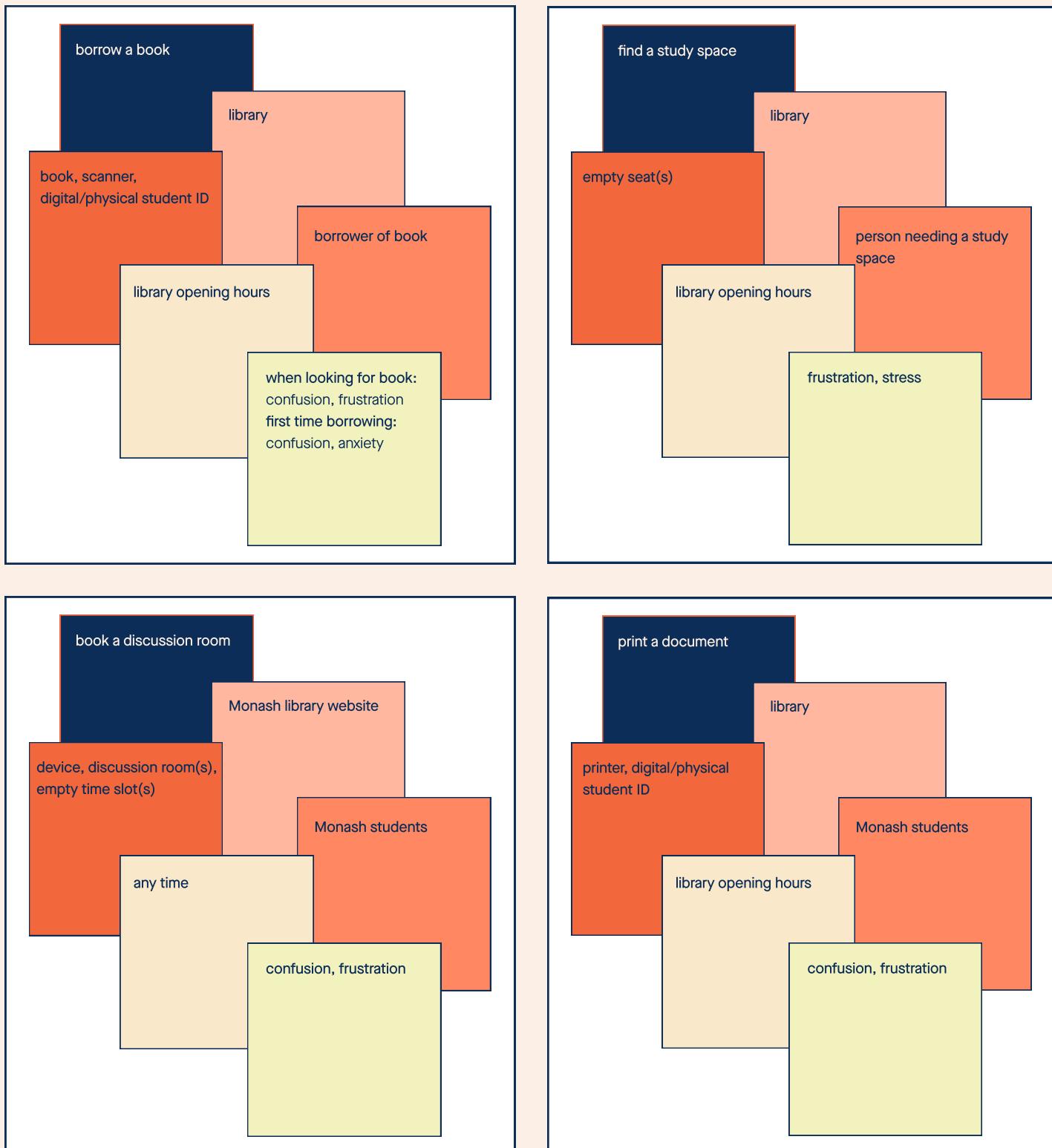
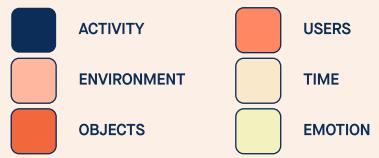
# ABSTRACT

Monash Caulfield Library is an app designed to help users with wayfinding in the Monash Caulfield library. The app aims to modify and improve the way-finding system within the library. More importantly, the app focuses on specific functionalities; that is, helping visitors navigate to books, study spaces, and booking discussion rooms.

Along with the way finding features of the app, our mascot, the pigeon, follows the path of the user and helps with the navigation.

# CARD SORTS

For the card sorts/AEOUT+E activity, we looked into some of the most popular activities when a person visits Monash Caulfield Library, with which an improved way-finding system can help.



# PLACE ARCHETYPES

## PATH



Paths are all the footpath in the library. They are analysed to help the app create directions that navigate visitors to a destination.

## NODES



Example of nodes are spaces where paths are crossing and converging. These are the spaces where the digital signages are considered to be placed, as visitors usually stop at these spots.

## EDGE



Edges in the library are walls, dividers and printer area which separate the sections. These areas are also considered for the digital signage placement as they are the places where visitors stop and observe.

## DISTRICT



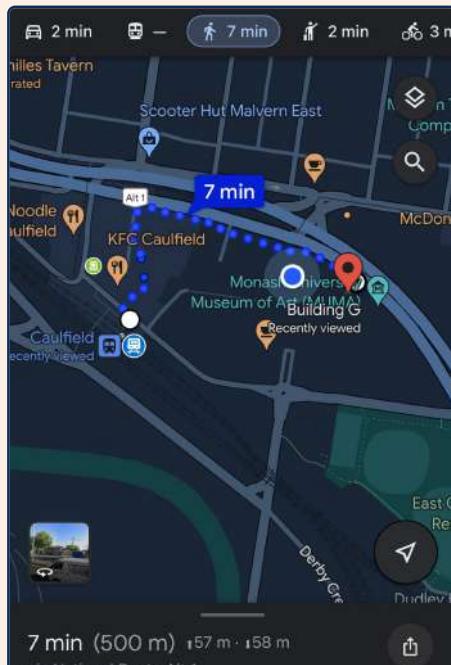
Examples of districts in the library are study spaces and discussion rooms. These are the areas that users can enter and use. These are taken into consideration when suggesting navigation and destinations on the app.

# WAYFINDING STRATEGIES

TRACK FOLLOWING



ROUTE FOLLOWING



MAP READING

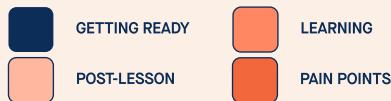


Track following is helpful for the implementation of digital signages. This method was utilised for strip screens on the bookshelves to direct the users to a specific book.

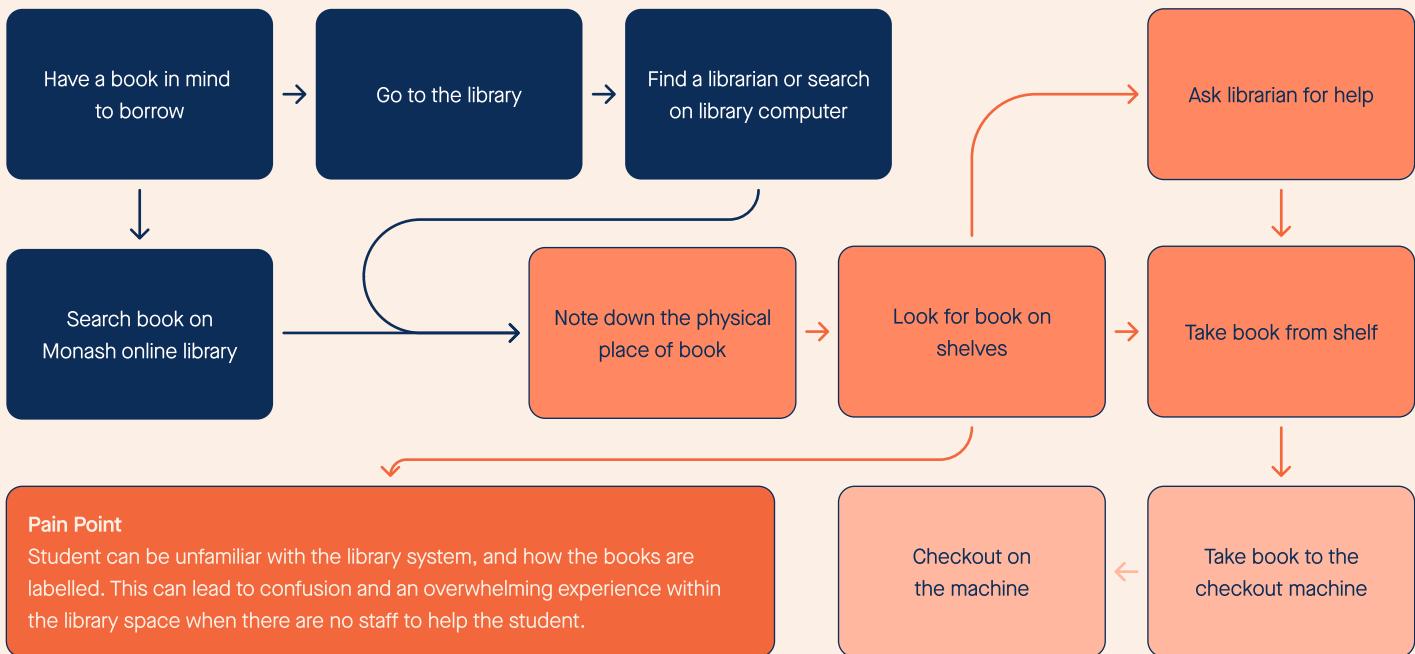
Route following method was implemented throughout the application to create navigations for the users.

A dedicated map was used for both the mobile app and the digital signages to help users navigate more easily.

