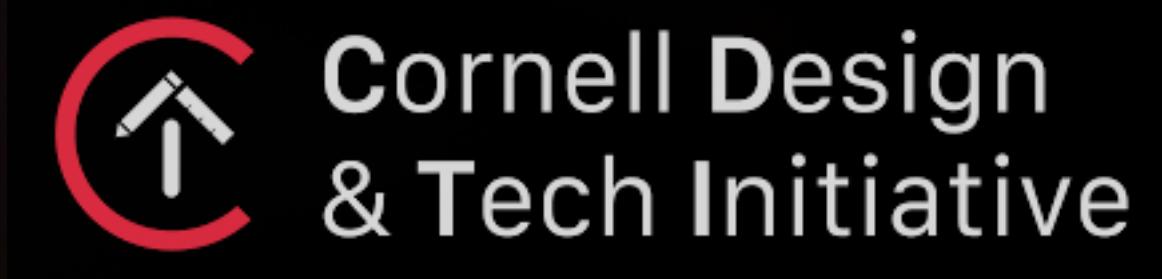


Cornell DTI Case Study

Kathy Wang



Our Goal

Create a mobile app that allows Cornell students to gauge the crowdedness of the facilities (i.e. dining halls, gyms, libraries).



Agenda

User Research

Synthesis

Market Research

Data Collection

Prototyping

Next Steps

A photograph of a person sitting at a desk, viewed from the side. They are wearing a grey hoodie and are looking down at a laptop screen. Their right hand holds a silver pen over an open notebook, and their left hand rests on the laptop's trackpad. A white mug sits on the desk to the left, and a small potted plant is visible in the bottom left corner.

User Research

User Research

Interviews

Goals:

- We want to see if people will use our app, if there's a need for it
- What type of experience they would want from an app like this
- What factors determine your behavior on where you go to study/go to the gym/etc
- What they like/dislike about their current situation



1. Which libraries/eateries/facilities did you go to yesterday?
2. Why did you go to those particular facilities?
3. What detracts/deters you from going sometimes, if anything?
4. What promotes you to go?
5. What are your ideal study conditions?
6. On a scale from 1-10, how important of a factor is crowdedness in a study space?
7. How often have you switched facilities as a result of crowding?
8. Do you experience crowding or a lack of space at Cornell facilities? If so, which facilities?
 - a. How often do you feel these facilities are overcrowded?
9. How do you plan where to study? (e.g. Do you plan in advance, day-of)
10. How often do you ask your friends how busy a facility on campus is before going to that facility?
11. How long do you spend looking for a spot in a study space if it looks completely full, but you want to work there?
12. What do you do when a gym/dining hall/library looks full? (e.g. leave)
13. Where do you study during prelims/midterms/finals?
14. How long do you spend on average at the gym, dining hall, or library in a single sitting/use?
15. How many devices do you regularly carry with you when leaving your room? Which ones of those do you typically connect to WiFi?
16. How important is it that you workout at a time where the gym is fairly empty or eat at a dining hall that's not very occupied? (Does this ever encourage you to modify your personal schedule?)
17. Would you prefer this information to be accessed via web or mobile app?

I conducted 62 student interviews in order to identify pain points of students.

