



Gamifying the Library

Presentation



Cecilia, Alex, Shao-Chi

Meet the team!



Cecilia

I'm a rising sophomore in English and a hobbyist illustrator, so I was drawn to the art and writing aspects of the game. I principally focused on those areas, but also learnt Figma prototyping principles. Additionally, I coordinated the promotion of playtesting.



Alex

I am a rising sophomore majoring in Information. I joined this project to learn how to apply UX principles to a working prototype. I worked mostly on Figma map and audio components, user error prevention, quality assurance, and accessibility.



Shao-Chi

I am a rising junior double-majoring in Comparative Literature and Women's and Gender Studies. I worked on an educational video game before with Figma and joined this project to learn more about game design and different aspects of the Library and Library-related research.

Meet the team!



Our wonderful mentors



Denise



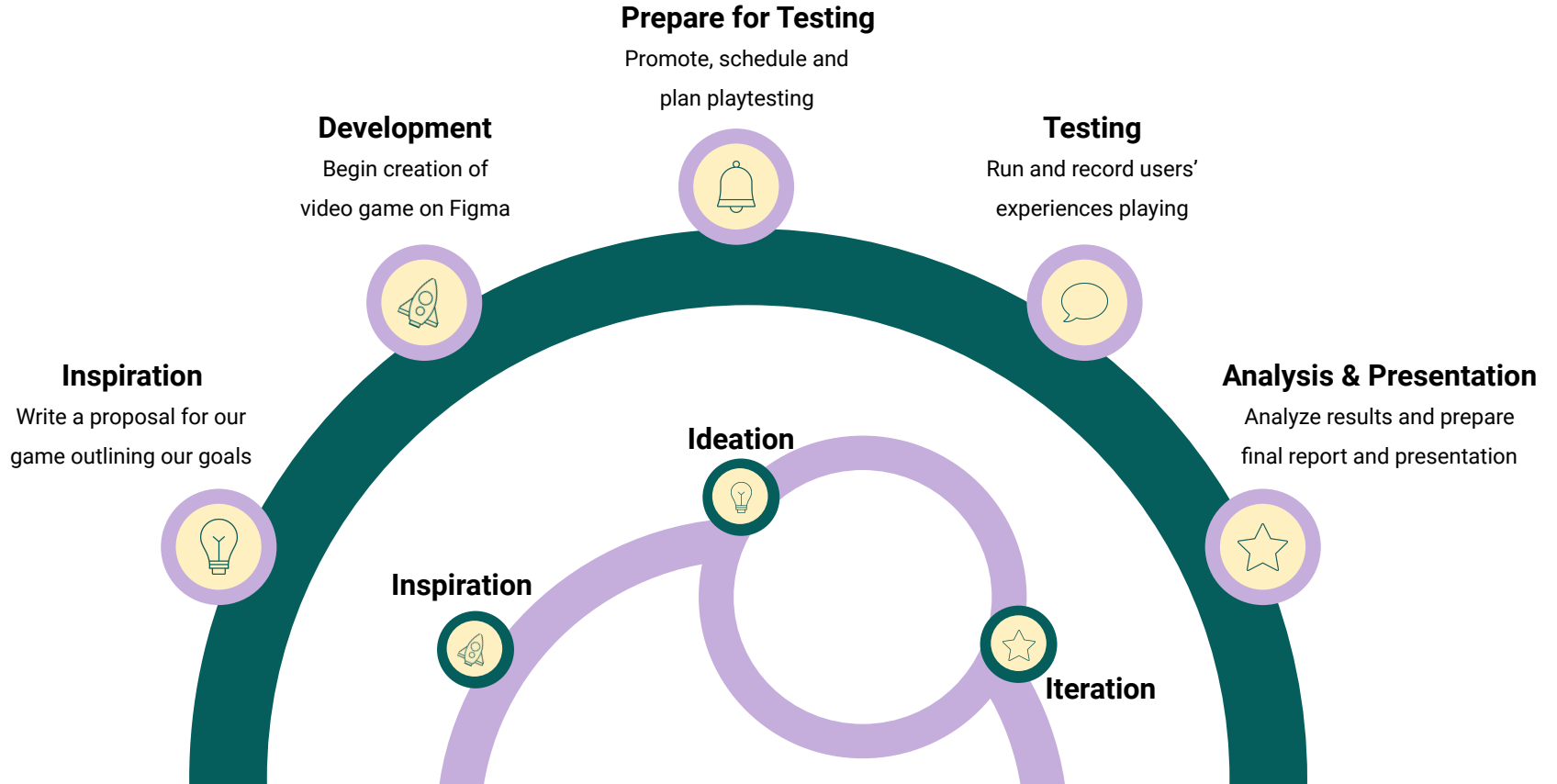
Caylen

Agenda

- Objectives and Goals
- Development
- User Testing
- Final Product
- Lessons Learned
- Next Steps