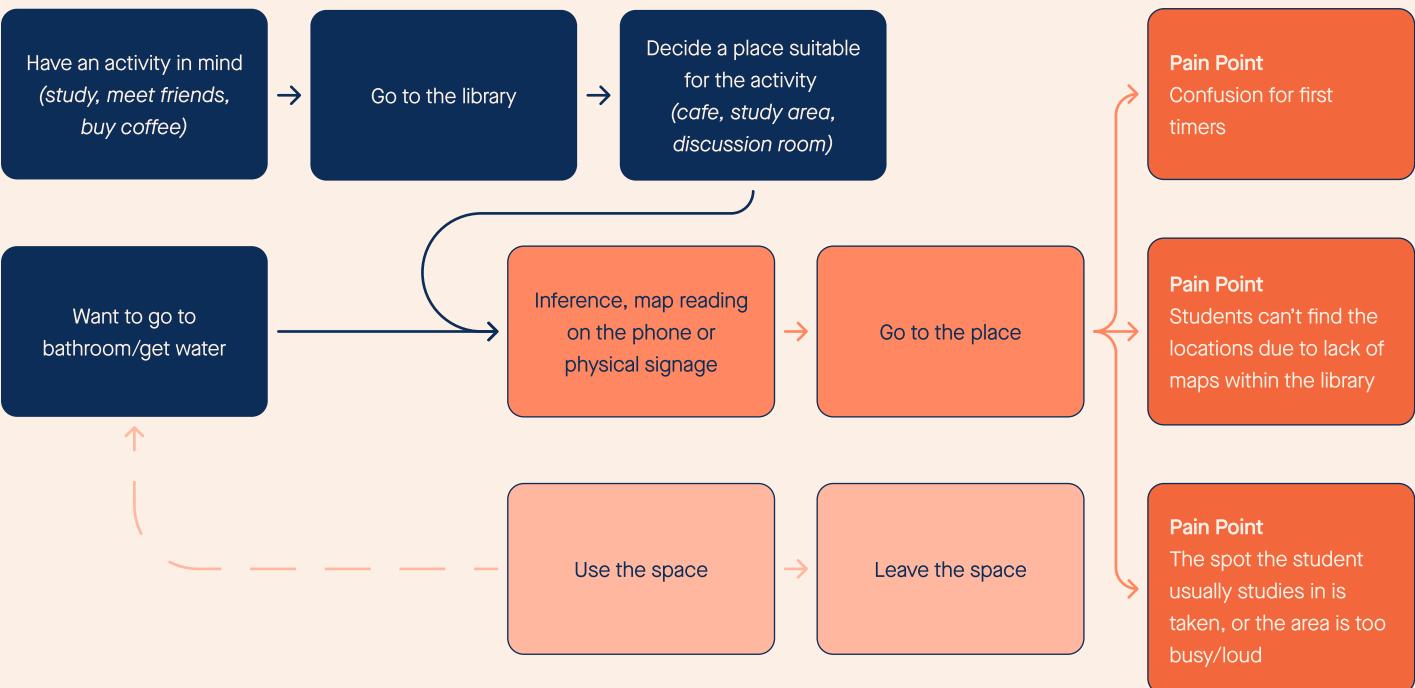
# EXPERIENCE FLOWS



## BORROW A BOOK



## GENERAL WAYFINDING

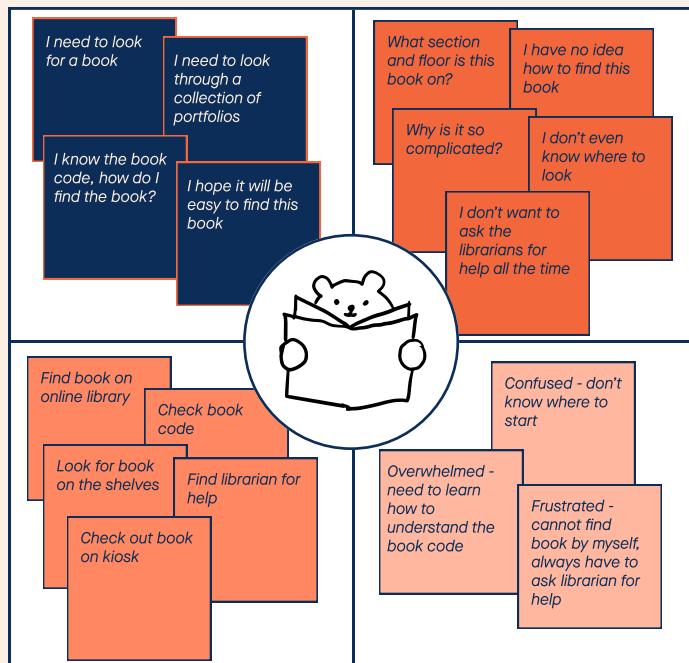


# EMPATHY MAPS

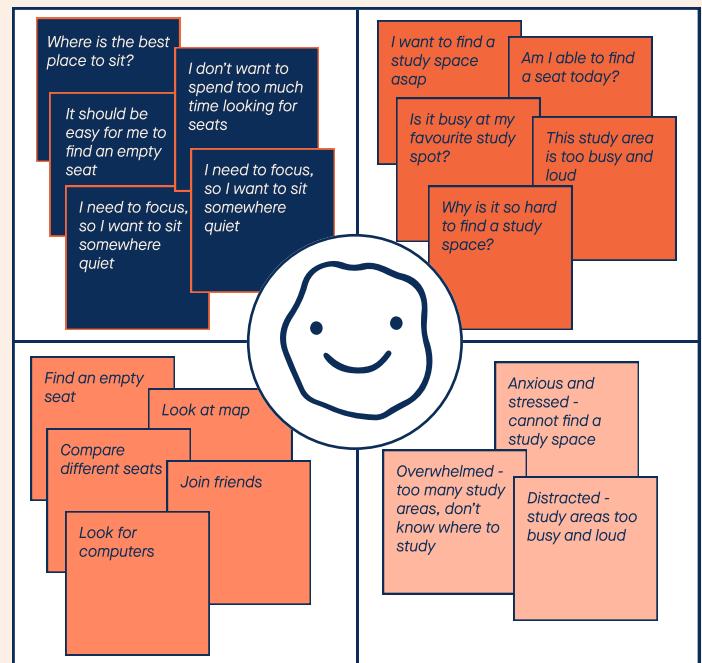
Empathy map is one of the major UX/UI researches that helped us advance in this project. It was able to pin point few of the problems that we as student experience and relate to the most.



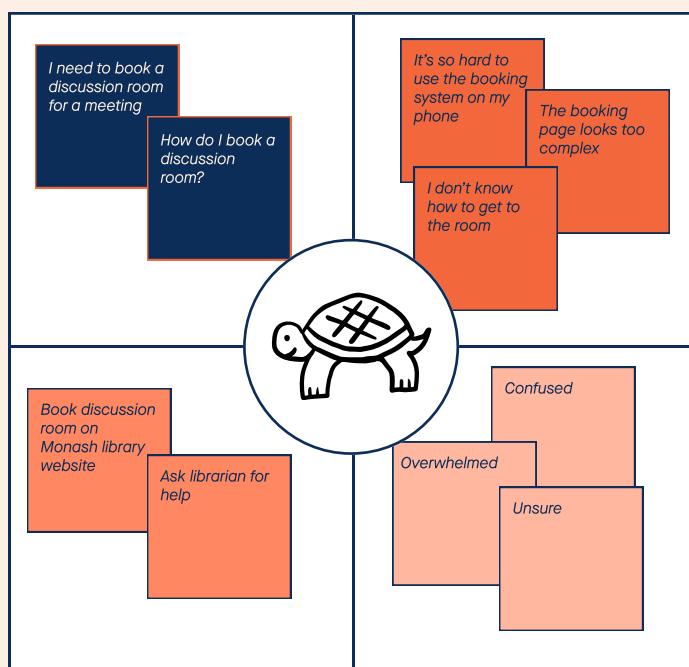
## OBJECTIVE #1: Borrow a book



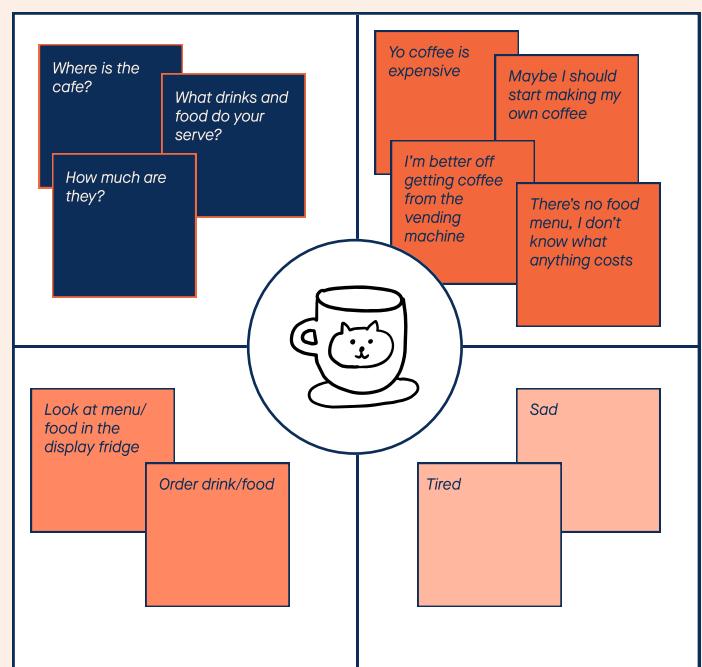
## OBJECTIVE #2: Find a study space



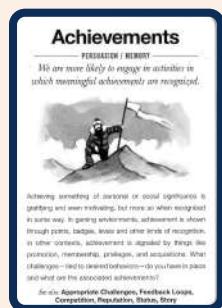
## OBJECTIVE #3: Book a room



## OBJECTIVE #4: Buy food/drink



# PSYCHOLOGY & UX



## ACHIEVEMENTS

### Archetypes      Strategies

District      Track following, Map reading, Aiming

### Precedents

- When you found the book you were looking for
- When you found an empty seat



## COMPETITION

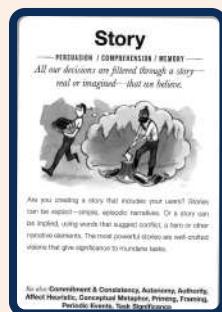
### Archetypes      Strategies

District      Track following, Map reading, Aiming, Social Navigation

The system updates the users on capacity and availability of each area.

### Precedents

- Competition to find seats/sit at desirable seats
- Competition to borrow sought after books



## STORY

### Archetypes      Strategies

Path      Track Following, Route Following, Educated seeking, Aiming, Screening

A mascot was created to accompany the users through each journey

### Precedents

- Creating a narration for students to do mundane tasks, such as finding books or learning how to print.



## APPROPRIATE CHALLENGES

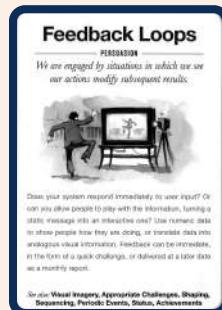
### Archetypes      Strategies

Path, Nodes      Track following, Map reading, Screening

Appropriate challenges are created when users navigate to a destination. For example, users need to make their way to the level of the destination, users need to follow the digital signages to find a book.

