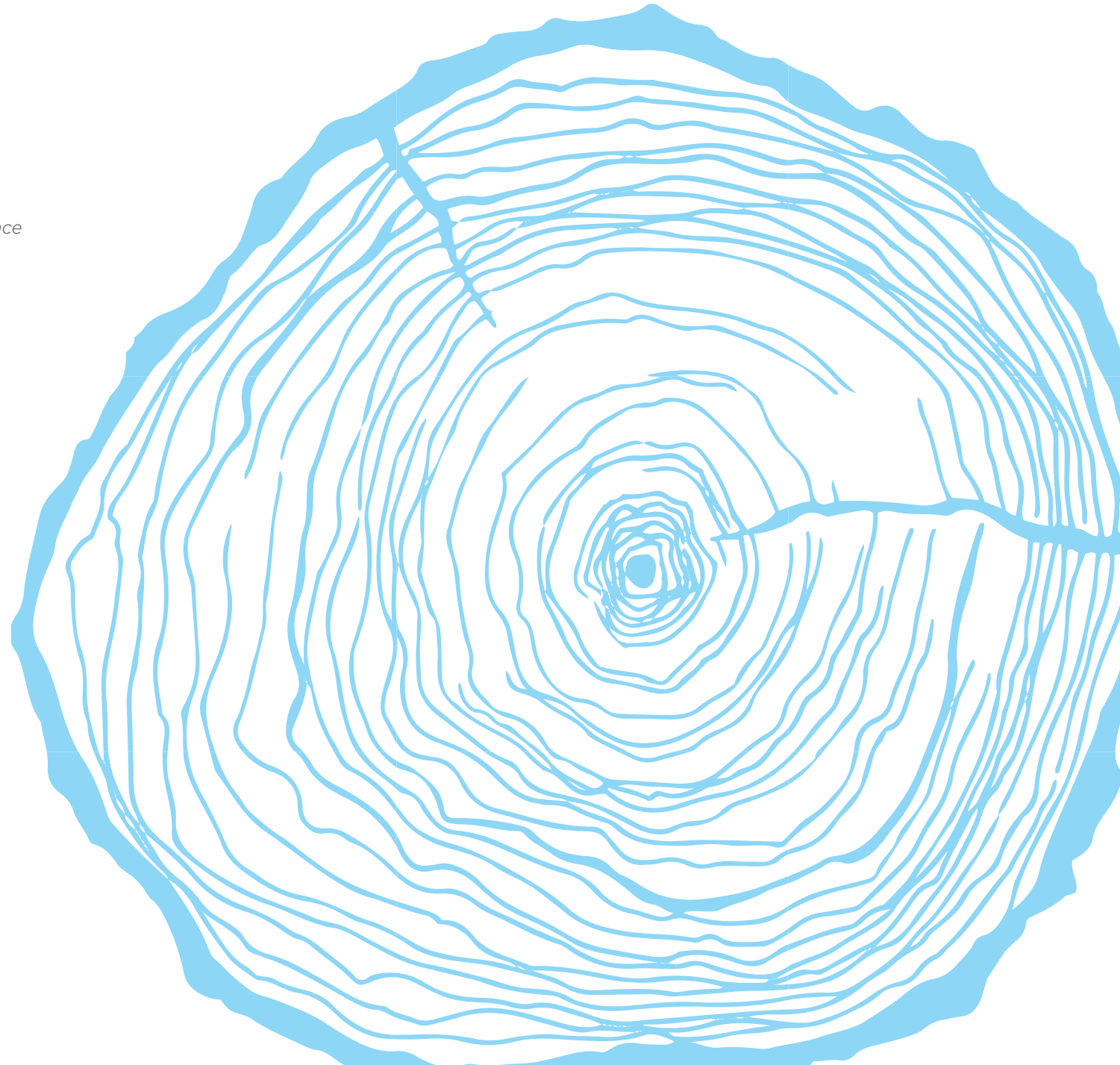
IZZY HARRISON

Keywords: *User Research, Physical Experience Design, Fabrication, Urban Design*



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