Work Cycle



Game Proposal



Problem Statements

Navigation between North and South buildings is complicated

Knowledge about study area locations is not widespread

Finding items within Stacks is confusing

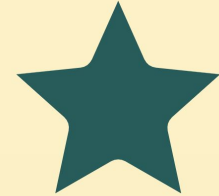


Intended Audiences

New students

New Library staff members

Returning students unfamiliar with Hatcher



Goals

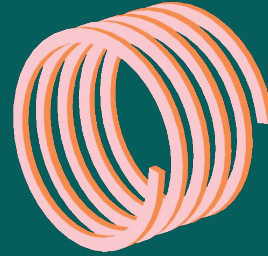
Navigation self-reliance

Entertain and educate

Increase sense of belonging



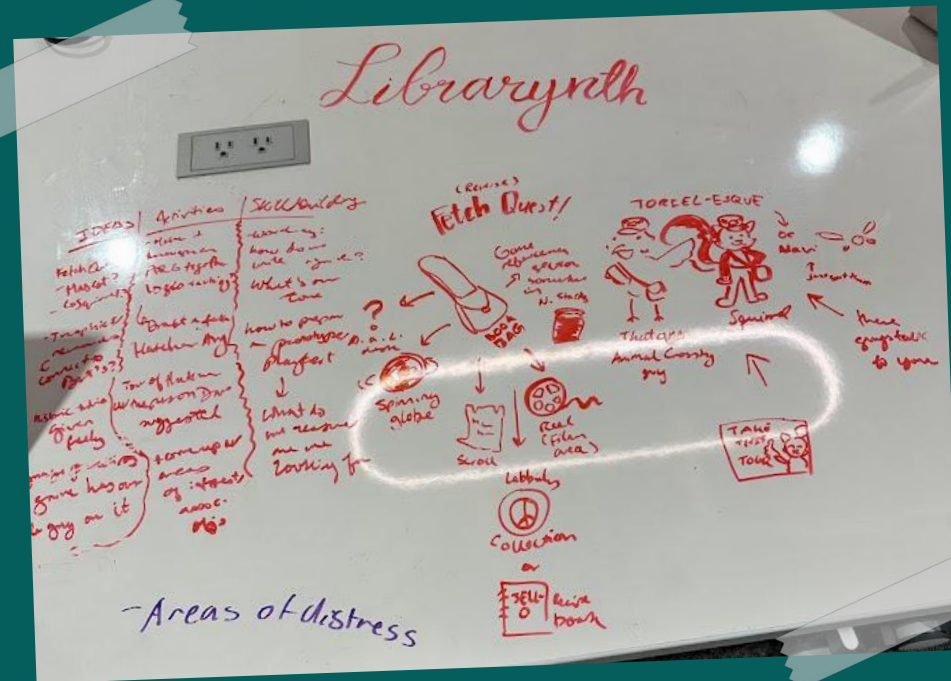
Development



Proposed Story - 'Librarynth'

Whiteboard from first meeting

- “Reverse” Fetch Quest
- Mail-themed
- 7 destinations
- User-led paths
- Sticker system



Proposed Story - “Lost in Memories”

- Animal characters related to U - M campus
- Memory
- Family
- “Ghost” or “spirit” librarians
- Being lost in the library
- Navigating an unfamiliar space

Title: Lost in Memories

The arb squirrel came to U-M campus to visit their cousin the fancy squirrel and both of their grandma.

The fancy squirrel was running late and so the arb squirrel decided to explore the Library on their own first.

The moment the arb squirrel stepped into the lobby (either north or south hatcher) a little girl squirrel came to them and said they were lost and were looking for her dad. The arb squirrel had never been here before so he didn't know how to help her. She was upset and just ran away to find her dad on her own. She said something like “I think Dad is working somewhere somewhere and I will just go there and look for him.”

The arb squirrel was worried about her and called the fancy squirrel for help, and chased after the lost squirrel.

The adventure starts here.

So the idea of the game is that the player is the arb squirrel, and along their way chasing behind the little girl squirrel they would explore the Library building while helping out “spirit squirrels” that reside in different spaces in the building.

Final Story

- Library Worker Squirrel
- Book - Stacks Game
- Compass - North and South
- Lamp - Study spaces
- Big reveal!

SQUIRREL - INTRO SECTION:

- Hello! You're the **paranormal investigator** interested in Hatcher Library, right?
- I'm **Darryl**, your friendly **Diag Squirrel** and **Library Guide**!
- On this walk, we will meet **three ghostly figures**. Your goal is to **learn what they have to teach you!**
- I won't interfere much, I will give you **floor plans** and **map directions** to help you learn to navigate the building.
- At the end of our journey, you can **use those skills** to visit the **entire library yourself**.
- Let's get started with the **South Lobby** map!

[MAP INTERLUDE]

SQUIRREL - 3RD FLOOR:

- You made it!
- Woah, what's that **sound**?

[we see the silhouette of the BOOK GHOST]

BOOK GHOST - 3RD FLOOR [name says "???"]:

- Hello??? Is anyone there??? Can you **come** find me???
- My call number is **808.3 B287b!** Please help me!

SQUIRREL - 3RD FLOOR:

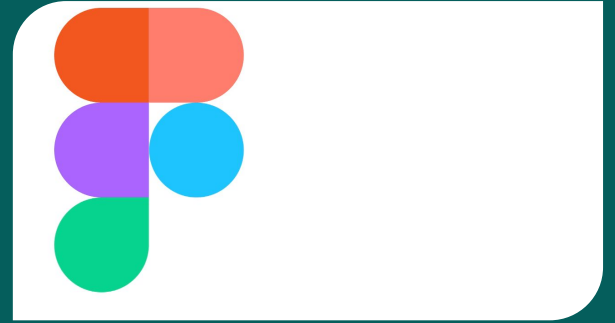
- **You** hear that? We have to go **find that ghost!**
- But first, we need to determine **what shelf he's on...**

[CALL NUMBER GAME]

BOOK GHOST - 3RD FLOOR [this time in color, not silhouette]:

1. Thank you for finding me! I must have **flown into this book** before it got **reshelved**, so I've been stuck since!
2. Oh.. since I'm not corporeal, I guess I could have **floated out, huh...**
3. Well, never mind that! I'm out now!
4. I always hang around the 3rd Floor South because there's so much to see!

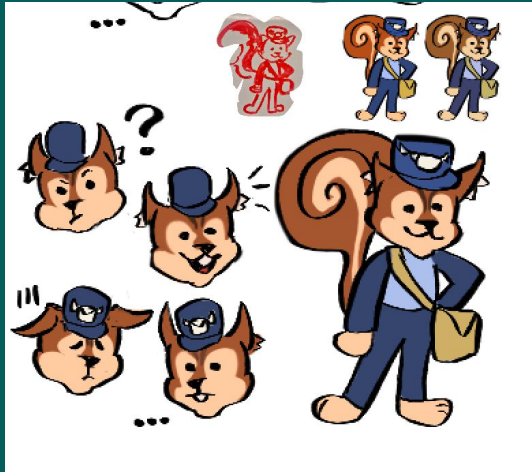
Figma



We chose to use Figma because:

- We can get the educational plan for free
- One of members used it and the others wanted to learn more about it
- There are experts at the Library we can learn from