### Precedents

- Look for a place/book
- Games where you track down things, such as Pokemon GO



## FEEDBACK LOOPS

### Archetypes      Strategies

Path, Node, District, Edge      Aiming, Route Following

The application and digital signages continuously update the users on a performed action, such as connection from app to digital signage, booking, reaching a destination, etc.

### Precedents

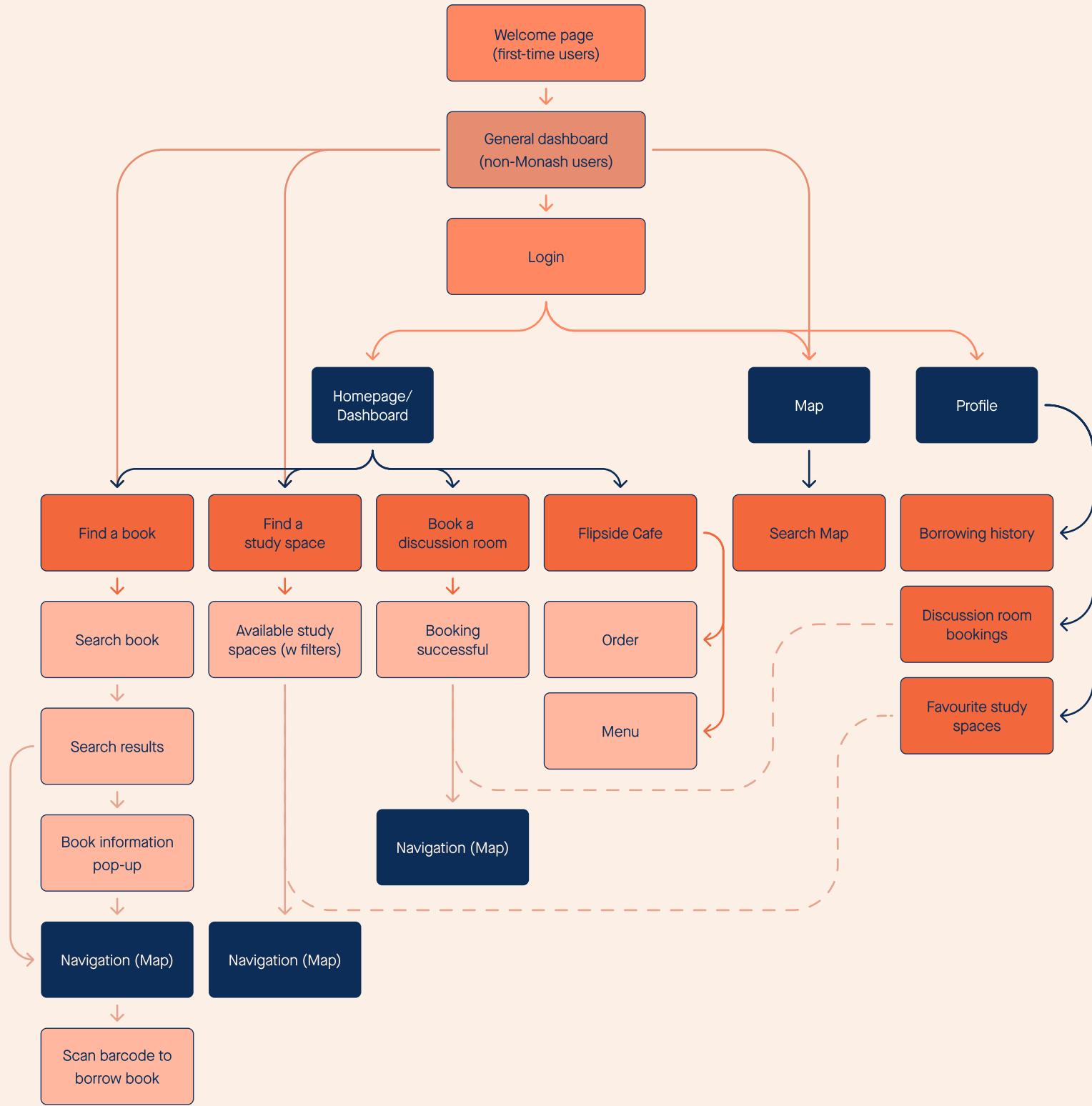
- Celebrating user's borrowing book/book return process
- Follow the common "leaderboard" method/gamification of mundane tasks when it comes to borrowing books, etc.