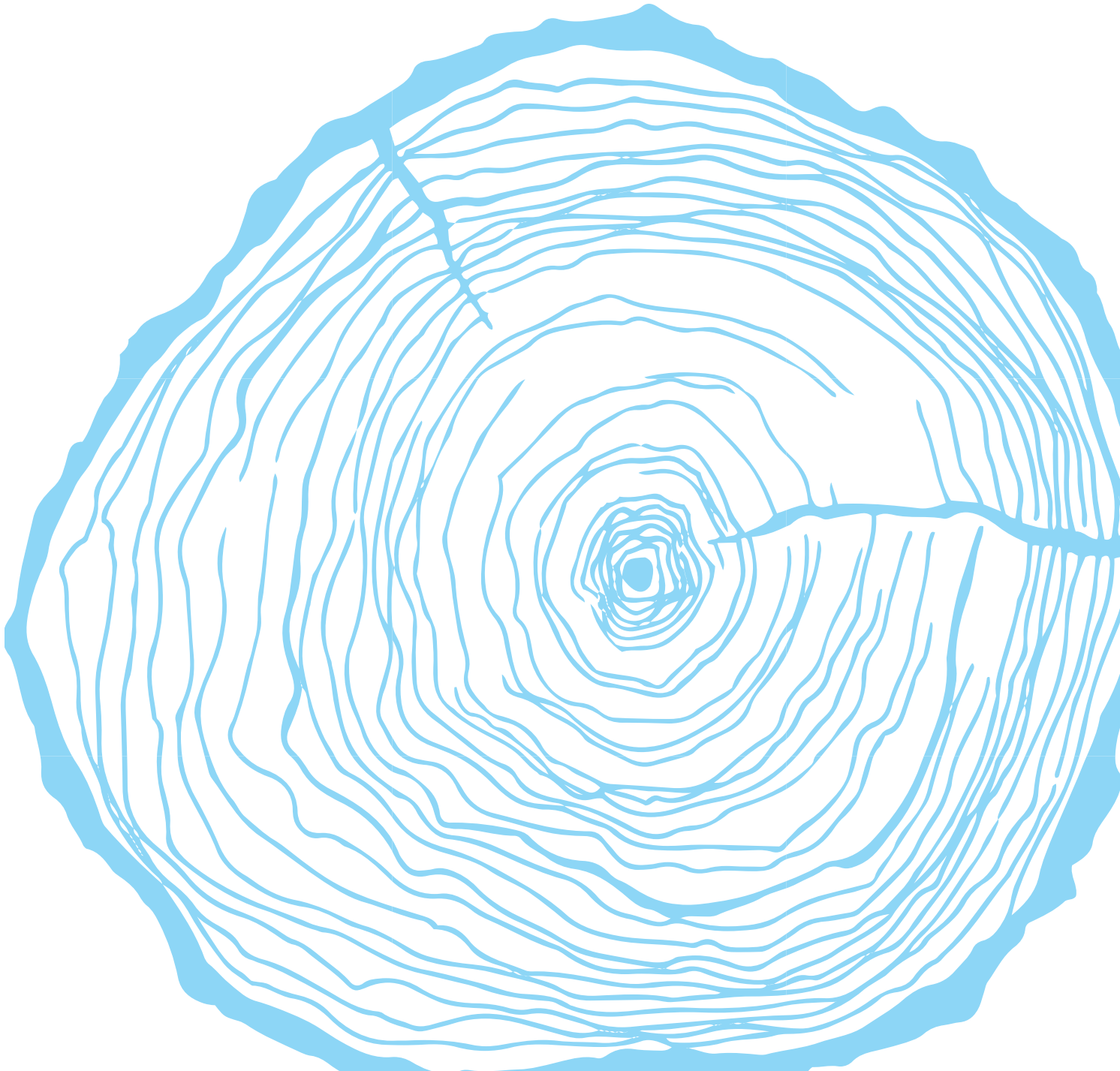

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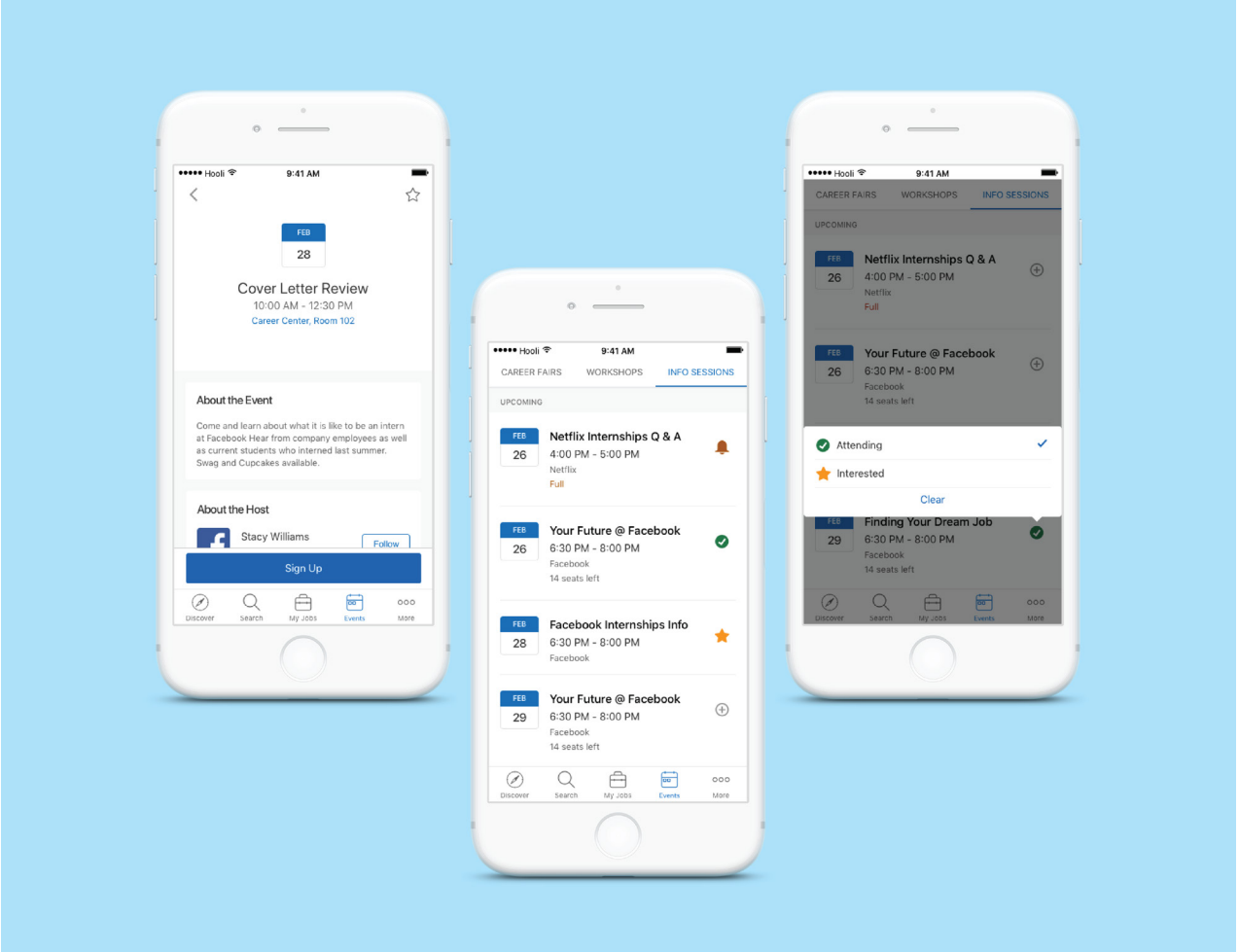
1.
LEVERAGING ATOMIC RESEARCH FOR MOBILE APP DESIGN