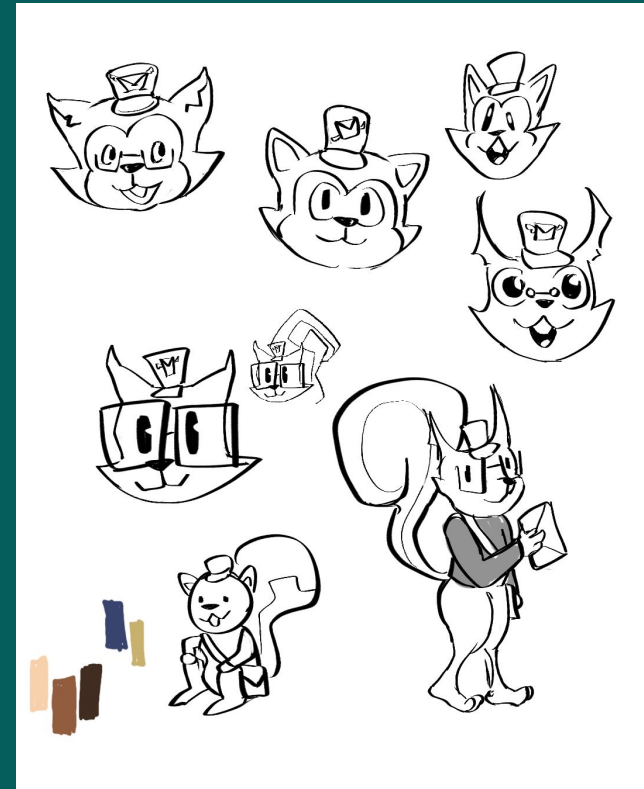
Visuals



First Design



Outfit and logo variations



Style studies for Mail Squirrel

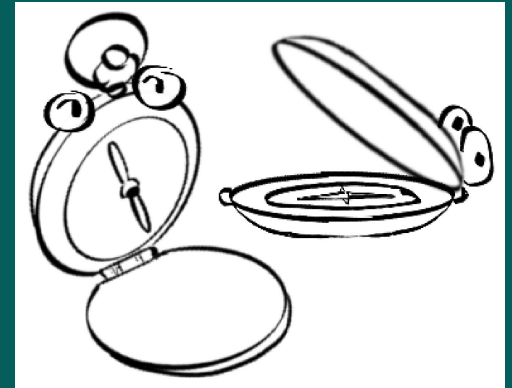
Visuals



Final Mail Design

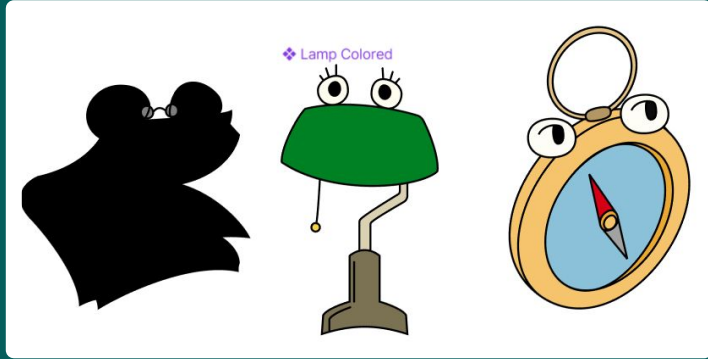


First vectors



Compass Ghost sketches

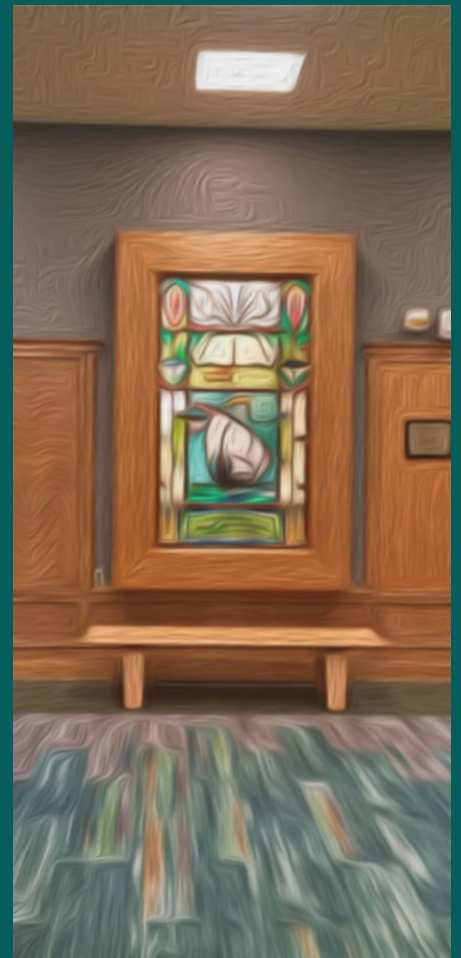
Visuals



Final Ghost Designs

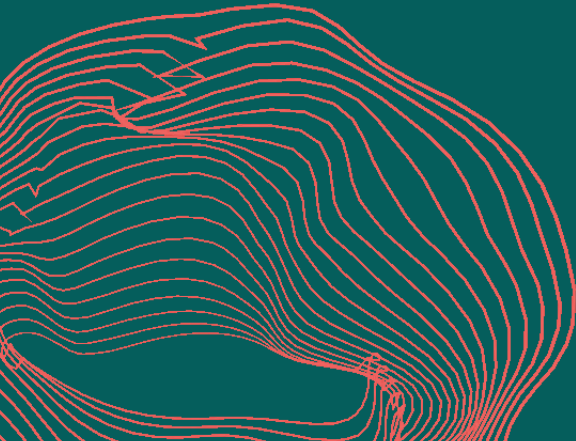


Full-body Squirrel (reveal)



Ref. Room Background

Challenges and Solutions



Learning Curve



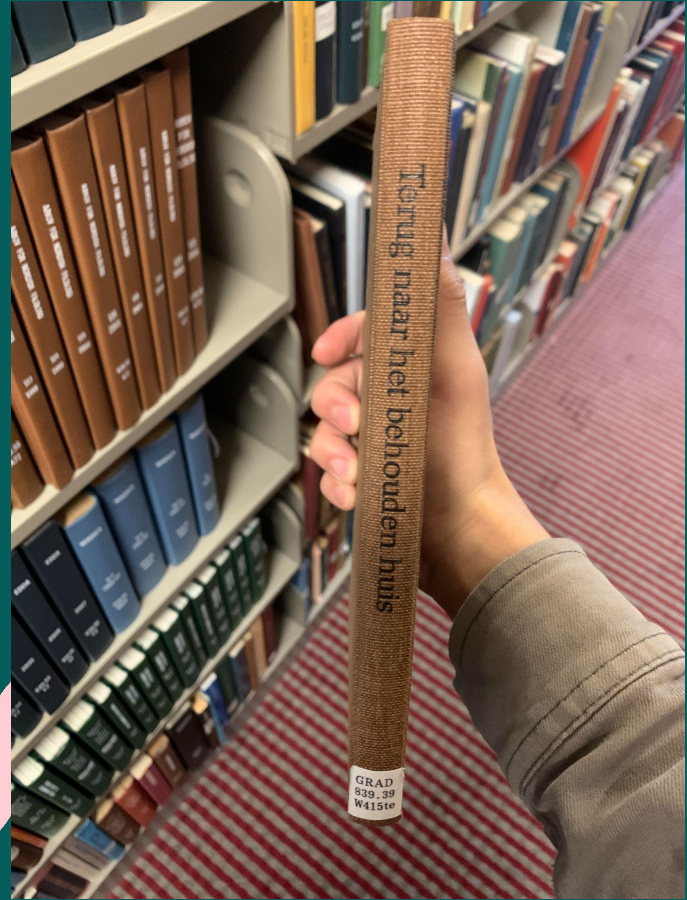
The diagram illustrates a learning curve with three distinct stages. It features a purple line that starts at a low point, rises steeply, and then levels off. Each stage is marked with a yellow circle containing a purple outline. The background is a dark teal color with decorative orange concentric circles in the corners.