# USER STORY



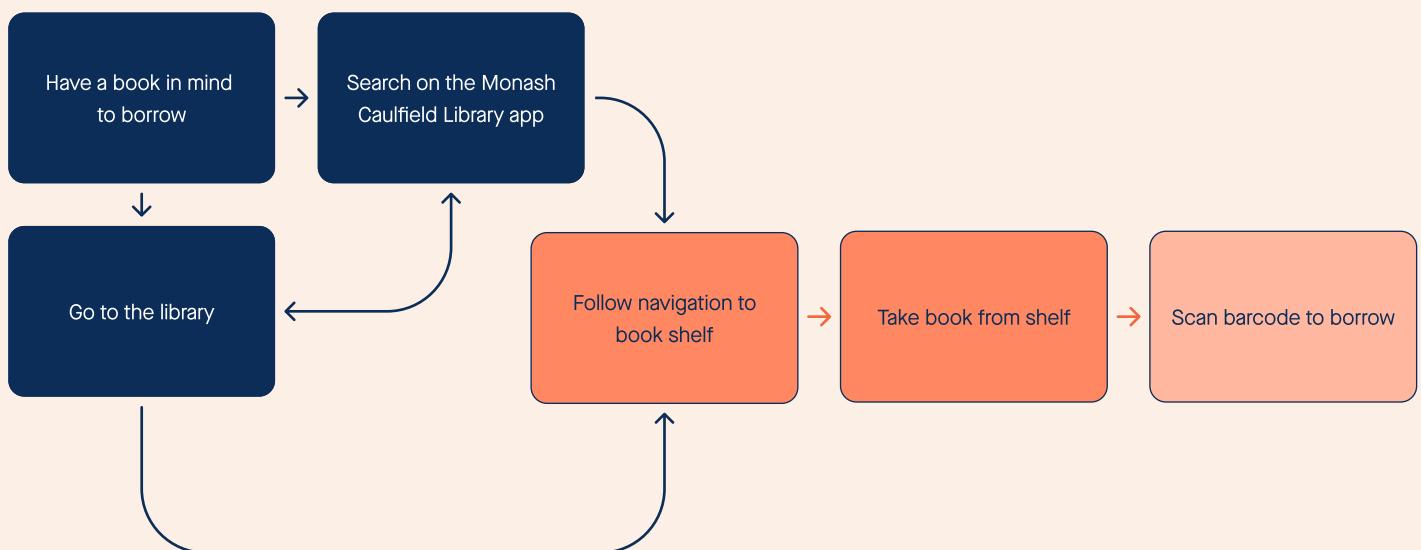
IA, Lo-fi  
Wireframes  
& Video Test

# INFORMATION ARCHITECTURE

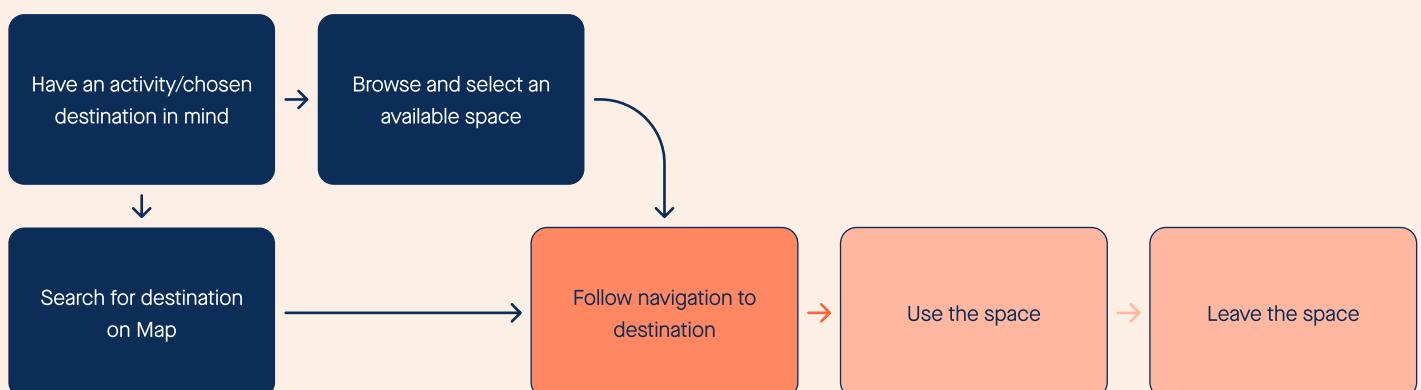


# EXPERIENCE FLOW (USING THE APP)

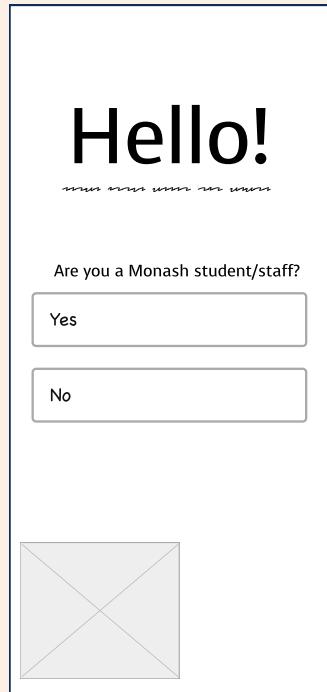
## BORROW A BOOK



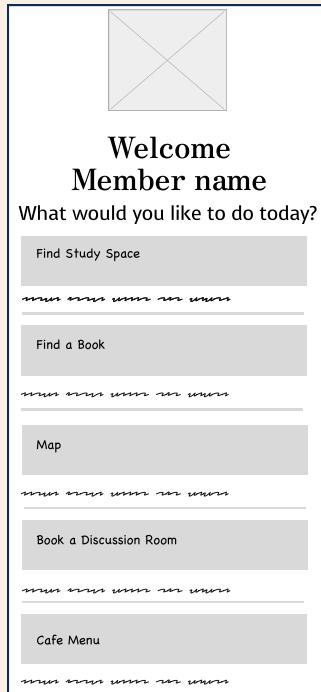
## WAYFINDING



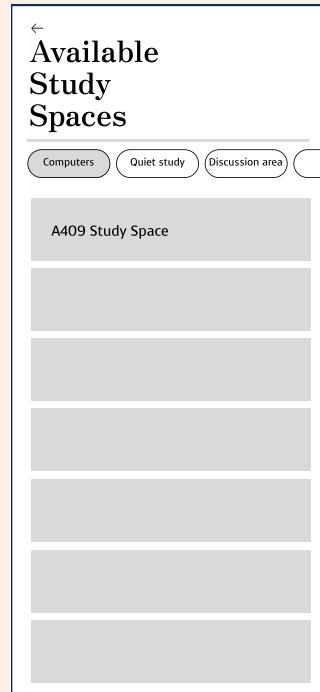
# LO-FI WIREFRAMES



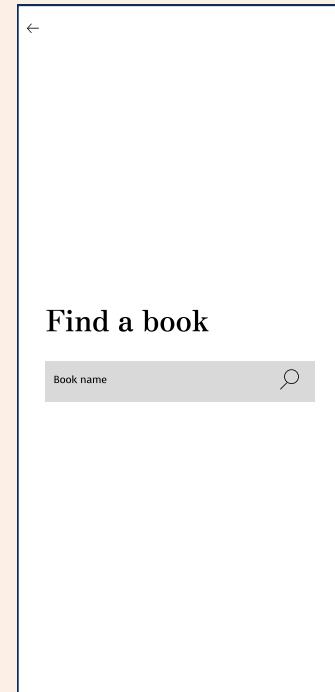
Login



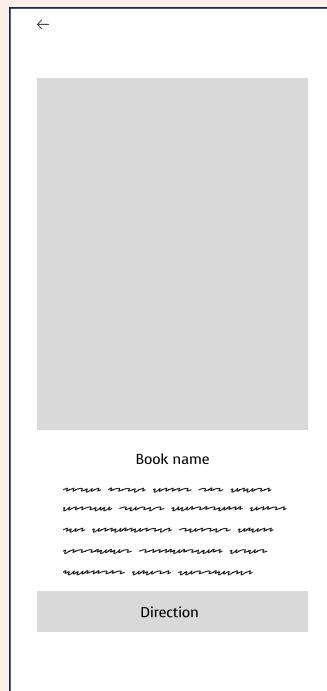
Home/Dashboard



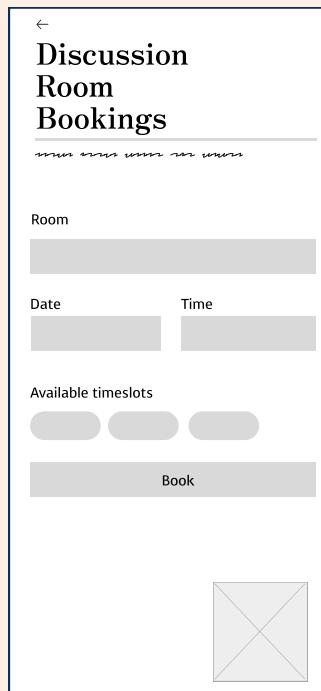
Find a study space



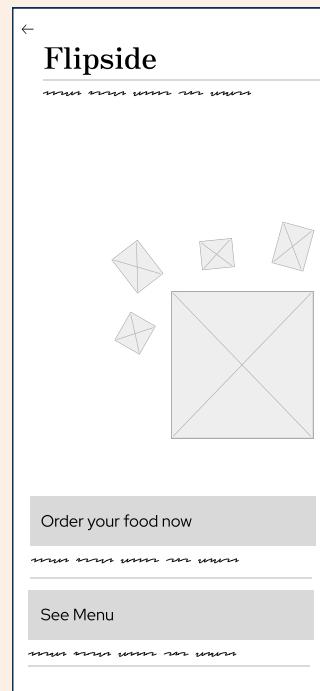
Find a book



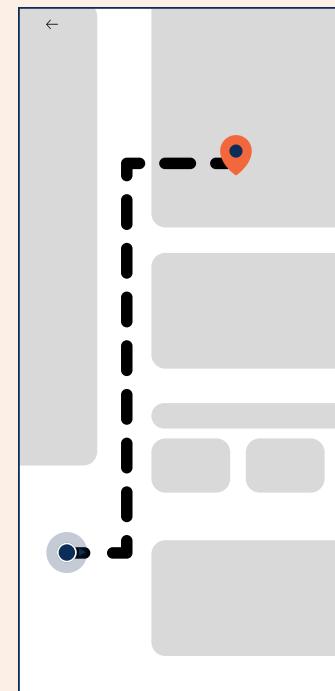
Book details



Discussion room booking



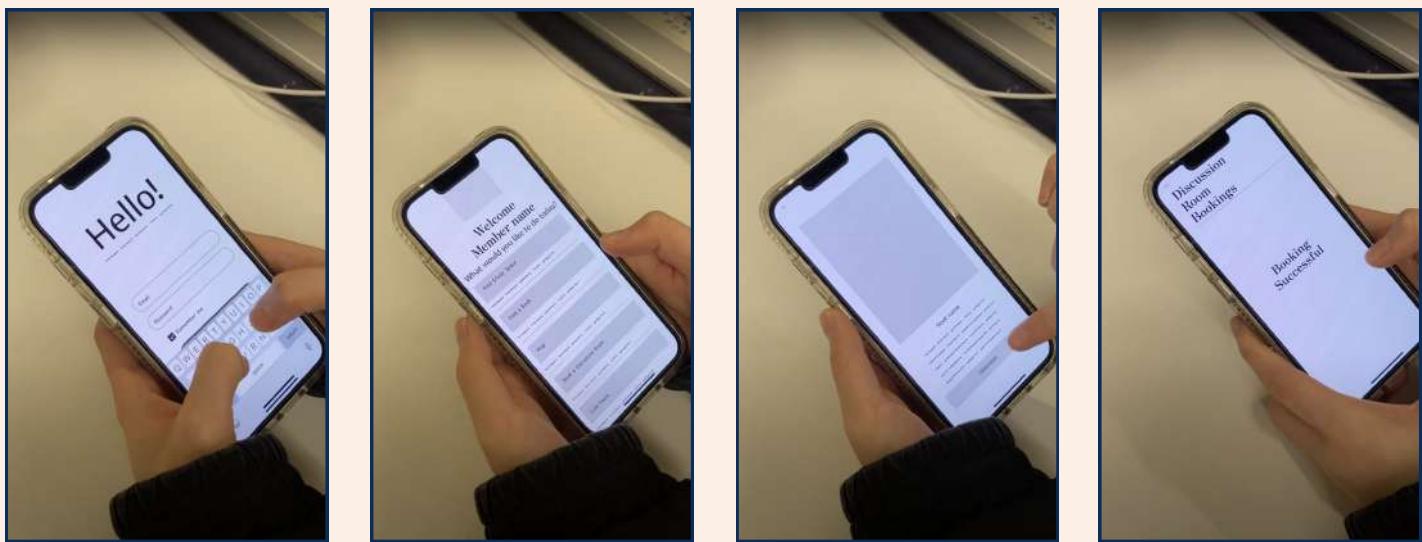
Cafe



Map & Navigation

# VIDEO TEST

Click [HERE](#) to view the video test



These are the user feedback that have been realised during testing:

## WHAT WAS DONE WELL

1. Functionalities are clear and easy to use
2. User experience is generally intuitive

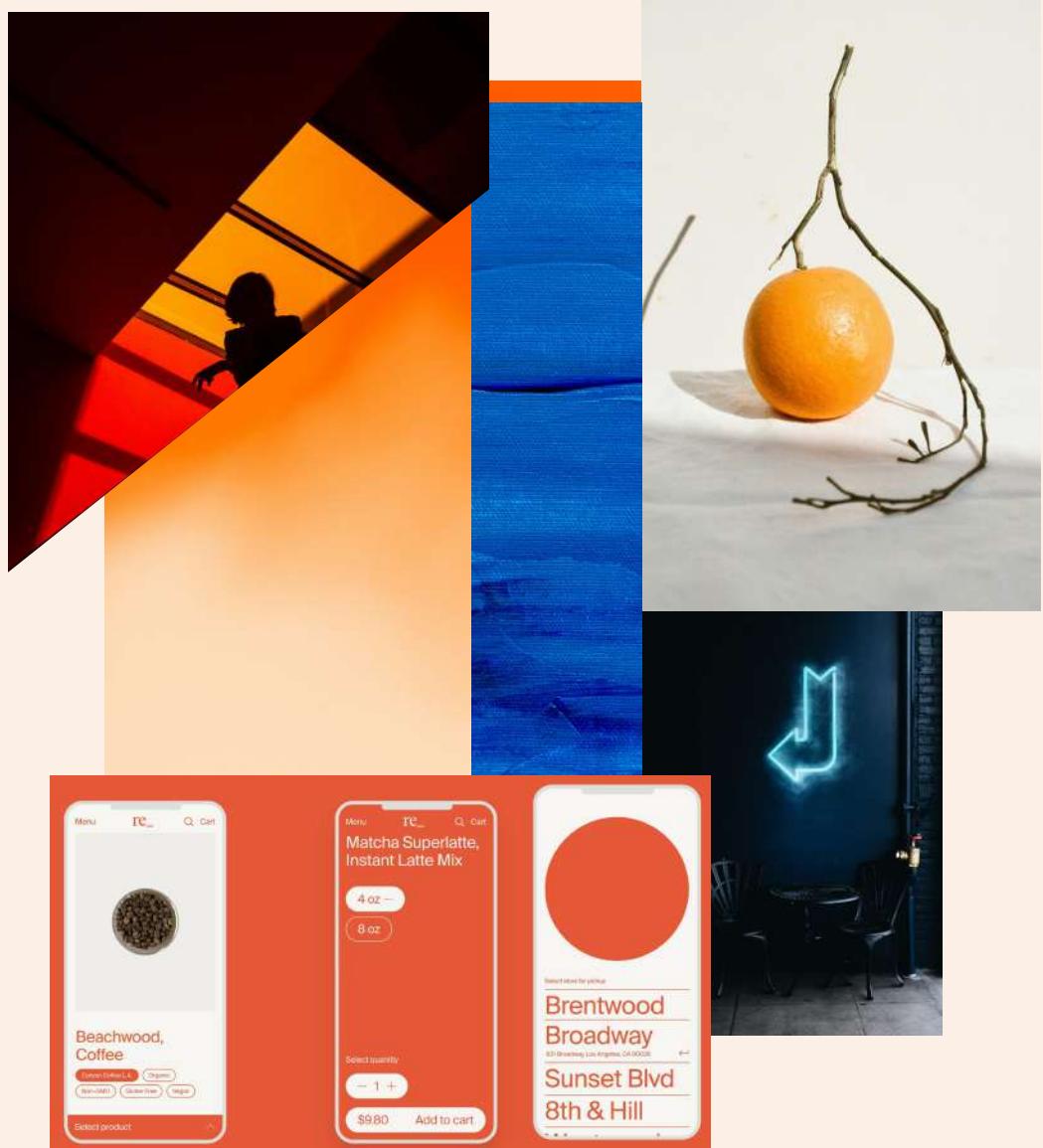
## WHAT NEEDS IMPROVEMENTS

1. Need a navigation bar, too many going back button, not efficient
2. Don't have a profile page, making those that want to log in later more difficult
3. Require more detailed wayfinding steps