Synthesis



Synthesis

Affinity Mapping

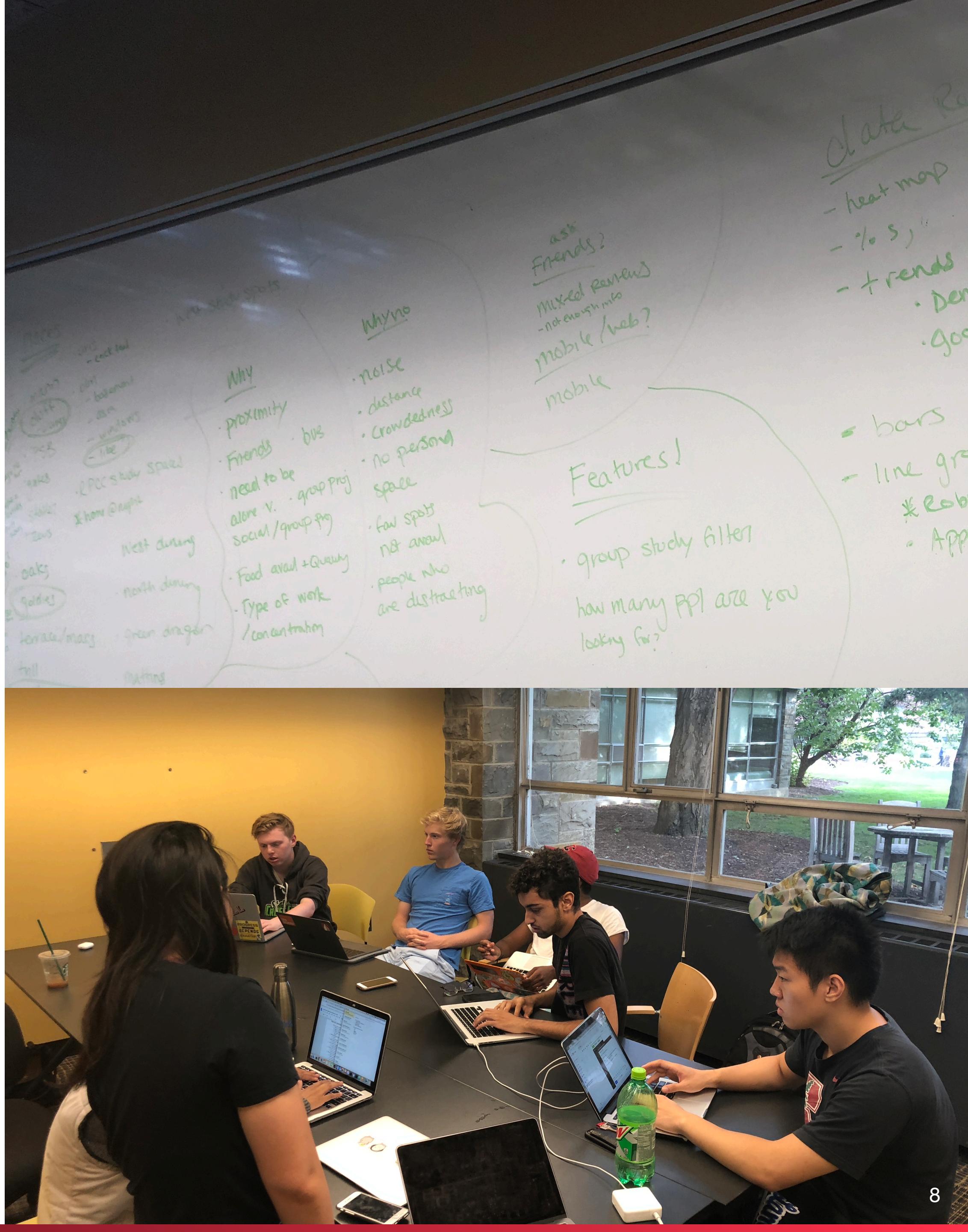
These interviews were informative, so to make sense of all the data I had, I created an affinity map.



Synthesis

Requirements

I narrowed down on the places people commonly went to, their ideal study conditions, why they chose to go to certain study spots, and what deterred them from going to others.