Slow Beginning
New to Figma

Steep Progress
More familiar with
different Figma
interactions and
functions

Plateau
Learning Figma
limitations

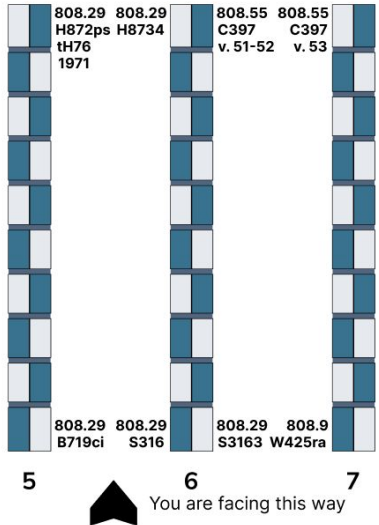
Interacting with the Physical Space





The call number of the book ghost is 808.3 B287bl

You're almost there!
Each box represents a bookshelf. To find the correct shelf, **enter the stack**, find the shelf where the call number is located, tap the correct box.

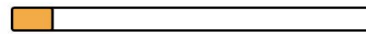


Goal: find book **839.39 W415te**



Find the column where the book is located, and **tap on the corresponding shape**.

Hint: the call numbers increase from left to right and from top to bottom by columns.

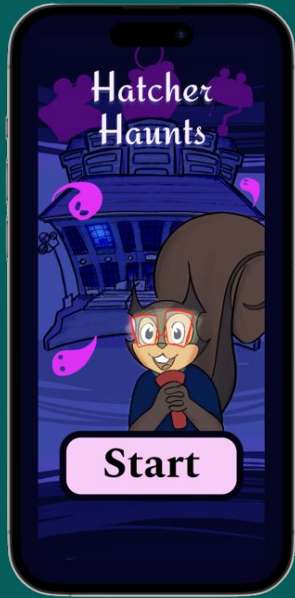


iPad

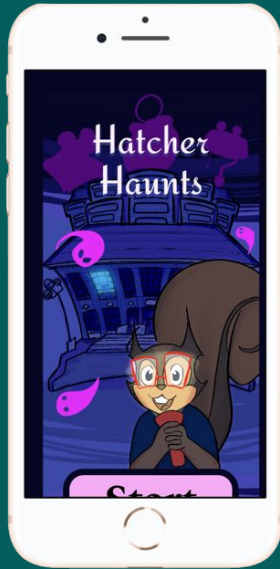
“On tap”
became
double clicks
on iPad.

Found
solutions on
online
forums.

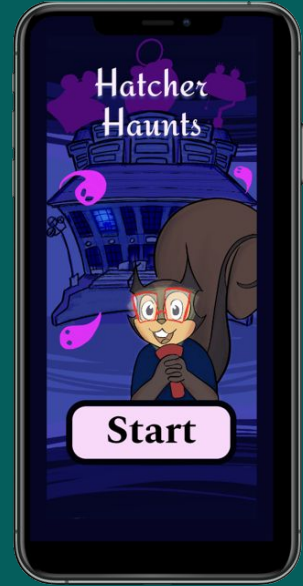
Device Screen Sizes



Designed for
iPhone 14 Pro



Appearance
on iPhone 8



Appearance on
iPhone 11 Pro Max

Accessibility

The main limitation of Figma = No screen reader compatibility!