# Moodboard & Style Guide

# MOODBOARD

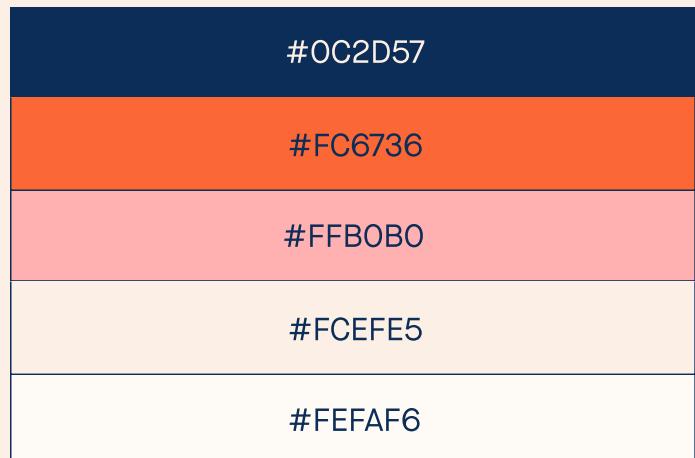
Many of our app design inspiration came from flat designs and minimalistic layout with bold colour scheme and strong typography. To make the app more realistic, we incorporated bar codes for M-pass, filters, loading screens, and animation.



# STYLE GUIDE

## COLOUR PALETTE

Our colour scheme is not only taken from the Monash colour but also the architectural design of the library. We observed the significant amount of wood material that is used in the interior design. So, to recreate that colour repetition in our design, we used orange. We wanted to create a comfortable and cozy atmosphere from the orange while staying professional with the navy.



## TYPOGRAPHY

We chose Maison Neue as our main font due to its simple and clean design. This aligned with our flat design aesthetic. Its simplicity made both big and small fonts easy to view on any screen, making it a good font to use for our app and digital signage.