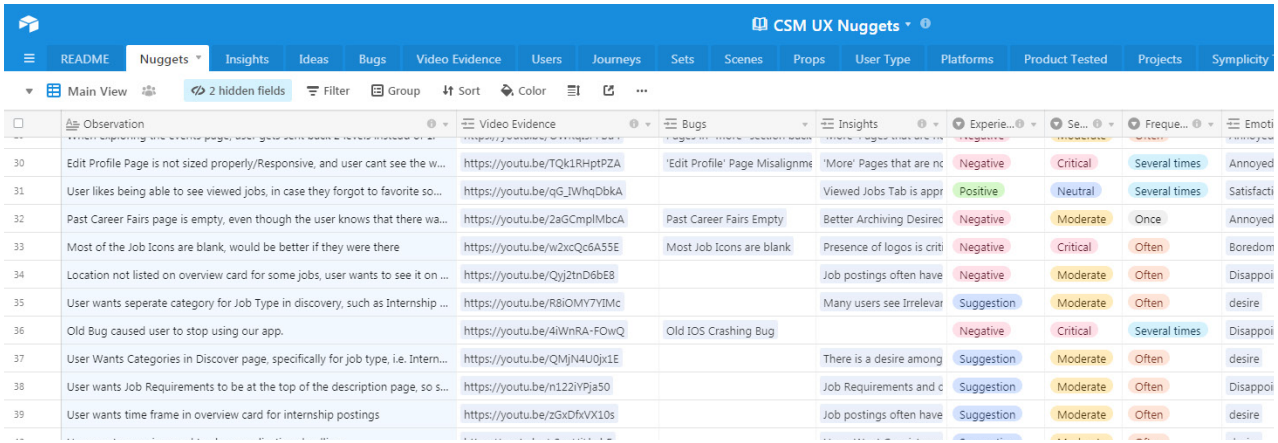
Keywords: *User Research, UX Design, Prototyping*

The goal: To test and improve the user experience of Symplicity's Jobs and Careers app.

The outcome: A database in Airtable based on Atomic Research, populated with 148 observations from User Testing, which led to 34 Insights and 16 ideas. I made low and high fidelity prototypes to realize the ideas we came to from our research.

My role: As a UX intern, I led the user study all the way from initial planning to high fidelity mock-ups.





February - April 2019

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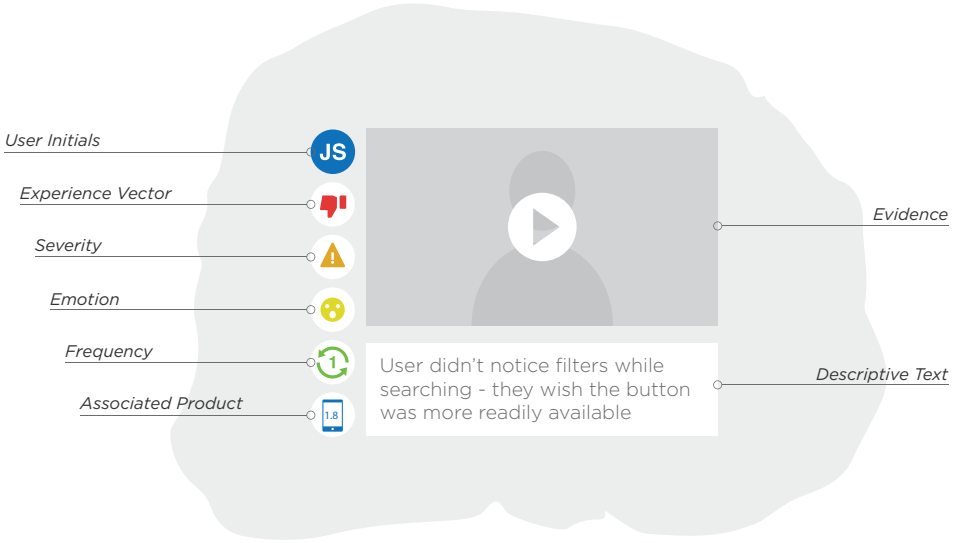
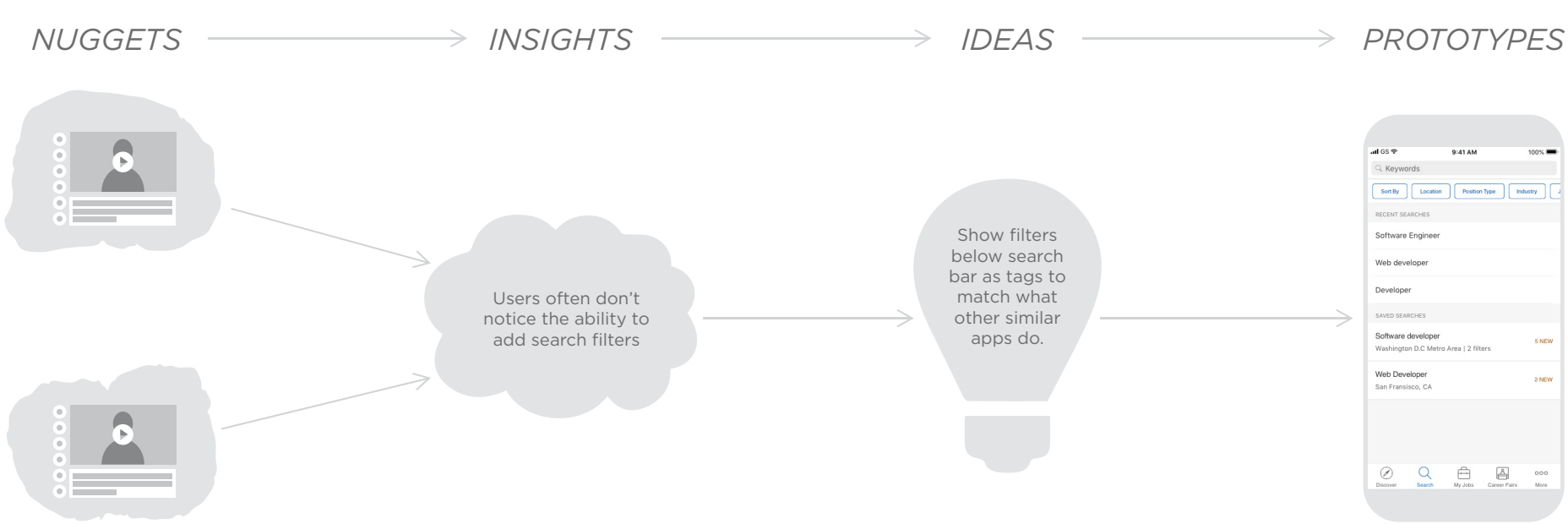
Leveraging Atomic Research