- No alternative text
- No focus order

Audio Instructions

MP4



Embed



MP3



Hide file

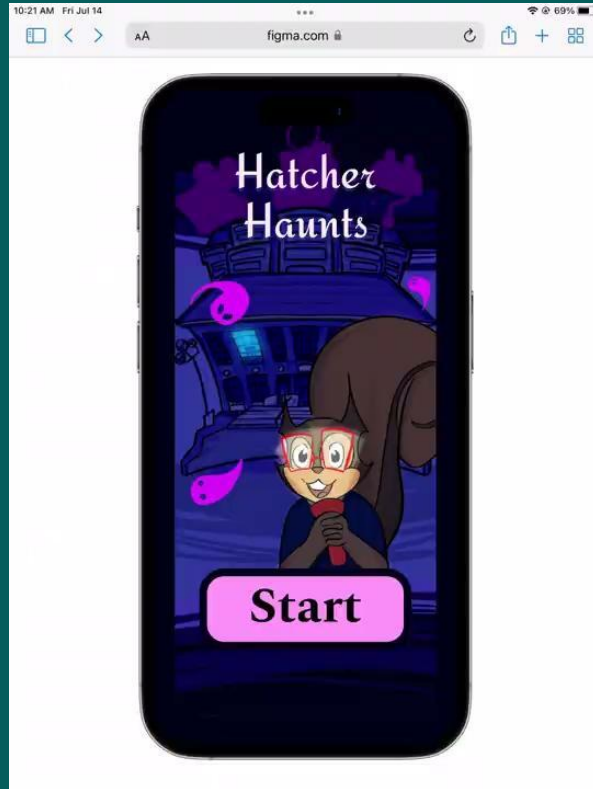




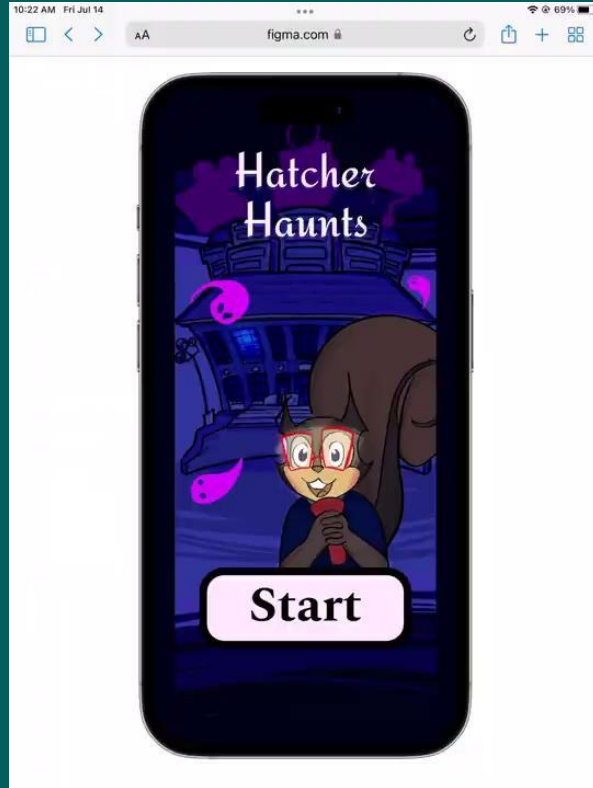
Final Product



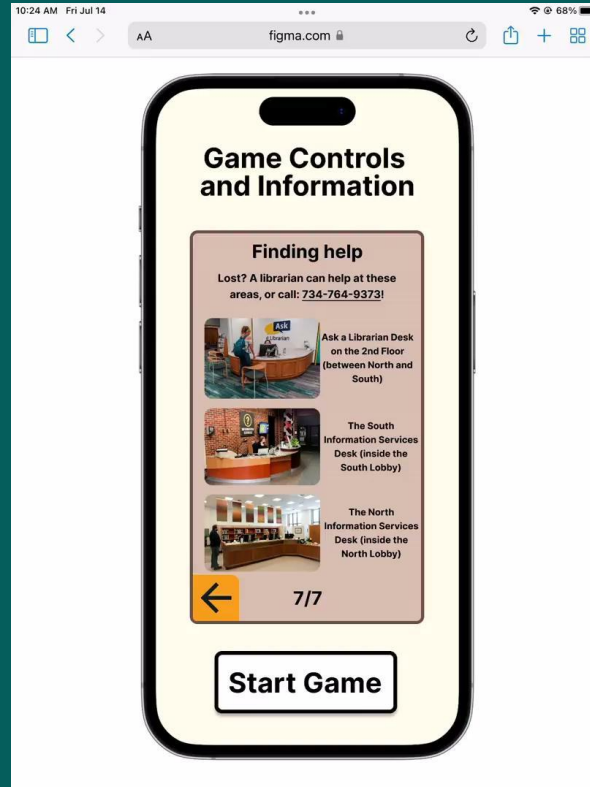
Home Screen



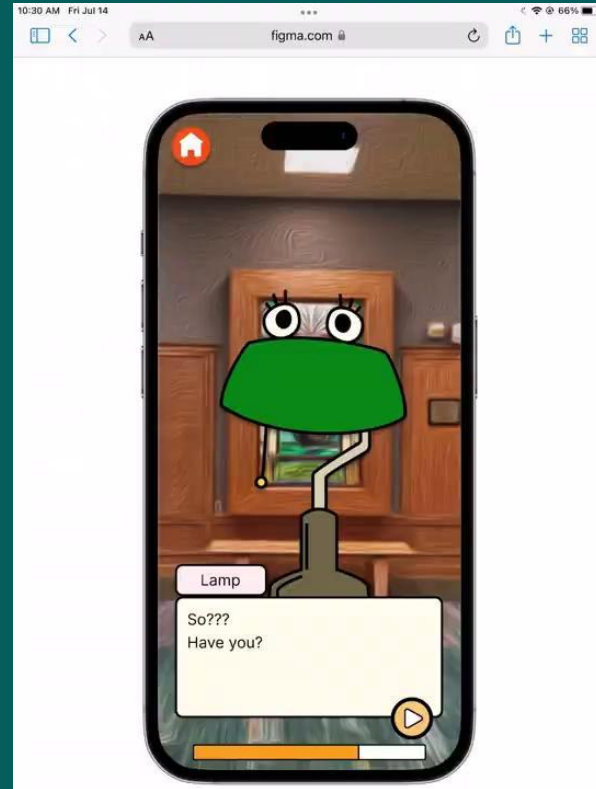
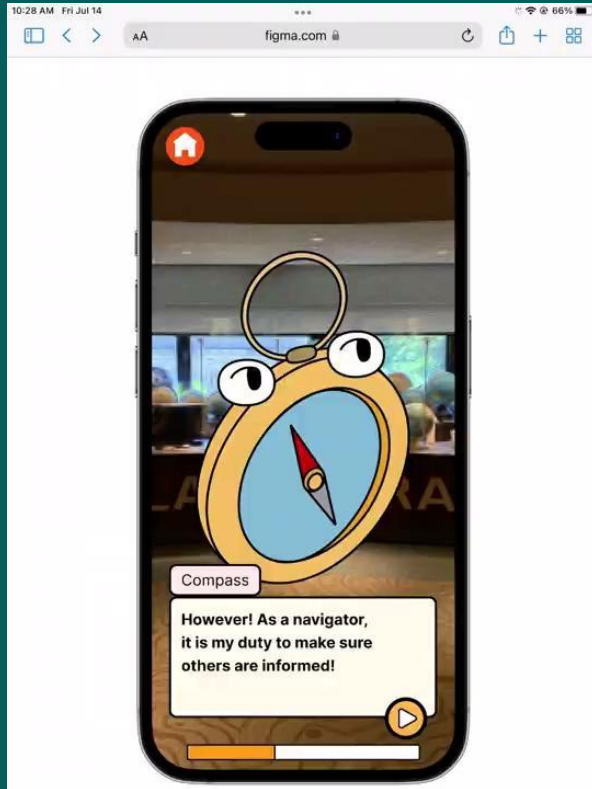
Tutorial Screens