Aa

Maison Neue

## PAGE TITLE

Light 60 px

## Heading

Light 40 px

## Subheading

Light 24 px

Body Text

Book 14 px

## FIND A BOOK

Profile

Caption heading

Demi 11px

Book Name

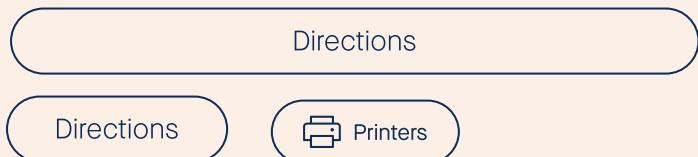
Caption

Book 11 px

Book Name

# UI ELEMENTS

## BUTTONS



## SEARCH BAR

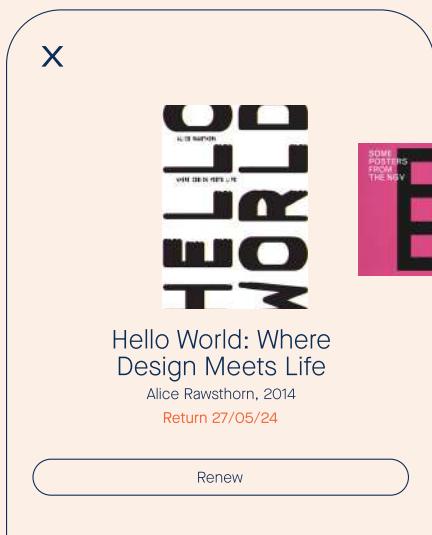


## FILTERS

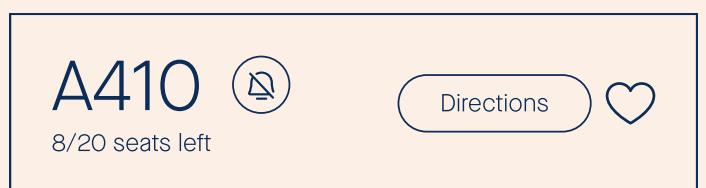
### Levels



## DETAILS POP-UP



## CARDS

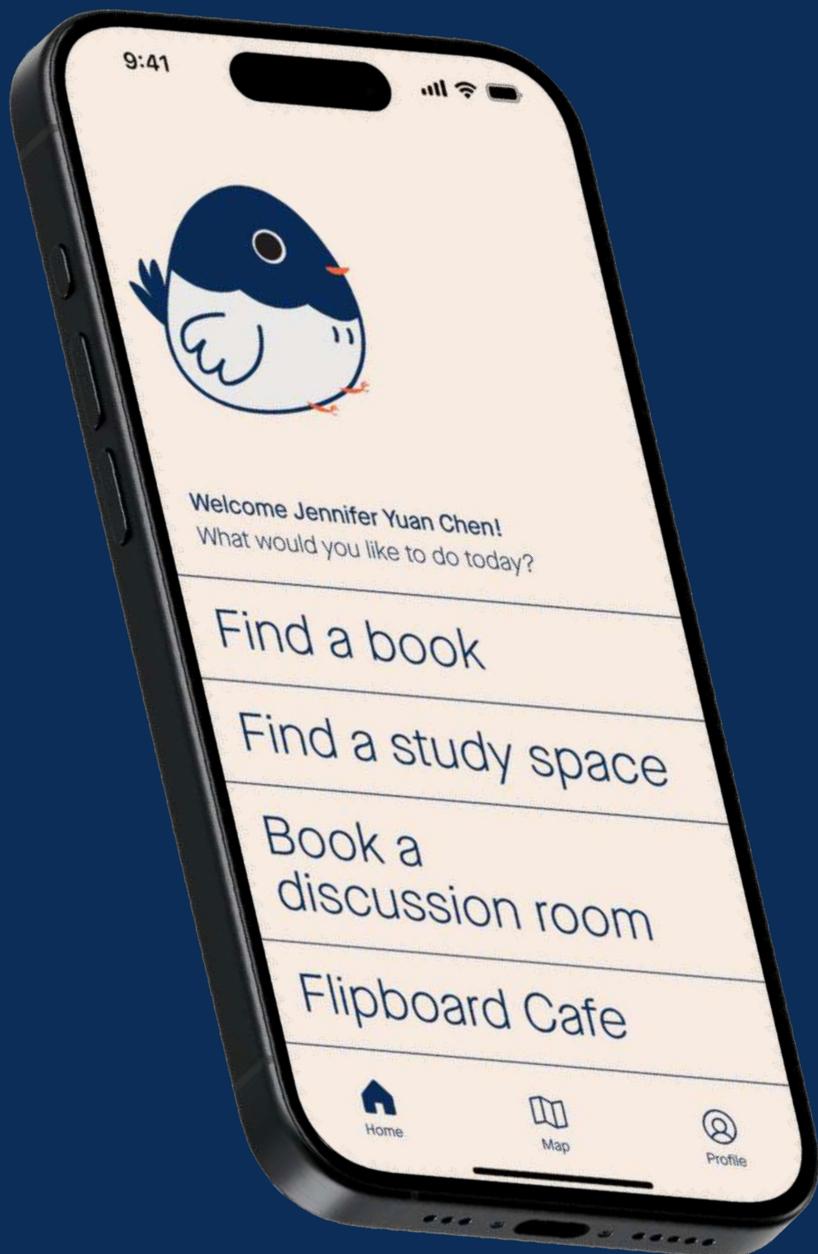


## LINKS TO SUB-PAGE



## NAVIGATION BAR

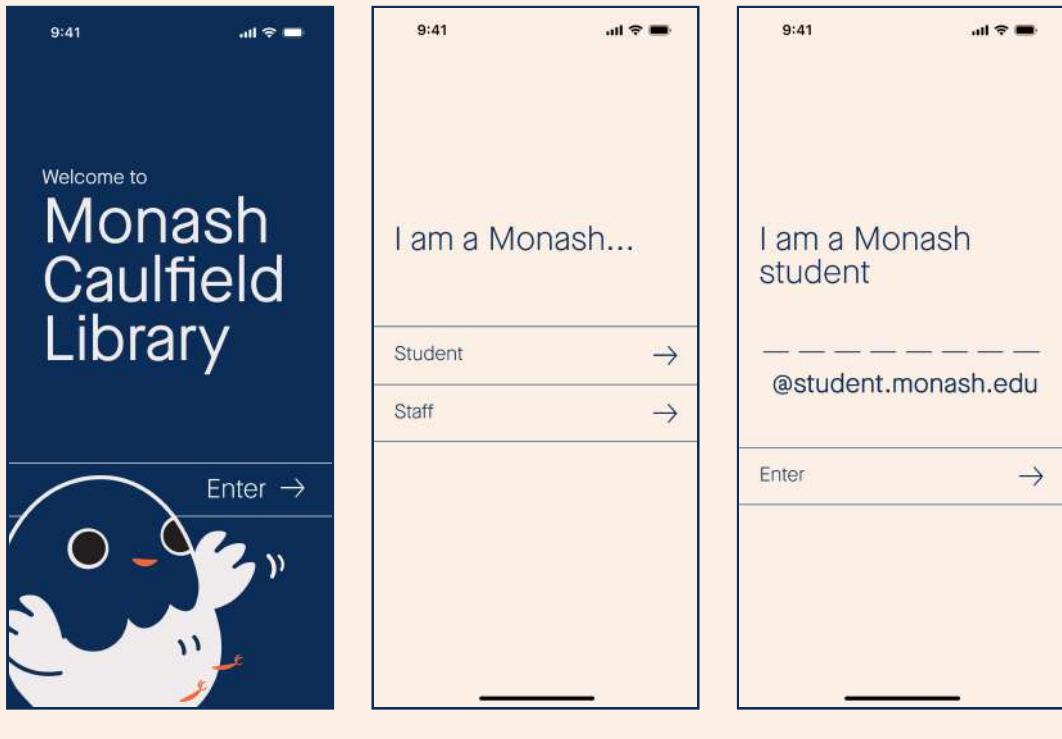




Click [HERE](#) to view full prototype

# Hi-fi Wireframes

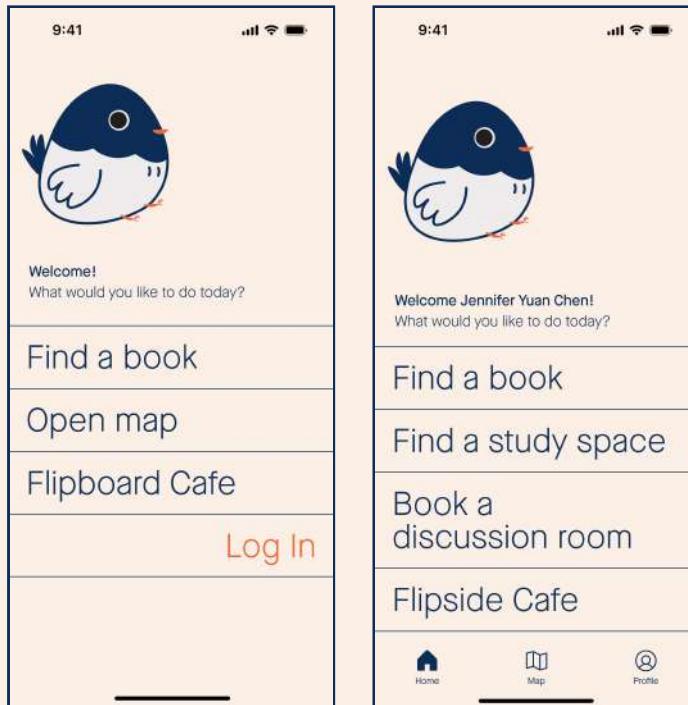
# WELCOME/LOG IN & DASHBOARD



Welcome page

Login

Login



General visitor dashboard

Monash member dashboard

# MAP & SEARCH

The four screenshots illustrate the app's search and map features:

- Main (current location):** Shows a floor plan of a library building with various rooms labeled (e.g., A110-A125, A401-A414). A blue dot indicates the user's current location. A search bar at the top says "Search Library".
- Guide pop-up:** A modal window provides information about nearby facilities: Quiet Study, Bookshelves, Printers, Computers, Meeting room, and Stairs. It also lists categories: STUDY SPACE, BOOKSHELVES, STAIRS, CAFE, PRINTERS, MEETING ROOM, and DISCUSSION ROOM.
- Different level:** Shows a different floor plan (Level 4) with rooms A402, A404, A405, A406, A411, A412, A414, and A415. A blue dot marks the user's location.
- Specific search:** A search results screen for "A410". It shows the room details: "A410" (Level 4, Study Space) and a "Directions" button. Below the results is a keyboard interface for entering a new search term.

Main  
(current location)

Guide pop-up

Different level

Specific search

The three screenshots show search results for specific items:

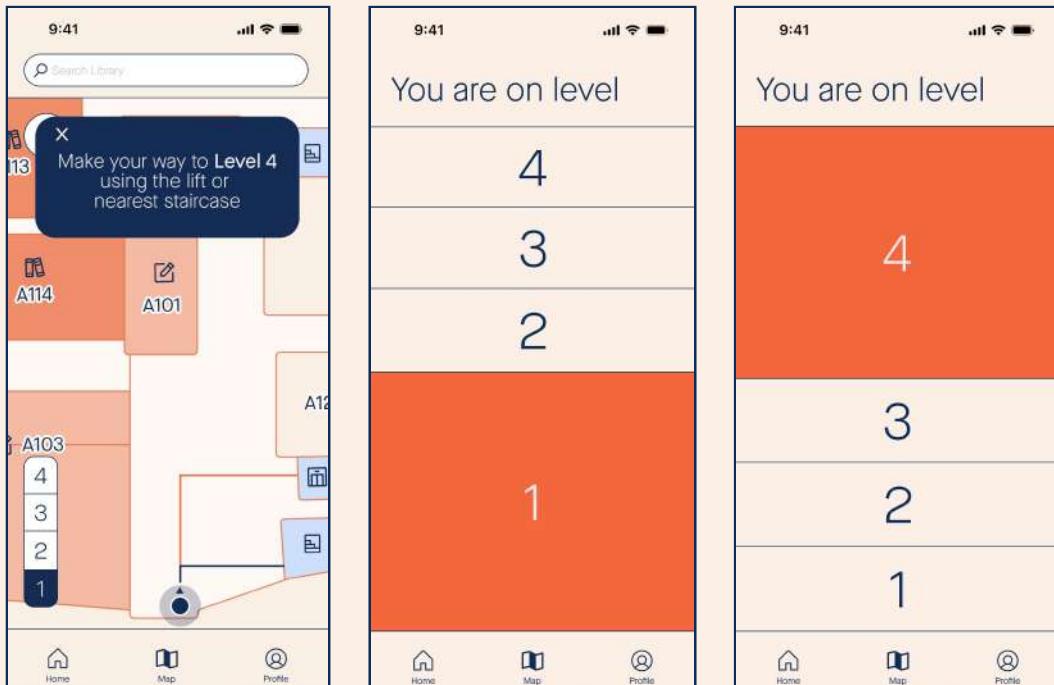
- General Search:** Shows results for "Flipside Cafe" (Level 1) and "A205" (Level 2, Study Space).
- Search with filters:** Shows a search result for "No available printer".
- Search with filters:** Shows results for "Printer 4.1" (Level 4) and "Printer 4.2" (Level 4), both with a "Directions" button.

General Search

Search with filters

Search with filters

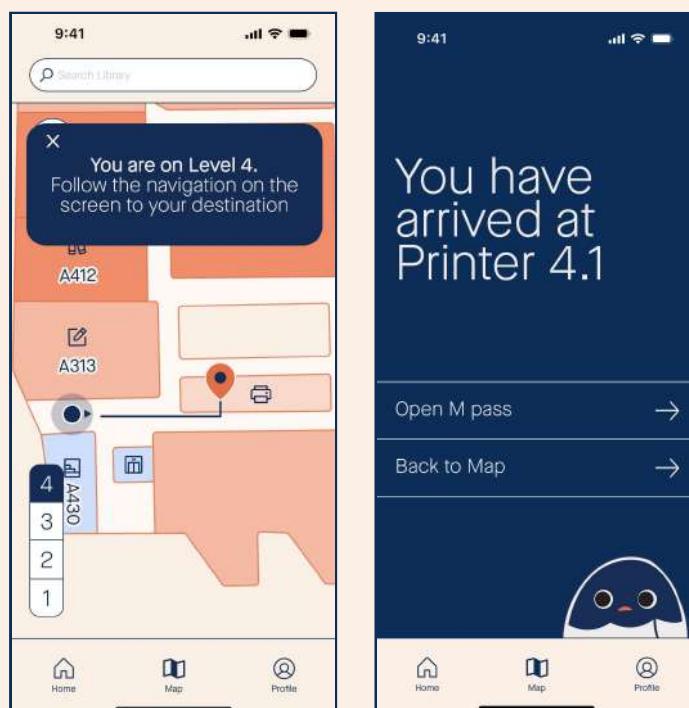
# NAVIGATION SYSTEM



Level navigation

Automatic  
level indication

Automatic  
level indication



Navigation on  
destination level

Arrival

# FIND A BOOK

The image displays four screenshots of the Find A Book app interface, arranged in a grid:

- Main:** Shows the search bar with placeholder "Search Book Title/Author", filters for Level (1-4), Subject (Any), and Publication Year (1998-2024). Below is a cartoon bird icon holding a book.
- Search results:** Shows search results for "thinking with type". Three books are listed: "Thinking with Type" by Lupton, Ellen (2010, Level 4), "Thinking with Type" by Lupton, Ellen (2004, Level 4), and "Thinking in Type: The Practical Philosophy of Typography" by Lupton, Ellen (2004, Level 3).
- Search results (using filters):** Shows the same search results after applying filters for Level 1, Subject Any, and Publication Year from 2010 to 2024.
- Navigation loading:** Shows a cartoon bird icon with three dots below it, and the text "We are planning your route to your book!"

The image displays four screenshots of the navigation feature, arranged in a grid:

- Navigation to bookshelf:** Shows a floor plan of a library with bookshelves labeled A410-A415, A313, A403, and A411-A414. A blue path leads to a bookshelf. Below is a cartoon bird icon holding a book.
- Zoomed-in map when user is near bookshelf:** Shows a zoomed-in view of the floor plan area around A414. A blue dot indicates the user's location, and a blue line shows the path to the bookshelf. A blue button at the bottom says "Tap here to connect to the digital signage".
- Connecting feedback:** Shows the floor plan with a blue dot at the user's location and a blue line showing the path. The text "CONNECTING . ." is displayed twice.
- Connection successful:** Shows the floor plan with a blue dot at the user's location and a blue line showing the path. The text "YOU ARE NOW CONNECTED — SIGNA" and "SIGNAGE NOW DIRECTING YOU — YO" are displayed.

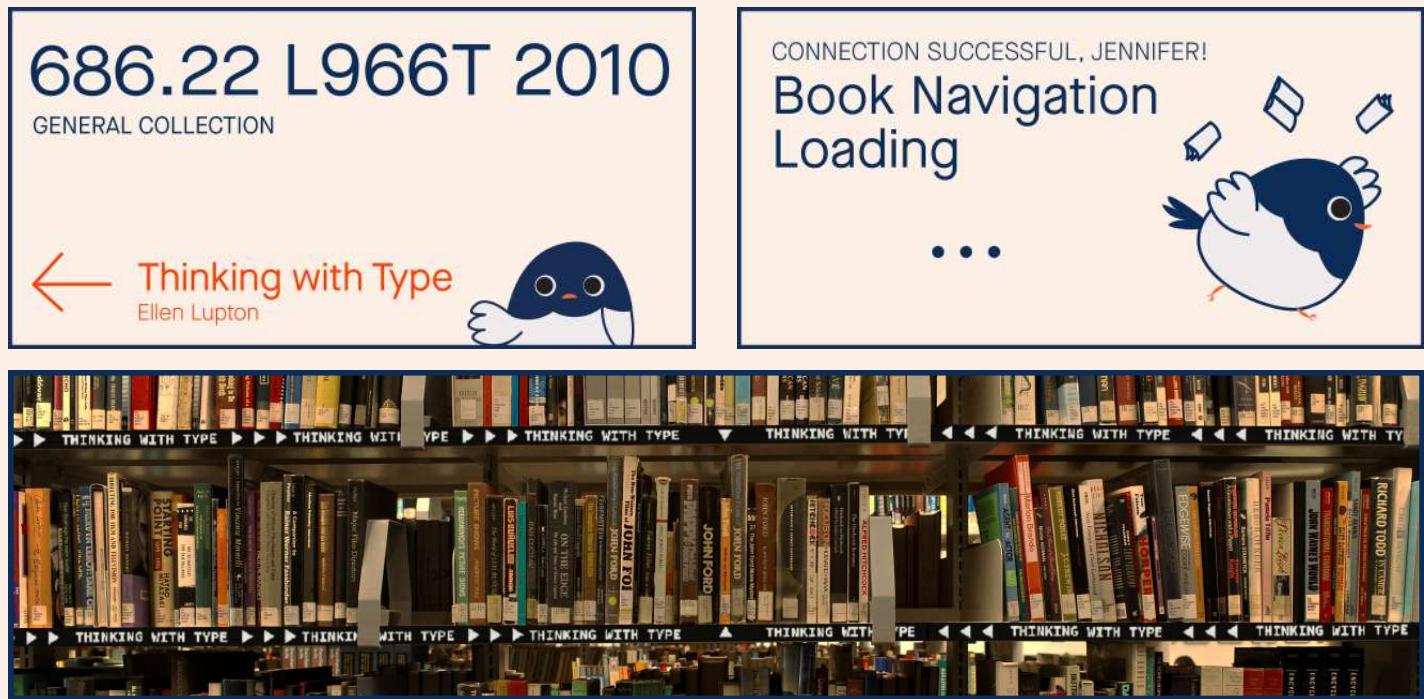
Navigation to bookshelf

Zoomed-in map when user is near bookshelf, user is prompted to connect to digital signage