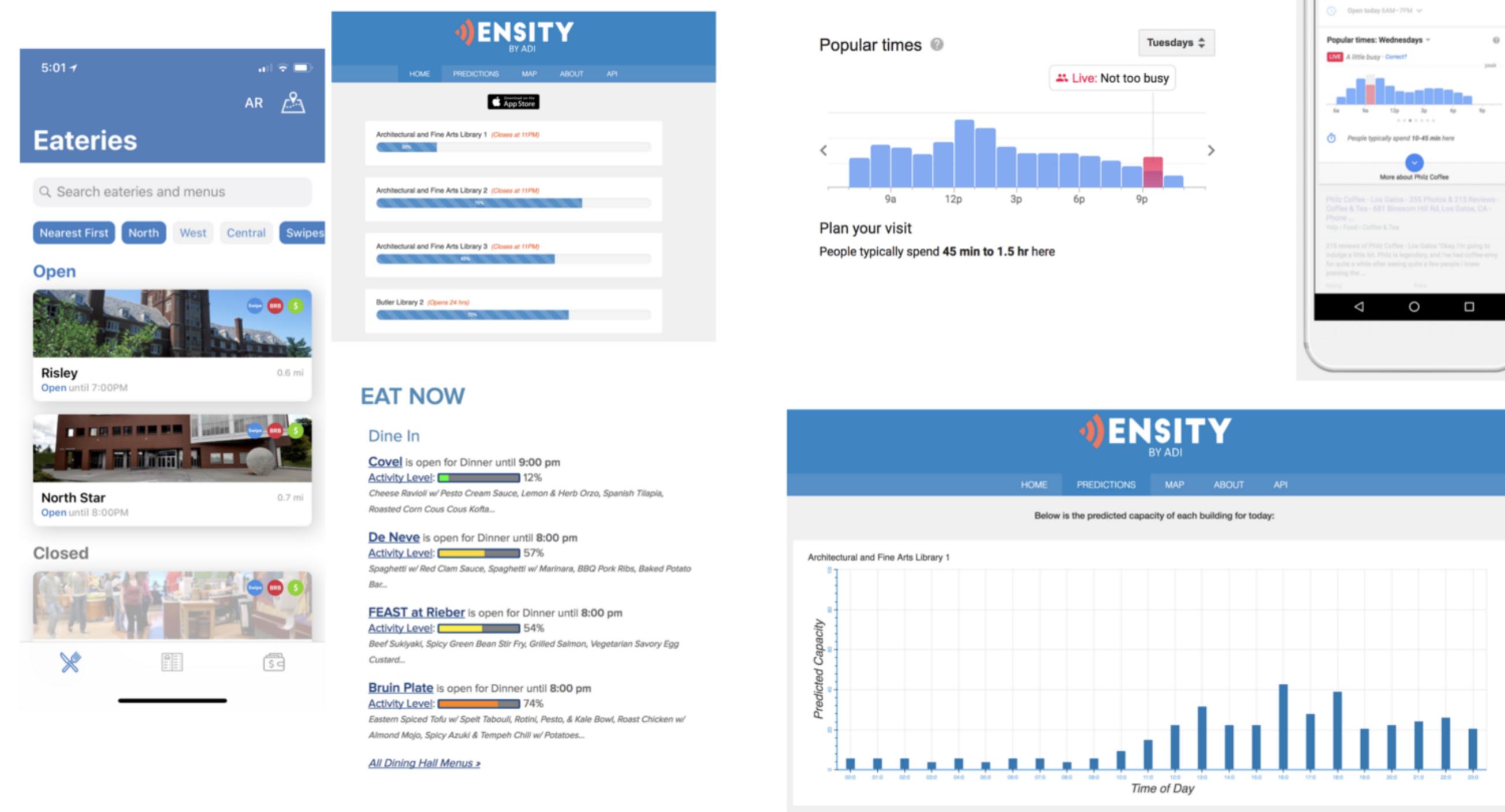


Market Research



Looking at Other Solutions

This is not a Cornell-only problem, so I looked at how other schools approached this problem. I also looked at current market solutions



Data Collection

Talking to Facilities

I knew we would need the help of the other facilities (i.e. the gyms, dining halls and libraries), so I set up meetings with the decision-makers of these facilities, and asked about their APIs and how they measure traffic flow.

The screenshot shows a Google Sheets spreadsheet with the title "Meeting with facilities". The sheet has columns labeled A, B, C, D, and E. Column A contains row numbers from 1 to 13. Columns B, C, and D contain specific facility details. Column E contains the header "What to ask" and a note "Got email (ian Gannon ig 268@cornell.edu)" in the 8th row. The last three rows (11, 12, 13) have a "Max. capacity" label in column E.

A	B	C	D	E
1		Location	Assignee	Outcome?
2	Olin Library	Libe Cafe	Neha	
3	Olin Library	Olin front desk	Andrew	
4	Uris Library	Uris front desk	April	
5	Cornell Store	Cafe Jennie		
6	PSB	Goldie's		
7	Noyes	Noyes Front desk	Kaushik	
8	Teagle	Teagle front desk	Kathy	Got email (ian Gannon ig 268@cornell.edu)
9	Helen Newman	HN front desk		
10	West	West Dining hall	Evan/Kaushik	Max. capacity
11	Central	Okenshields		Max. capacity
12	North	North Dining Hall		Max. capacity
13				

Data Collection

Manual Tracking

Libe Cafe		
Monday		
Time	Scale	# ppl in line
3:00	Some seats (36)	10
3:20	Some seats (31)	5
3:40	Full (39)	8
4:00	Full (52)	14
4:20	Full (48)	12