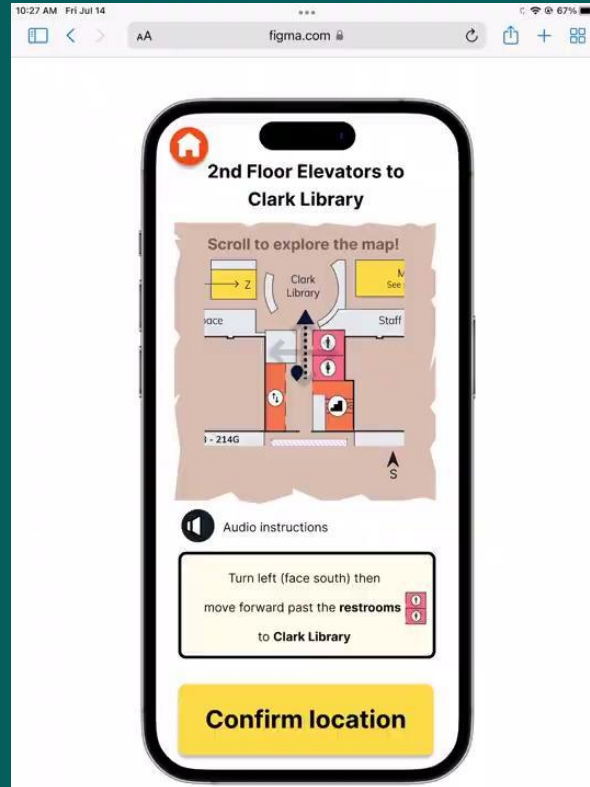
Dialogue Screens



Mini-Games



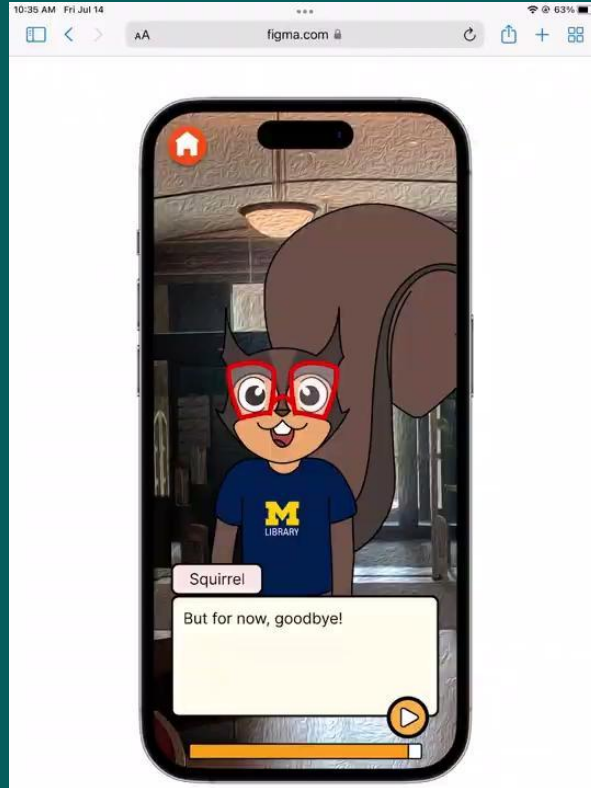
Map Screens



Stack Game

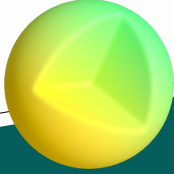


End Screen



Why did you decide to do that? 2. What are you looking at right now? What are you thinking?

		Behavioral Observation		Descriptive Notes
		Yes	No	
Watching tutorial				
Interacting with...	Text box			
	Scrollable Map			
Going back and forth		Yes	No	
Additional & outside behavior & thoughts				
Skipping dialogues		Yes	No	
Using the home button		Yes	No	
Additional & outside behavior & thoughts				



User Testing

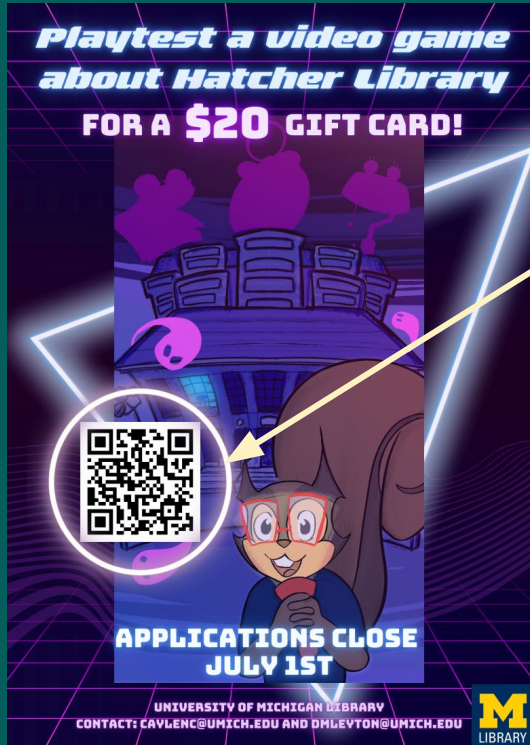


Methodology

- Recording and note taking: first hand observation of user reactions and behavior
- Post-test interview: general impressions and reflections
- Think Aloud Protocol: compliment the above approaches



Recruitment



Poster

QR Code to Google Forms



Shapiro TV flyer



Shapiro announcements board

Recruitment

- 55 applicants
- Seeking:
 - low-familiarity students
 - student workers
- Send email to 27 chosen applicants
- 20 scheduled test using Calendly
- 16 students tested



Cecilia Ledezma Herrera

Hatcher Library Game Playtesting

🕒 1 hr

📍 Hatcher Library - South Entrance

How to prepare for playtesting Hatcher Haunts

- **Testing will last for one hour** - this will include playing the game while moving through Hatcher in person and answering some follow-up questions
- Download the [Figma mobile app](#) before arriving to your scheduled timeslot - you will use this app to playtest the game. Please create an account before arriving
- **Meet at the Hatcher South Lobby** for the test
- The South entrance is located behind the William L. Clements Library, to the right of Shapiro Undergraduate Library. The invitation email has a map with this information.
- **The session will be recorded** - using a

[Cookie settings](#) | [Report abuse](#)

Select a Date & Time

July 2023

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
No times in July						
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Time zone

🌐 Eastern Time - US & Canada (3:47pm)

[Troubleshoot](#)

GoPro, iPad and Facilitation

- Facilitators took notes and asked questions when needed
- All testers wore a GoPro
- Library iPad back-up
- Unfacilitated pilot testers



Phone



Library's iPad



Analysis and Results

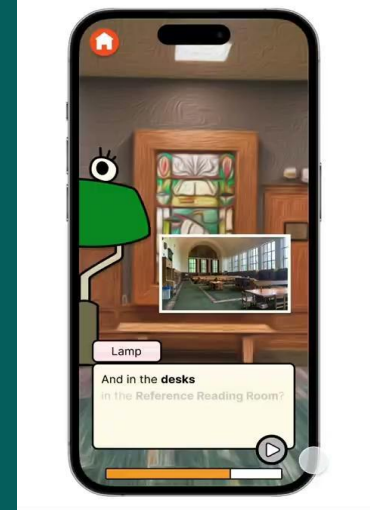
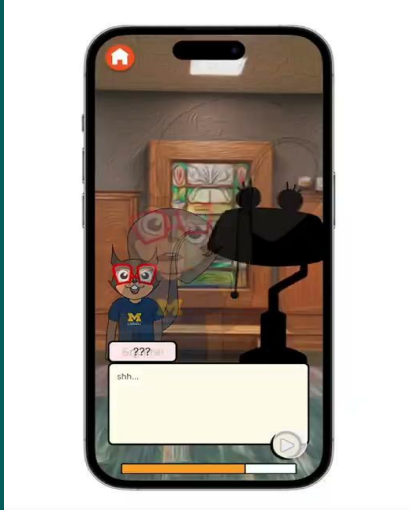


Dialogue Interactions

Number of users who skipped one or more dialogue screens = 5

Reasons for skipping dialogue = "I know the information already," **"the dialogue loads too slow,"** "there's too much to read."