In order to manage our research knowledge, I adapted a framework called atomic research, developed by Tomer Sharon while he was head of UX at WeWork. This approach uses “nuggets” as its central unit. A nugget is an evidence based observation. It is tagged with several categories of classifications to make it easier to search and group with similar nuggets.

Using this framework made it easy to quickly go from nuggets, to insights, to ideas, and also share my work with the rest of the team. This was a powerful way to manage our user data and make sure no nugget slipped through the cracks.

The Anatomy of a Nugget





2.
IMMERSING EDUCATORS IN THE DESIGN PROCESS

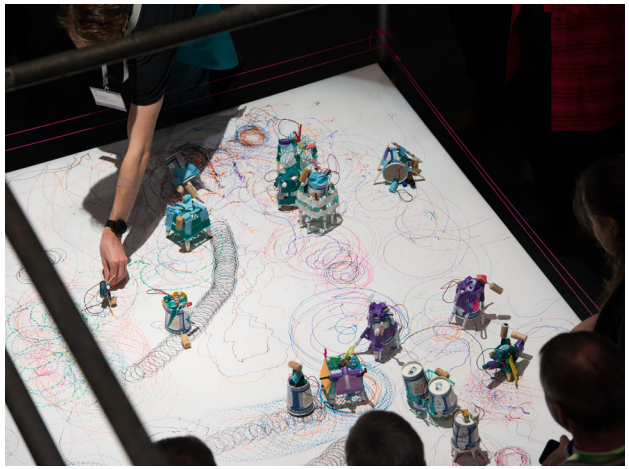
Keywords: *Space Design, Education, Fabrication, Project Management*

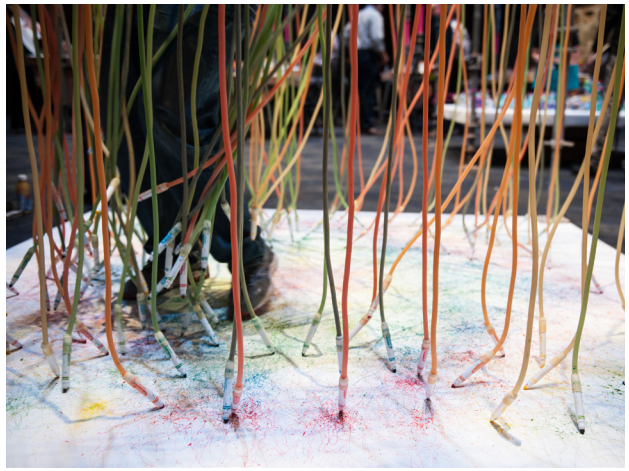
The goal: To communicate Olin College's revolutionary educational philosophy to education innovators through an interactive workshop

The outcome: Over 250 attendees got a glimpse into what makes Olin unique, while creating collaborative art, and got to think could apply Olin's pedagogy to their contexts

My role: Designed, prototyped and built marker curtain with artist Robert Wechsler, as well as the overall layout of the scaffolding and tables. Facilitated user testing of the program.

Team Size: 10
September - November 2018





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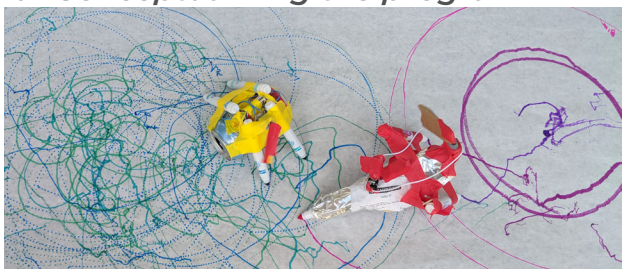
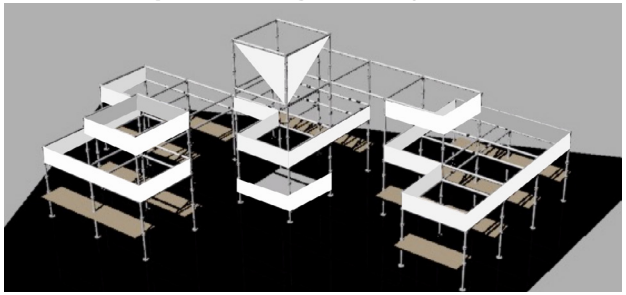
1a. Conceptualizing the program



We had a very expanded exploratory phase, where we built things like a vibrating chair. We landed on the theme of scribbling machines, based on the Exploratorium's exercise.