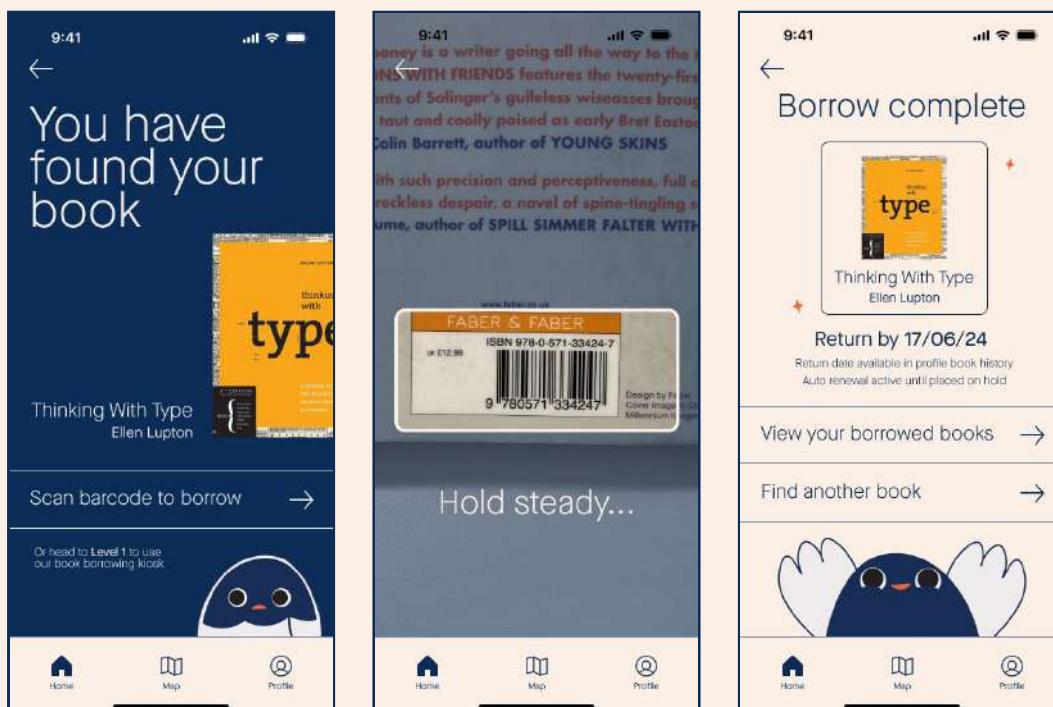
Connecting feedback

Connection successful

# FIND & BORROW A BOOK



Digital signages on bookshelves. See details on *Digital Signage* section



Arrival at book

Scan barcode

Borrow successful, user  
can find all borrowed  
books in Profile

# FIND A STUDY SPACE

The image displays three screenshots of a mobile application interface for finding study spaces:

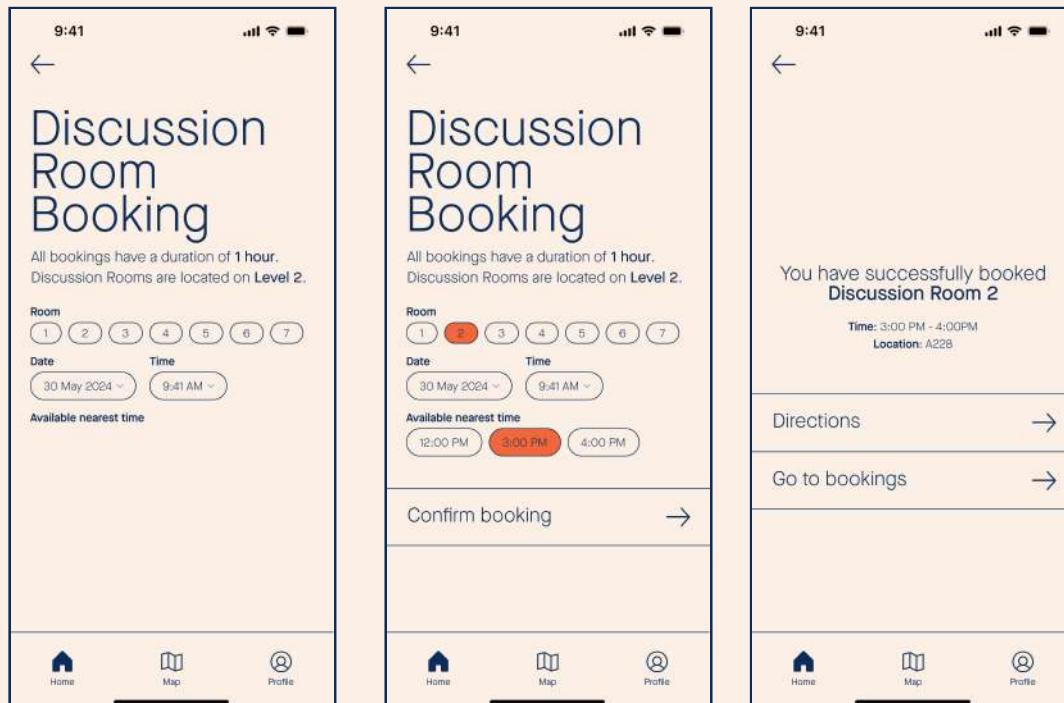
- Main Screen:** Shows a list of available study spaces across four levels (1, 2, 3, 4). Each space is listed with its name, availability (e.g., "30/40 seats left"), and options to view directions or favorite the space.
- Filtered Screen:** Shows a list of available study spaces after applying filters for "Computers" and "Quiet Study". The same information as the main screen is provided.
- Navigation Screen:** A map showing the layout of study spaces A410 through A414 across four floors (1 to 4). A specific study space, A413, is highlighted in orange and marked with a blue location dot. Arrows indicate the user's path from the bottom entrance up to A413.

Main

Filtered study spaces,  
user can favourite a  
study space, which  
can be found with  
filters and in Profile

Navigation to  
study space

# DISCUSSION ROOM BOOKING & CAFE



Booking main page

Choose room and time,  
available nearest time  
automatically shown

Booking confirmed,  
users can find all  
bookings in Profile



Cafe main page

Menu

# PROFILE

The image displays three mobile application screens related to a user's profile:

- Main Screen:** Shows a circular profile picture of a blue cartoon character, the user's name "Jennifer Yuan Chen" with the pronoun "she/her", and a barcode. Below this are links for "Borrowing History", "Favourite Study Spaces", and "Discussion Room Bookings".
- Borrowed books Screen:** Displays a list of borrowed items under two categories: "On loan" and "Returned". The "On loan" section includes "Hello World: Where Design Meets Life" by Alice Rawsthorn, due back on 27/05/24. The "Returned" section includes "Some Posters From The NGV" by Stuart Geddes, returned on 15/05/24, and "Let's Become Fungal!" by Yasmine Ostendorf, returned on 15/05/24.
- Book details Screen:** A detailed view of the book "Let's Become Fungal!" by Yasmine Ostendorf, 2023. It shows the cover image, author, title, and return date. There is a "Renew" button at the bottom.

Main

Borrowed books

Book details

The image displays two mobile application screens:

- Discussion room bookings Screen:** Shows "Current bookings" for "Discussion Room 2" on 25/05/24 from 3:00 PM to 4:00 PM in location A226, with a "Directions" button. Below this is a "Past bookings" section for "Discussion Room 7" on 30/04/24 from 2:00 PM to 4:00 PM in location A219, also with a "Directions" button.
- Favourite study space Screen:** Shows a booking for "A410" with 8/20 seats left, including a "Directions" button.