Other concerns = back buttons



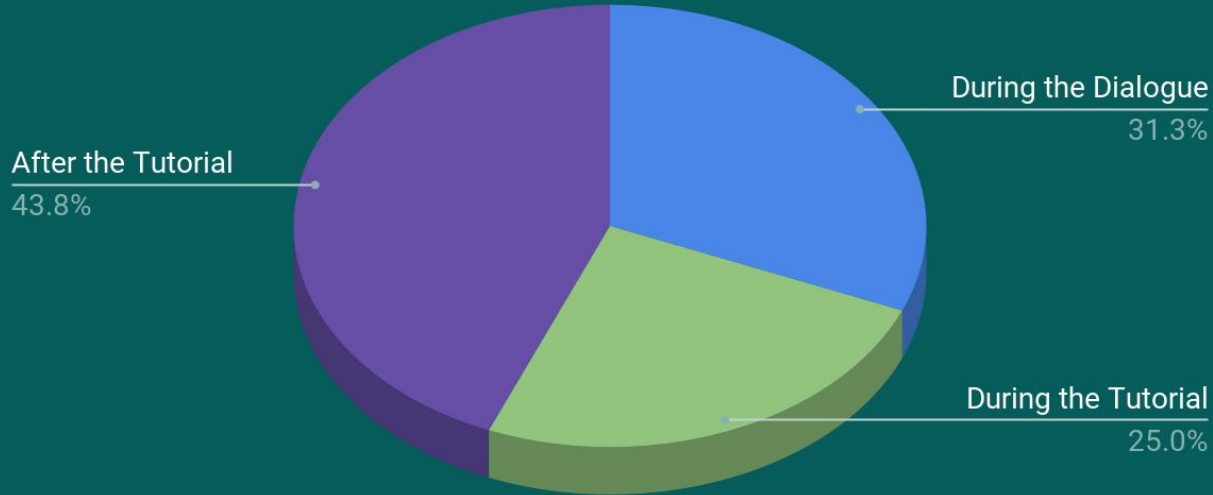
Navigation Comfortability Scores

Initial Comfortability Scores and Their Improvement



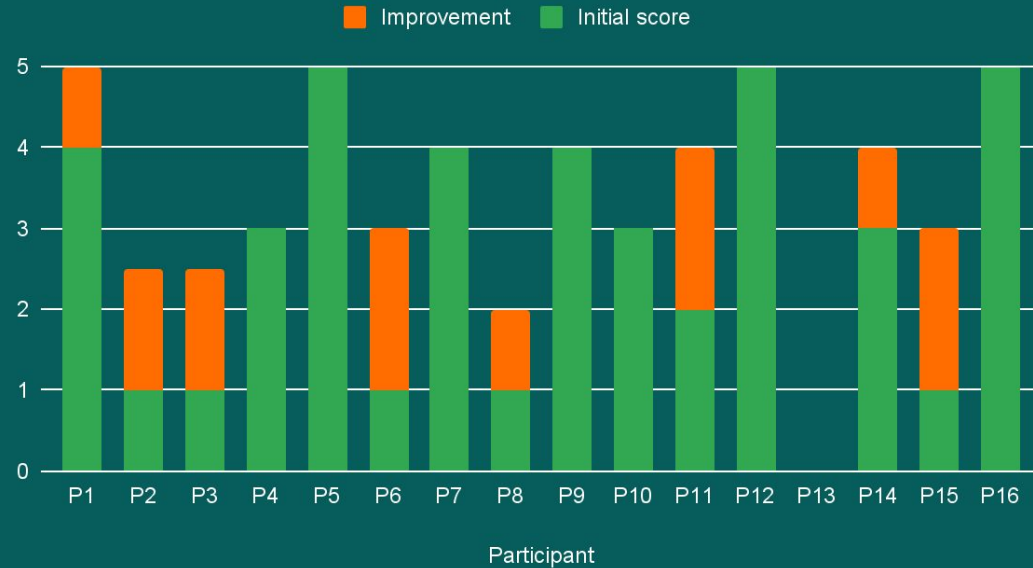
Stack Game Reactions

When the Participants Started Looking for the Item



Check out and Return Comfortability

Comfortability with Checking out and Returning Items in Hatcher



Average: 0.75

Check out and Return Comfortability

8 (50%) of the participants thought that the game didn't really teach them about where to check out and return items and the timeline of this process.

The way we phrased the question ("checking out and returning items" instead of "finding an item in the stacks") might have influenced their answers.

North Lobby to South Lobby

15 out of the 16 playtesters were able to recall a viable route.

12 of them recalled the 2nd floor route, 2 of them recalled the 1st floor route, and one of them recalled the 4th floor route,

It was pointed out that the game didn't explicitly take the playtesters through a direct route.

Positive Reactions

11 out of 16 playtesters described the game as “fun”

10 of them described the visuals as “cute” or appealing

All 16 play testers said the game taught them something or (in the case of student workers) it would be a good tool for students unfamiliar with the library

Additionally, only 2 people made a mistake playing the trivia-style game

Negative Reactions



Juvenile

In regard to plot and visual design



Too Short

In regard to route and destinations



Confusing

In regard to map directions and finding materials to borrow



Lessons Learned

Cecilia

- How to make a fun gameplay experience
 - Reactions to story and characters
- Direct writing skills
 - Dialogue and emailing
- Vector design and cohesive graphics
 - Learning skills in Figma



Alex

- Applying UX principles to a working prototype
 - Figma software
- Prioritizing tasks and finding a flow
 - Notion
 - Intuition
- Working with a team
 - Communication
 - Trust

Shao-Chi

- Figma interactions, limitations, and troubleshooting
- Library-related research
- Interview and facilitation strategies
- Reflection on teamwork and learning styles
- Organization of tasks and benchmarks