1b. Conceptualizing the layout



I built a model of the space in Rhino, which helped us quickly iterate on its layout, and communicate changes within the team

1c. Conceptualizing the squiggler

We wanted to create an interactive art piece to invite participants into the space. We drew inspiration from Jesus Rafael Soto's piece, "Penetrable", and wanted to create a similar experience, but tie it to the theme of scribbling. We knew the materials were key, and experimented with ball chain, heat shrink, rope, silicone tube, PET tube, and surgical latex tube, filled with water to add weight. We attached a Crayola marker to each material, and found the latex to be the most pleasing in feel, drawing capability, and spring.

2a. Testing the program

We user tested the program with Olin staff, & learned that some wanted more instruction than others. We decided to have a student explainer at each table to guide those in need.

2b. Testing the layout

In making a life-scale model of the tables, we found 3-ply cardboard strong enough for the final product, creating a temporary aesthetic.

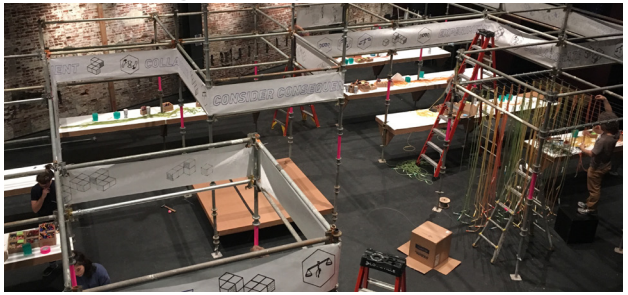
2c. Testing the squiggler

We created a 5x5 model of "the squiggler" as a proof of concept, before investing in $1500 of rubber tubing.

3a. Building the program

To execute our vision, we had to scale up what we had user tested from 7 to 80 people at a time. We recruited 10 extra students to help prepare and run the exercise.

3b. Building the layout



We had less than a day to set up the space, We used scaffolding as framework to easily install tables, signage, and squiggler quickly.

3c. Building the squiggler

We scaled it up to 12x12 for our final version, requiring 144 tubes to be individually fiilled with dyed water, capped with a marker, and adjusted

3.
CREATING AN INTERACTIVE EXHIBIT

Keywords: *Space Design, Fabrication, Installation; Consulting*

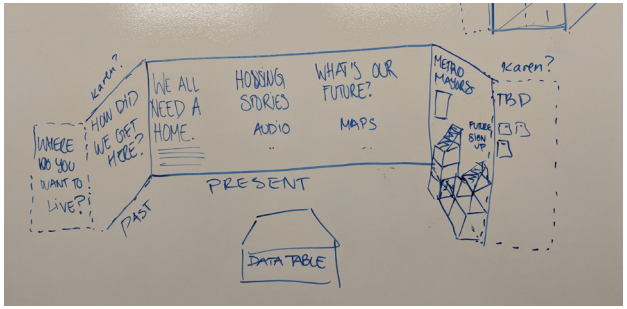
The goal: To create an interactive exhibit for the Metropolitan Area Planning Council that invited visitors to explore some of the issues contributing to the housing crisis in Boston. Also, to create an opportunity for MAPC employees to engage with their stakeholders and conduct user research

The outcome: This exhibit was installed in a shipping container for 5 days as part of the 2018 Hubweek festival. The data table is now on display indefinitely in the MAPC office.

My role: Primary designer and fabricator of all main interactive exhibits, excluding graphic design. Collaborator on the conceptual design and graphic design.

Team Size: 2-5
September - October 2018

1. Onboarding to an Existing Concept



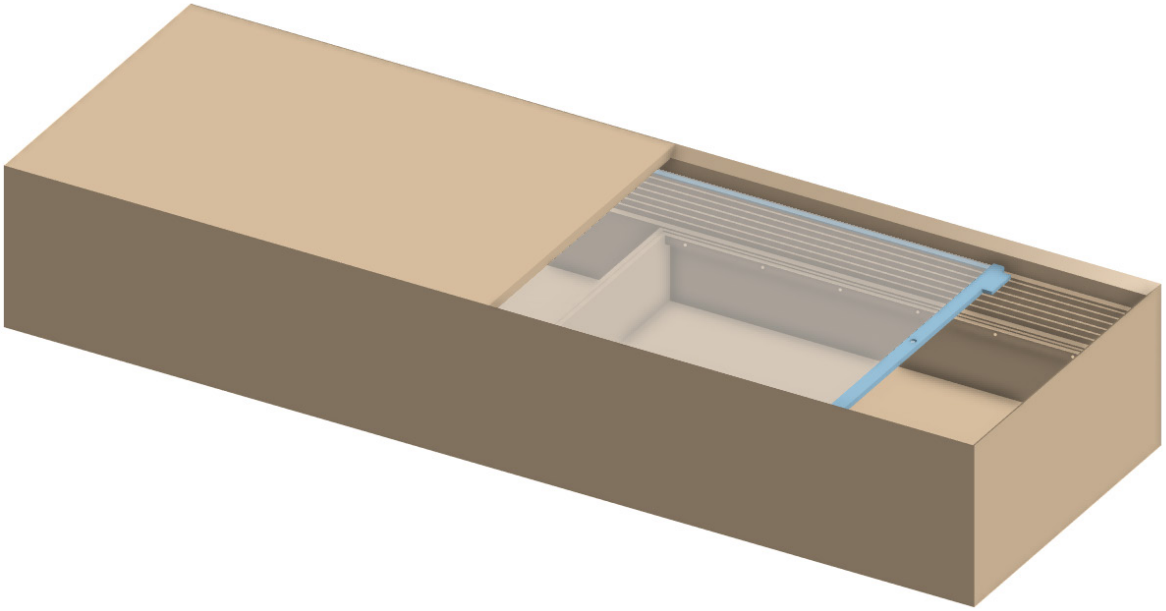
I came onto the project after an overall concept was somewhat developed. I learned to trust decisions that had already been made, AND speak up when I thought elements should be changed.