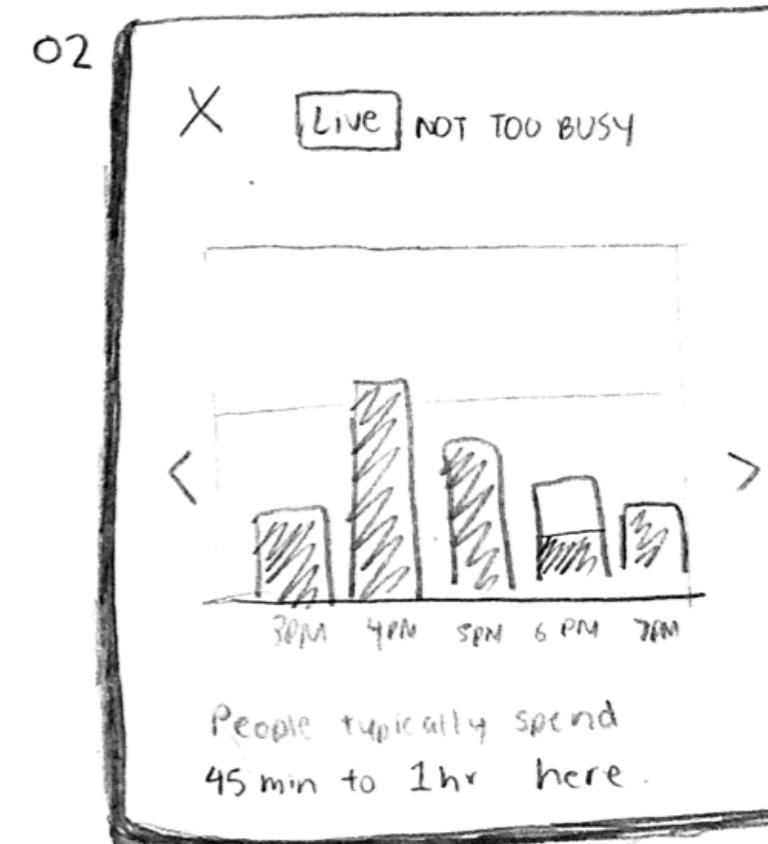
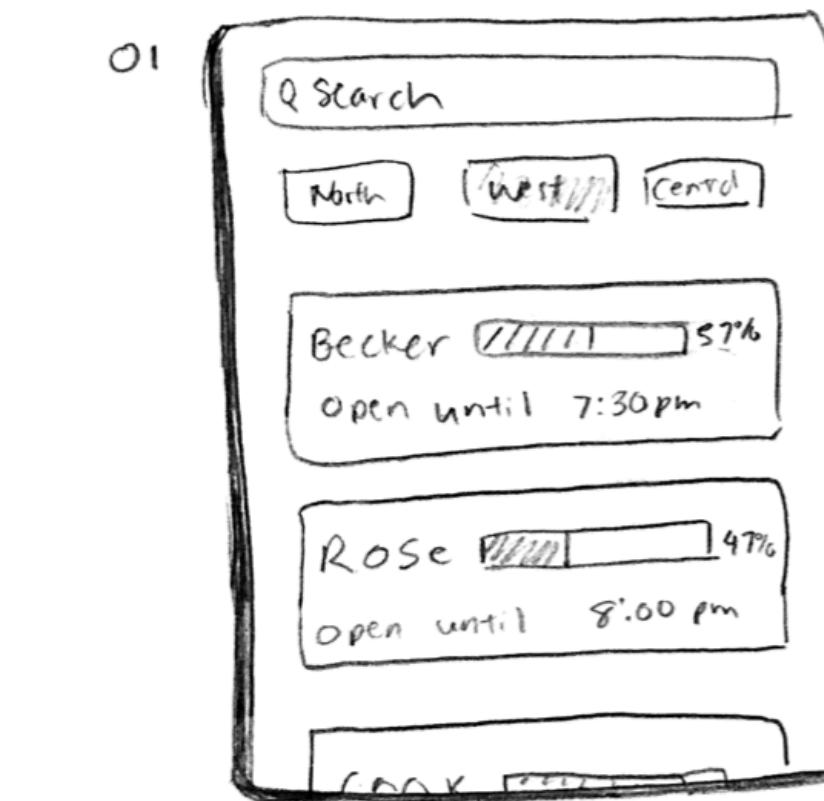
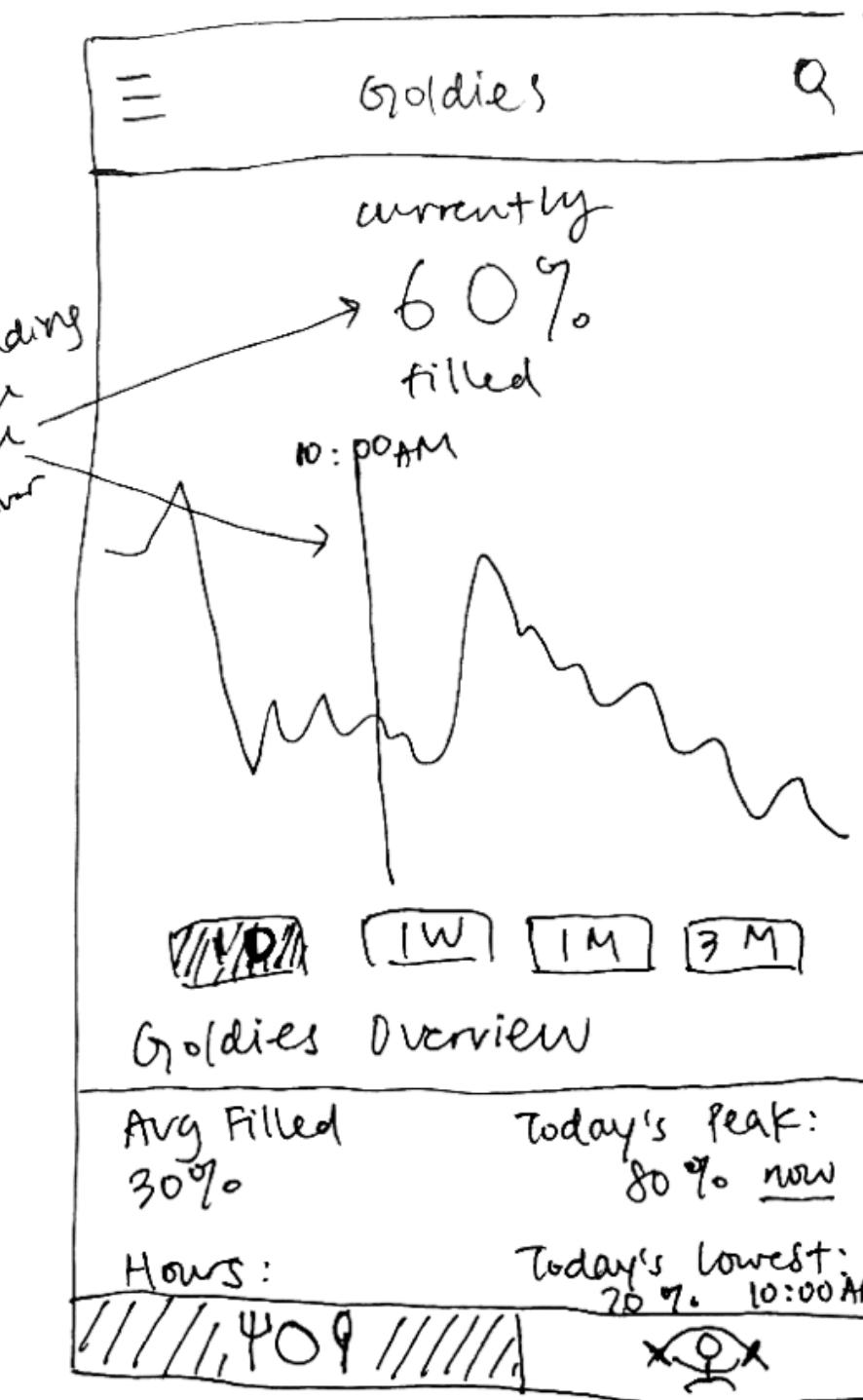