Next Steps and The Future of Hatcher Haunts



Accessibility

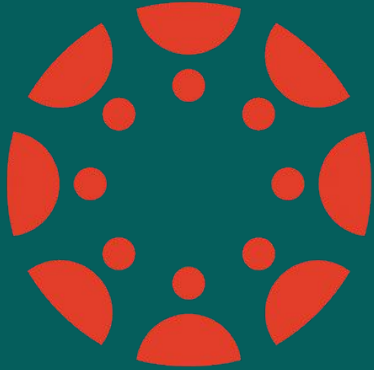
- Move hosting platforms
- Customize font size and orientation settings
- Implement alternatives to “on drag” gestures
- Include Virtual options
- Introduce definitions for library terminology

[Full accessibility report](#)

Game accessibility guidelines



Platform Change



Canvas



Apple and Android native apps

International Component

- The game explains that the Library has both academic leisure books in non-English languages and how to find them, something intl. students said they wanted to know during a recent survey
- We talked with people from the Language Resource Center and are exploring ways translate the game
 - Translate-a-thon
 - LRC Language Bank

Stakeholders

We would like to hand this project to:

- Future Library programs
- EECS classes
- WolverineSoft
- Undergraduate Research Opportunity Program (UROP)
- Living ArtsEngine or ArtsEngine

Expansion



Routes

Asia Library

North Stacks

Shapiro Library



Plot

Winter wonderland

Final and midterms season

International collections



Mini-Games

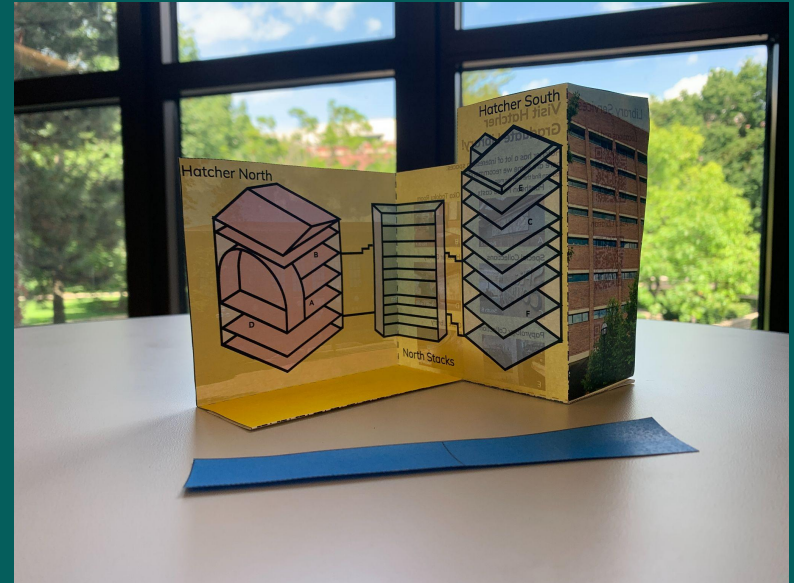
More interaction with
physical spaces

Differing input types

Stickers/Buttons

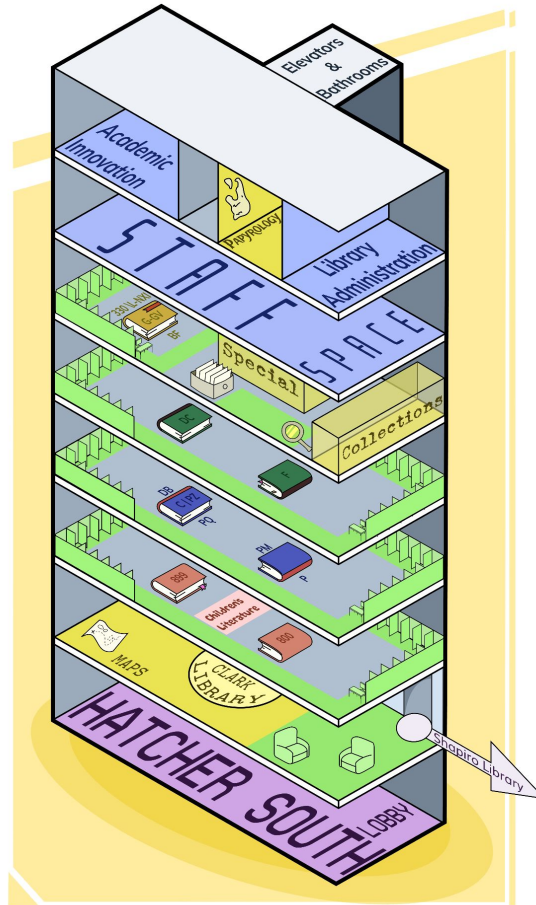


Pamphlet

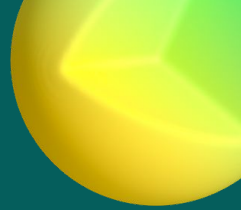
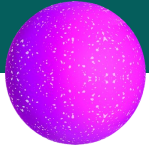


3D Map

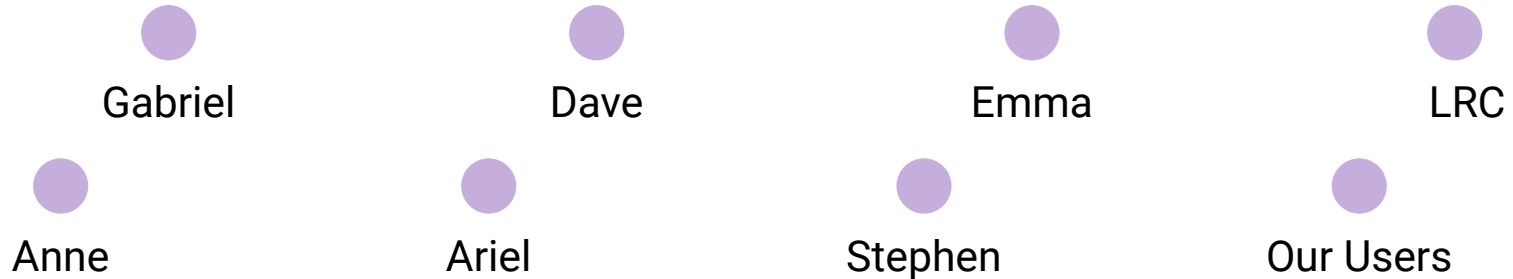
M LIBRARY



Acknowledgements



Special thanks!



Thank you!
Any questions?



– Cecilia, Alex, Shao-Chi