Discussion room bookings

Favourite study space

# Digital Signage

# THE SIGNAGES

For the digital signages, we decided to implement two different signage systems to enhance the wayfinding experience of the two most important functionalities of the app: Find a book and Find a study space

## FIND A BOOK

For book finding, we proposed a **reactive** system with which the user can connect through the mobile app. The user first search for a book using the app and follow the navigation to the shelf the book is on. The app will then prompt the user to connect to the digital signages on the shelf which include:

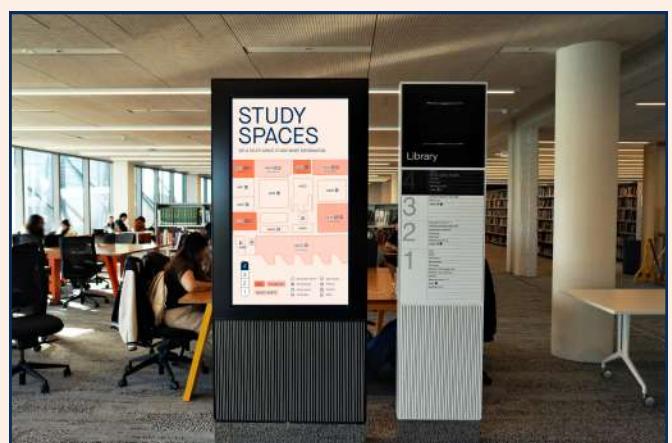
- **a LED screen on the end of the bookshelves**, which points the user to the side of the shelf that the book is on
- **LED strip screens on the dividers of the shelf** which points to the specific location of the book on the shelf



## FIND A STUDY SPACE & MAP

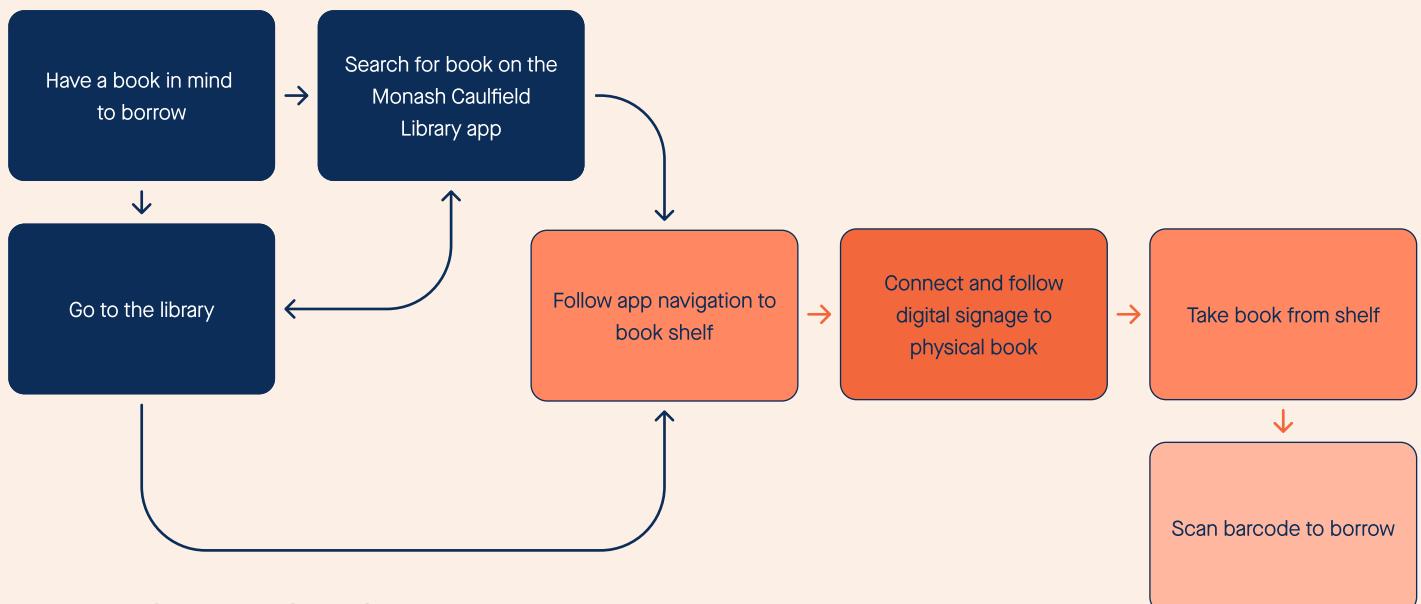
The second digital signage system is an **interactive** system that is stand-alone but is implemented using the same navigation system on the mobile app.

We proposed a **vertical LED touch screen located at the entrance/exit of the stairs/lift area**. The user can view a bigger and more detailed version of the map which shows the capacity and availability of each area. They can then tap on an area to show details and navigation to that area.

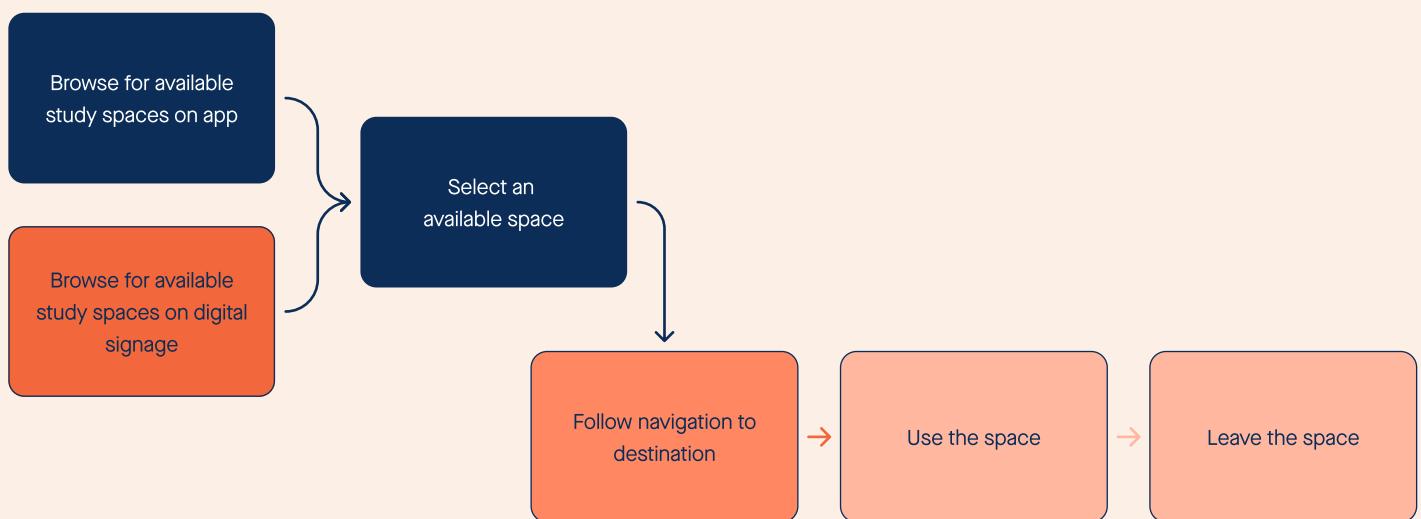


# WAYFINDING EXPERIENCE

## FIND & BORROW A BOOK



## FIND A STUDY SPACE



# BOOK-FINDING SIGNAGES

Click [HERE](#) to view prototype



Stand-by screen  
(replacing current physical signs)



Connected to mobile app



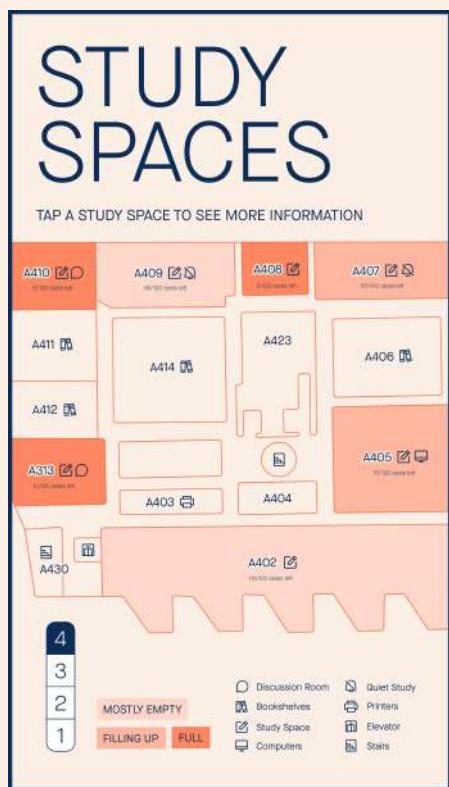
Navigation to which side of shelf the book is on



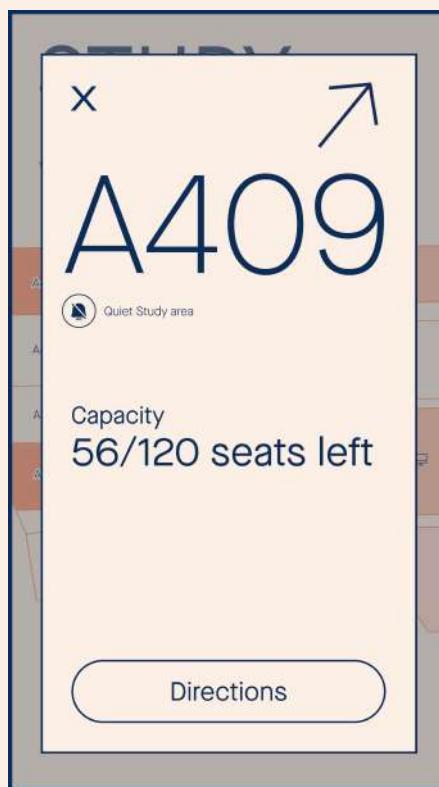
LED strip screen pointing to the book

# STUDY SPACE SIGNAGES

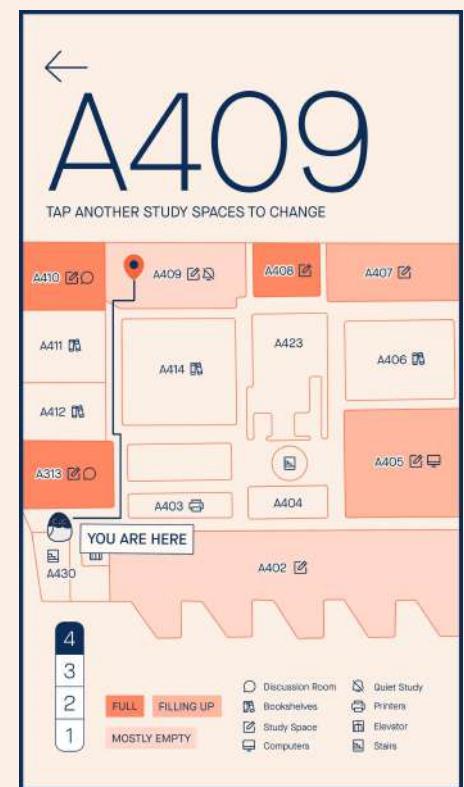
Click [HERE](#) to view prototype



Level Map



Study space details



Navigation to study space

# Reflection

Working on the Monash Caulfield Library Wayfinding project, I have learnt to effectively conduct UX research. Through a variety of exercises including idea generation using card sorts and psychology cards, user research, such as creating empathy maps, experience flows and user story, and exploring wayfinding strategies and place archetypes, our team accomplished to truly understand the users' needs and pain points of the current system. During the design process, our team has learnt and achieved to create user-friendly, intuitive, and aesthetically pleasing wireframes for both the mobile application and the digital signages. Personally, I applied my UX design skills using a design system, auto-layouts, components, and more advanced prototyping, contributing greatly to the team's final prototypes. While met with some unprecedented struggles, including understanding and applying the comprehensive UX research process, some idea conflicts during the design process and an unexpectedly lengthy time spent on idea generation, our team was able to work collaboratively and harmoniously to work out the solutions and deliver a successful presentation. For the next project, I would strive to establish a complete design system before designing all the screens which all members can follow and apply, so that we can create a more consistent design.

# References

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