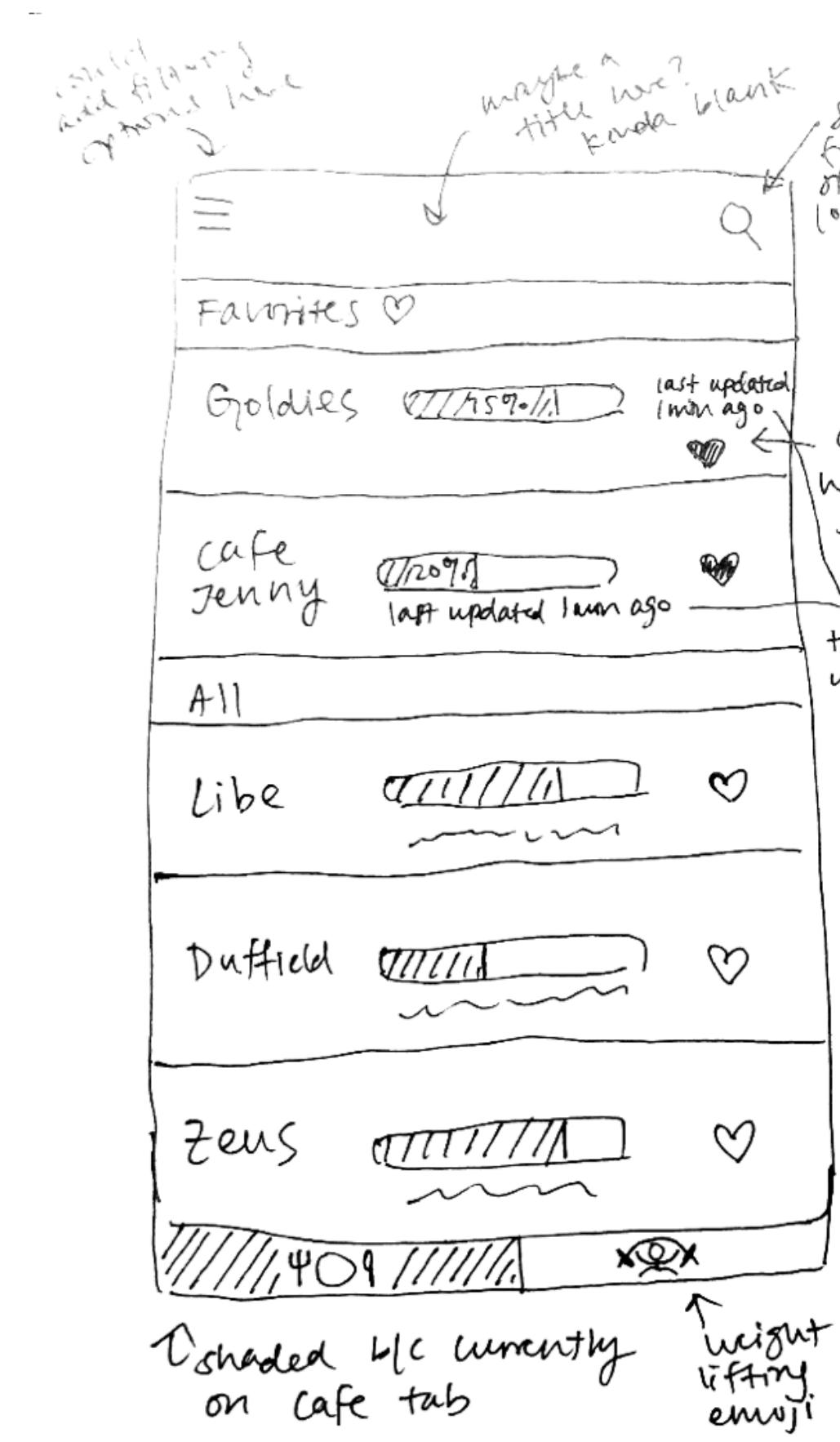
Time	Scale	# ppl in line
1:30	Full (41)	5
1:50	Some seats (40)	2
2:10	Some seats (45)	0