2. Designing for Temporary Installation

The interactive timeline was 8' x 8', and thus needed to be assembled and disassembled on site. It was designed so that each box could slide on to the pipes easily and be held in place with a removable pin. the structure as a whole "clicked" into place using a top and bottom wooden panel.

The data table was built to outlast the installation. It was designed with a hidden back door so that the maps could be easily accessed to be cleaned or replaced to reflect updated data.

3. Using Shareable CAD



Our most complex element, the data table, I modeled in Onshape, which made it easy to share each iteration of the detailed design remotely with the team at MAPC.

4. Learning to Consult

This was my first time in a consulting role. The Project Manager, Dan, was my main connection to the team. Decisions were made, often based on budget, that affected my designs, and I had to adapt to the changing requierments and constraints

4.
STARTING A WOODSHOP IN A LIMITED SPACE

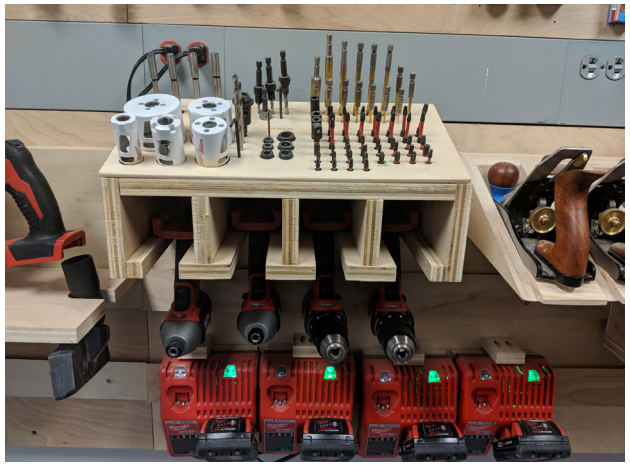
Keywords: *Space Design, Education, Fabrication, Project Management*

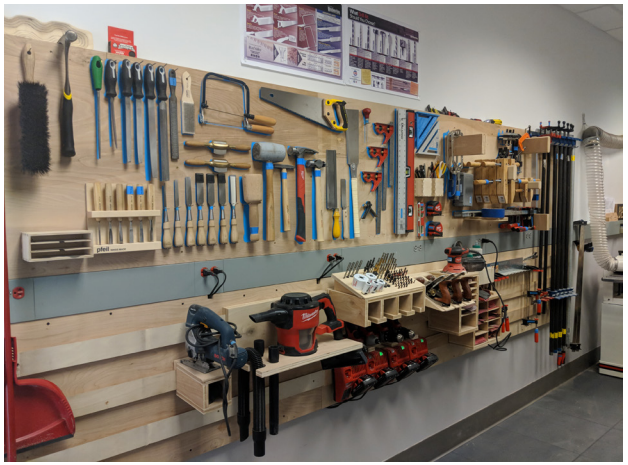
The goal: To create a space where Olin students can learn advanced woodworking techniques, as well as experiment with one of the many small awkward spaces in Olin's Academic Center.

The outcome: The 330 sqft space is now up and running, having trained 35 students in the Spring 2018 semester. A full-time faculty position has been created to run the space, with 3 students supporting.

My role: Visionary, Facilitator. I wrote the proposal to get the space approved, spec-ed and purchased most of the tools, created the tool wall, built the tables, organized the space, and wrote the training documents. I helped run the space and trained students the rest of my time at Olin.

Team Size: 1-5
Summer 2017 - Fall 2018

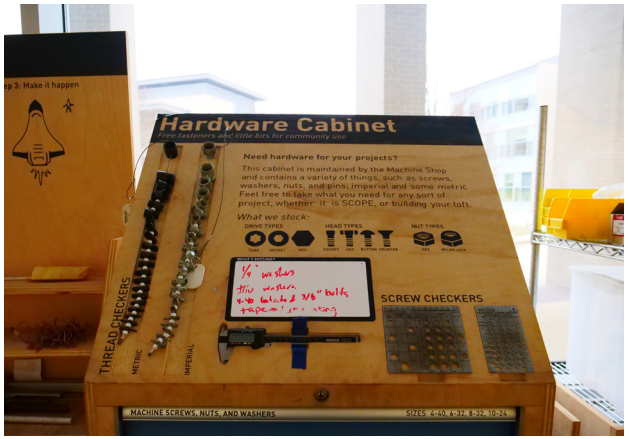




1. Zeroing the Space

The previous state of the room that now holds the woodshop was an unorganized mess of unlabeled hardware and old, forgotten projects. We knew that it wasn't working, and so we emptied it, and the new space was ripe for a redesign

2. Redesigning Previous Use



We condensed the room's essential items into a well organized freestanding cabinet. It is routinely restocked by a dedicated shop staff member, using a built-in feedback system. The cabinet lives outside the main shop, closer to where it's contents are used.

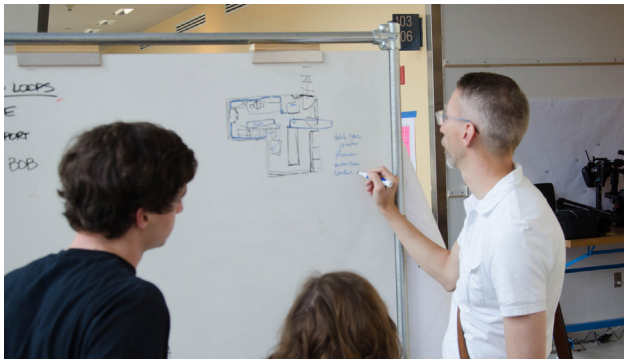
4. User Research with the Students

A clear need for more woodworking space had been expressed by the community through multiple feedback channels over several years, but had never been formally explored. A recent shop engagement survey confirmed what we had been noticing:

"It'd be great to see more woodworking come out of Olin. Right now, there's not really any place to plane something, which is usually pretty important when making parts out of solid boards."