I also wanted to have some data of my own, so that I could provide some initial information for users when the app is first released. Thus, I physically went to the facility and manually recorded the density every twenty minutes.

Prototyping

Prototyping

Low-Fidelity Explorations



Discussion Points

- **Should I have an image for each facility?** I decided that images take away from the percentage bars, which is the main focus of the app.
- **Should I include a map feature?** I noted that people who are looking for crowdedness information of a place most likely already know how to get to that place. I decided not to include a map feature.
- **Should I represent the density trends via a line graph or bar graph?** I decided that the bar graph is more intuitive.

Prototyping

Medium-Fidelity Mockups

The image displays two wireframe-style mobile application screens. The left screen shows a search interface with a search bar, a filter section with 'All' selected, and five identical card components. Each card displays 'Bethe Dining Hall' and 'Pretty crowded' with a horizontal progress bar. The right screen shows a detailed view for 'Becker House' with a 'Save' button. It features a 'Popular Times' chart for Sunday, showing peak crowds at 6pm. Below the chart, a note states 'People usually spend 14-45 min here.' A 'Hours' section lists operating times for each day of the week.

Last updated 5 min ago
Powered by DTI

9:41 AM 100%

Sketch

Search

All North West Central

Bethe Dining Hall Pretty crowded

6pm: as crowded as it gets

Sunday

9am 12pm 3pm 6pm 9pm

Popular Times

People usually spend 14-45 min here.

Hours

Day	Operating Hours
Sunday	10:30am–2pm, 5–8pm
Monday	7am–3:30pm, 5–8pm
Tuesday	7am–3:30pm, 5–8pm
Wednesday	7am–3:30pm, 5–8pm
Thursday	7am–3:30pm, 5–8pm
Friday	7am–3:30pm, 5–8pm
Saturday	10:30am–2pm, 5–8pm