After confirming the need, we created our own survey, to get a sense of what capabilities students wanted. We got 115 responses, which equates to roughly a third of the student body. Common requests were the ability to wood turn and make hand-cut joinery.

4. Consulting Experts



We weren't sure the 330 sqft we had was enough to create the value the community wanted. By speaking with wood expert, Prof. Jon Stolk, about how he navigates his small basement shop, and visiting shops at Yale and Autodesk, we got a sense of what capabilities we could have in such a small space.

5. Creating a Layout

A teammate and I worked through layout options with a scaled paper model. This allowed us to quickly get a sense of how the tools we were purchasing could fit into our limited space.

6. Designing the Program

In September we brought on a Woodshop Manager. She and I spent the fall semester finishing the build out of the space, and iterating through training procedures. Above is our first playtest of the fundamentals training. The space has been very successful, and the hope is to relocate into larger space soon.

5.
IMPROVING AIR QUALITY AT A CHINATOWN PARK

Keywords: *Human-Centered Design, User Research, Urban Design, Affordable Development*

The goal: To reduce ultrafine particle exposure and improve usability in Reggie Wong Park in Boston's Chinatown in order to improve long-term health for its users.

The outcome: We developed a set of design requirements to pass along to the Chinatown Community Land Trust. They have used our work to obtain grant money to make the project a reality in their community.

My role: Conducted user research, including running co-design sessions, developing Personas and Insight Statements. Created architectural renderings used for fundraising.

Team Size: 6
January - May 2018

Codesign kit contents to support a hands on ideal park mapping

Park redesign rendering for fundraising purposes, made using Rhino.

1. Finding and Recruiting Users

Getting to know our users meant diving deep into Boston's 9-man volleyball community. Because it was winter, no one was playing in the park, so we found indoor matches to spectate. Watching these matches and informally talking to players was a great first step in getting a taste for the sport and its players. Through attending indoor matches, we made connections with players who were willing to codesign with us.

2. Codesigning with users

This codesign session was with three retired men, who did not speak English. Our codesign kit allowed non-English speakers to communicate with us visually, reducing the load on our translator. We learned from them that while walls can improve air quality, visability is valued, because sharing their sport with the broader Chinatown community is very important, as well as the practicallity of being able to see what is going on in the park.

3. Extracting Use Cases

From our engagements with park users, we started to formulate a list of the parks use cases. Although 9 man volleyball is the most cultarally significant use of the park, it is not limited to that:

- **Playing 9 man**
- **Coaching 9 man**
- **Spectating 9 man**
- **Playing basketball**
- **Skateboarding**
- **Homelessness**

Our knowledge of the uses of the park not related to 9 man were all from the perspective of the 9 man community. We identified some tension between the 9-man community and the other users of the space they had to share it with. We could not find these less formal users during the winter. We hired two students to carry on the project over the summer, to obtain a clearer picture of the parks use, and continued our research with the users we did

4. Identifying Personas

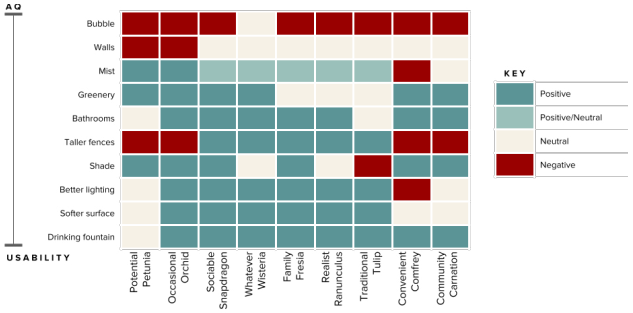
DEMOGRAPHICS
Identifies as female
30 years old
Starting a family
Has a young child
Lives in Newton

RELATION TO RWP
Plays on a women's club volleyball team
Practices in RWP
Considers her teammates her best friends

KEY TAKEAWAYS
Wants RWP to be a place where she can bring her kids

Using use cases and user characteristics, we identified several personas to help evaluate decisions.

5. Utilizing Personas



We used our personas to evaluate different design elements such as solid walls, based on how we expected them to react to it.

6. What Came Next

Due to the limits of our winter research, we did not yet feel comfortable passing on design requirements to our partners. The summer students we hired continued our work, and created design requirements for the parks renovation. These requirements, and my preliminary renderings, were passed on to our partners, who used them to succesfully fundraise money to create detailed plans for the renovation of the park.

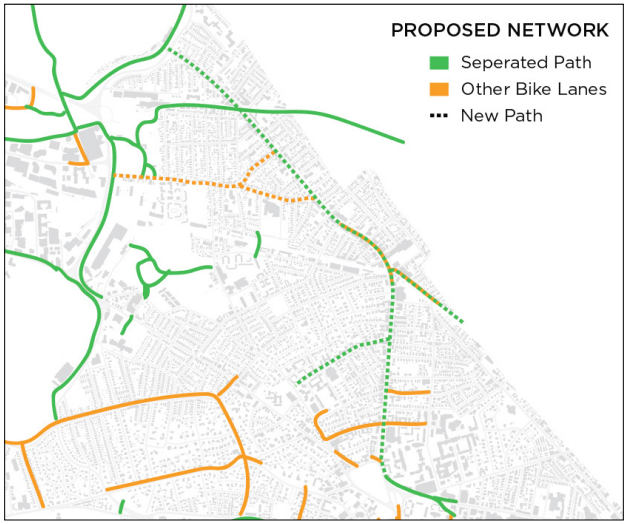
6.
REDESIGNING CAMBRIDGE ROADS TO SUPPORT CYCLISTS

Keywords: *Urban Design, Experience Design, Bicycle Infrastructure*

The goal: To create a plan for Cambridge to improve cycling infrastructure in the Mass Ave Northern Corridor.

The outcome: a 16 page report turned in to the Cambridge city department of transportation, to guide their future infrastructure updates.

My role: Project Manager, Graphics and Layout Designer.



Team Size: 4
July 24-26, 2018

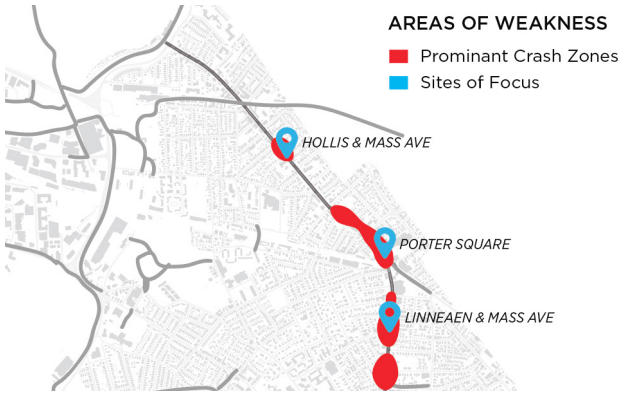
1. STUDYING VIA GOOGLE MAPS

This project was done in Copenhagen over 3 days, and I was the only team member familiar with the area. Due to these constraints, we relied heavily on Google Maps Streetview to get to know the area. Unfortunately we did not have access to any Cambridge cyclists, and relied on our own experiences cycling in similarly unsafe areas.

2. MAPPING DESTINATIONS

We mapped out Primary destinations such as centers and grocery stores, to understand what might be common pathways through the corridor.

3. IDENTIFYING WEAKNESSES



We identified areas of weakness based on accident data that had been previously collected. From those areas of weakness we identified 3 focus intersections with Mass Ave: Hollis, Porter Square, and Linneaen.

4. REVEALING THEMES & STRATEGIES

Theme 1:
Safe cycling lanes for people of all ages and abilities
Strategy:
Improve bike lanes and parking via:

- Separated bike lanes
- Install more bicycle lanes and parking facilities
- expand & diversify bike share
- Create and improve paths

From what we were seeing in our research, 3 themes for improvement emerged. An example of one of these is shown above. Using background knowledge from sources Like Gehl and Sadik-Khan, we developed strategies to achieve each of these themes.

5. USING CASE STUDIES

Since Copenhagen has already created solutions to most of the problems we were seeing in cambridge, we identified a few as case studies. We chose areas that had been recently been converted using the strategies we had identified. Above is Sonder Boulevard, which used to be a 4-lane thruway and now has a booming median park.

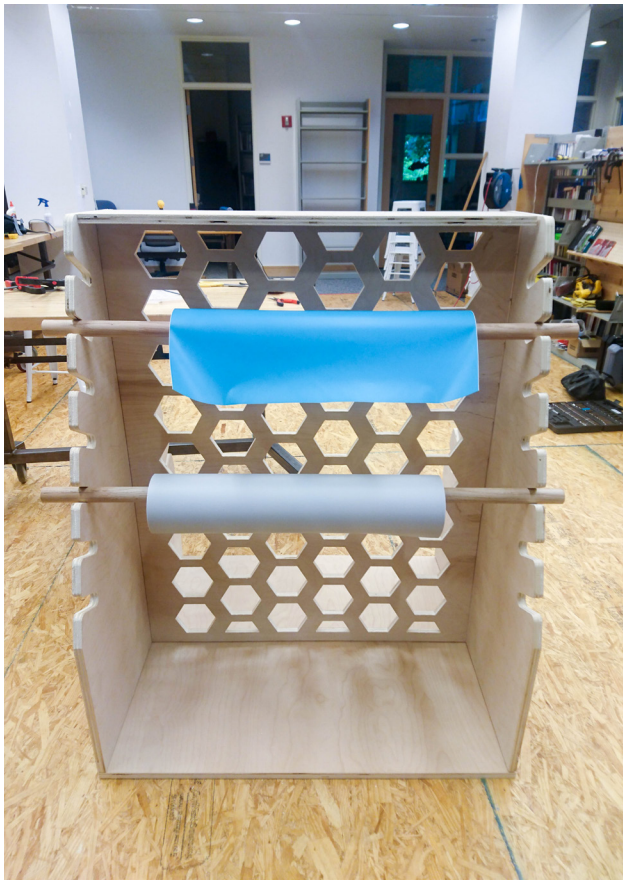
6. PROPOSING CHANGES

We proposed changes to each of our focus intersections, using our case studies to inform each redesign. we overlayed changes on streetview images to quickly communicate our solutions. Our changes, case studies, and pilot plan were detailed in a 16 page report delivered to the City of Camrbidge

7.
FURNITURE

selected works

personal desk - *altic birch plywood, steel frame*



vinyl rack for New York Public Library - *birch plywood*

4' x 8' desk for Olin Provost - *maple plywood, welded steel frame, inset power, locking casters*

bicycle rack - *birch plywood*

10 3' x 6' classroom tables - *bamboo butcher block, steel frame, locking casters*

8.
WOODWORKING

selected works

perch stool - *maple and pine*

clock - *walnut, grandma's embroidery*

cutting board - *maple, cherry, walnut*

wooden spoon - *poplar*

chopsticks - *maple*

tiny home cutting board/sink cover - *walnut*