Becker House Save

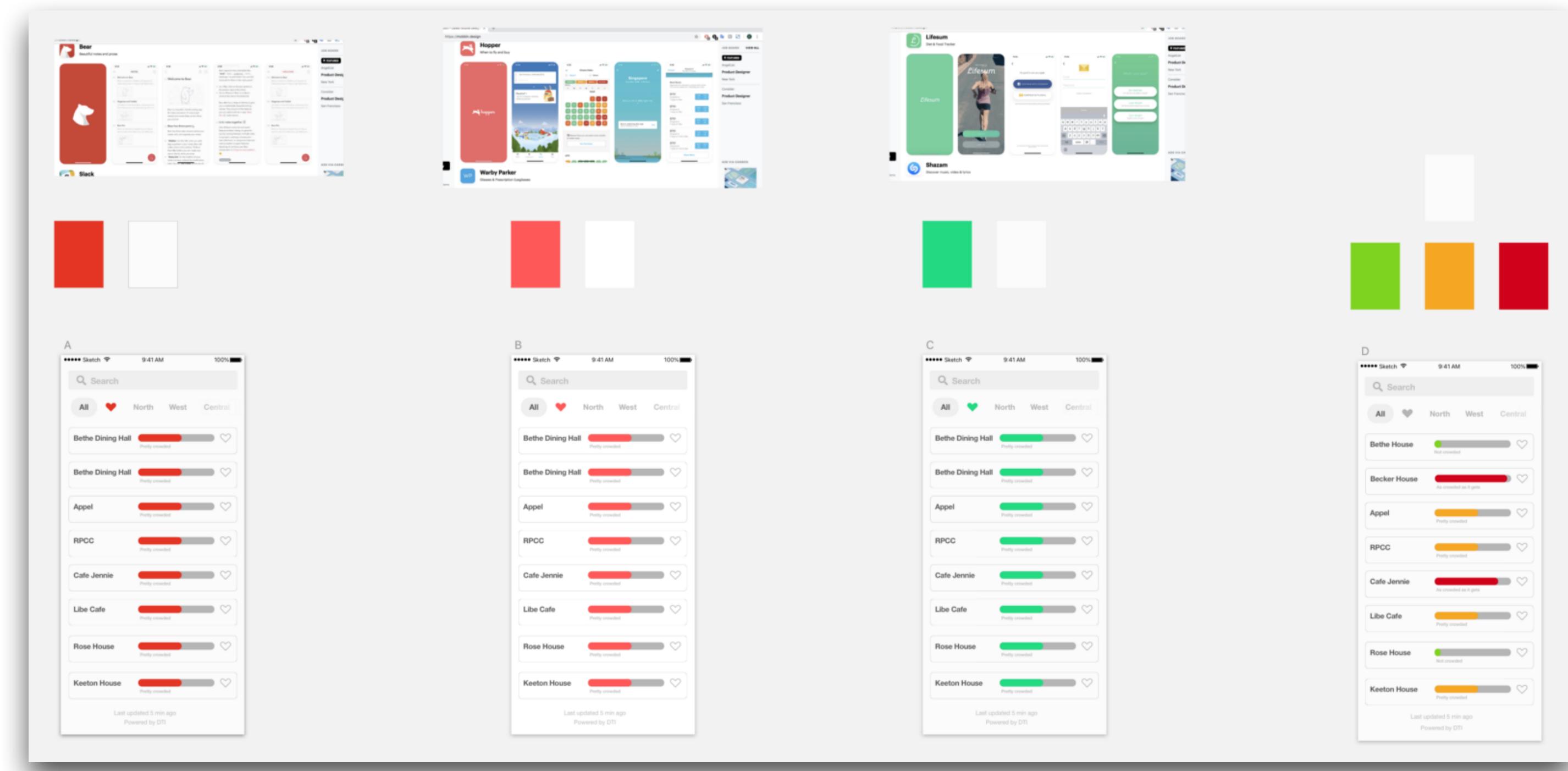
6:41 PM 100%

Sketch

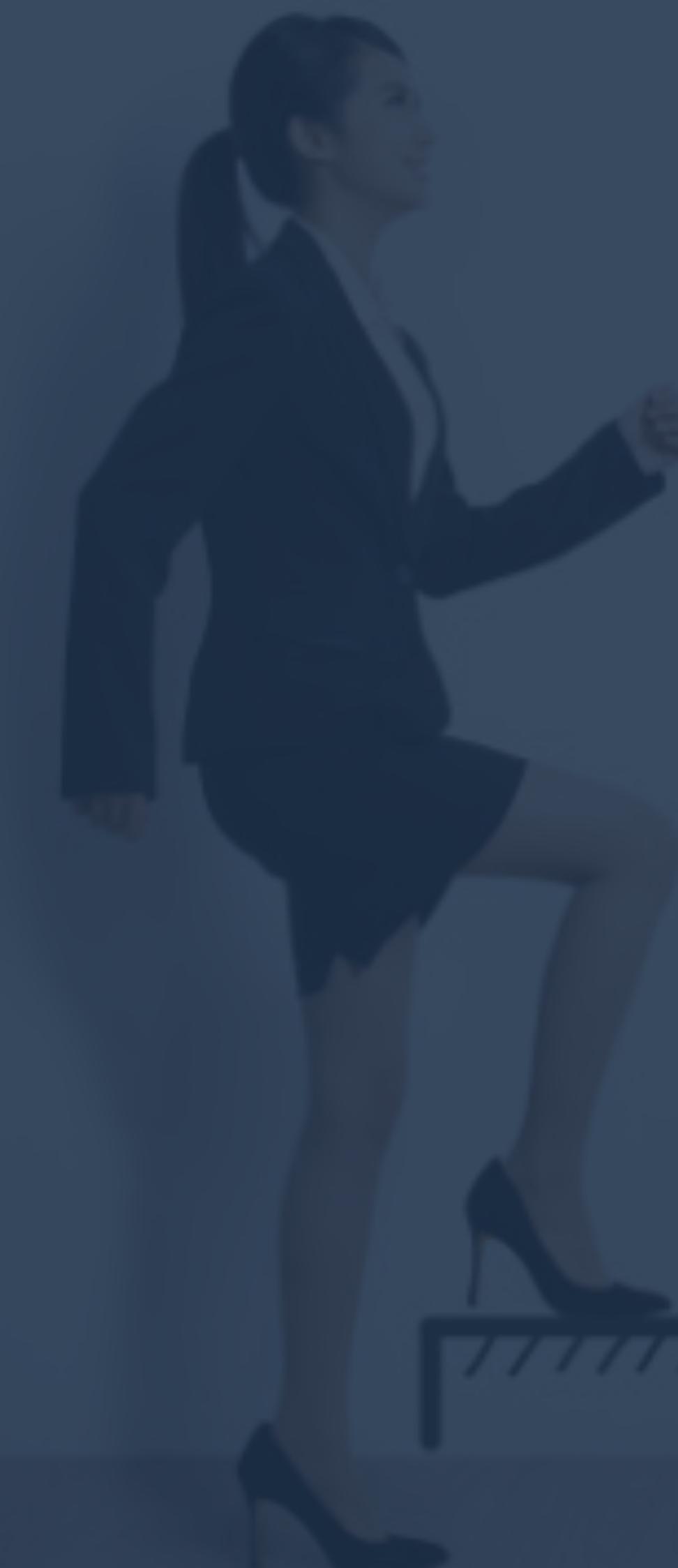
Prototyping

High-Fidelity Prototyping

I've just begun high-fidelity prototyping, and I'm exploring different colors to represent the crowdedness of facilities.



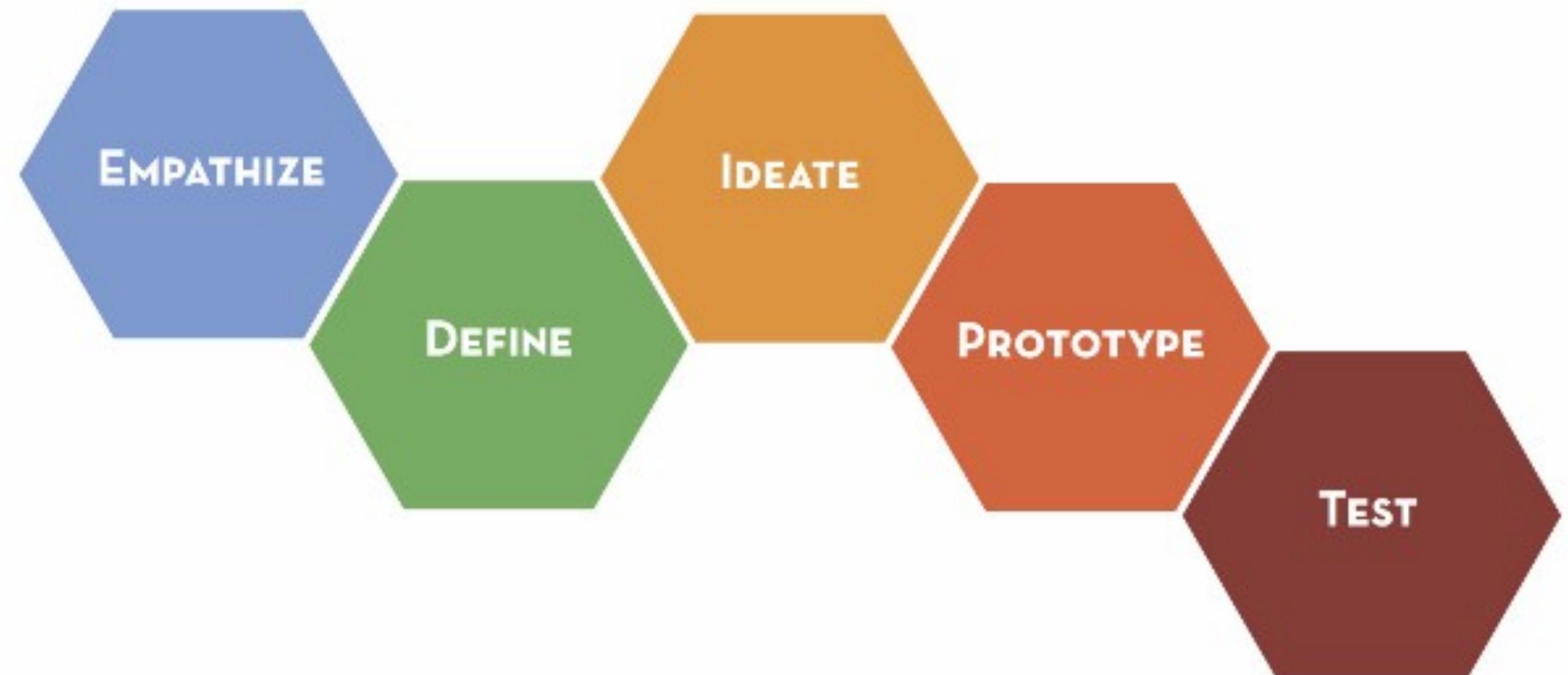
Next Steps



Next Steps

The next few weeks

- More high-fidelity prototyping
- Release an MVP before finals
- Conduct user testing



An aerial photograph of a city during autumn. In the foreground, a large, modern building with a distinctive angular, geometric roof is visible. The surrounding area is filled with trees displaying vibrant autumn colors of orange, yellow, and red. In the background, a dense urban landscape with numerous buildings of various heights stretches towards a range of mountains under a clear blue sky.

Thank You!