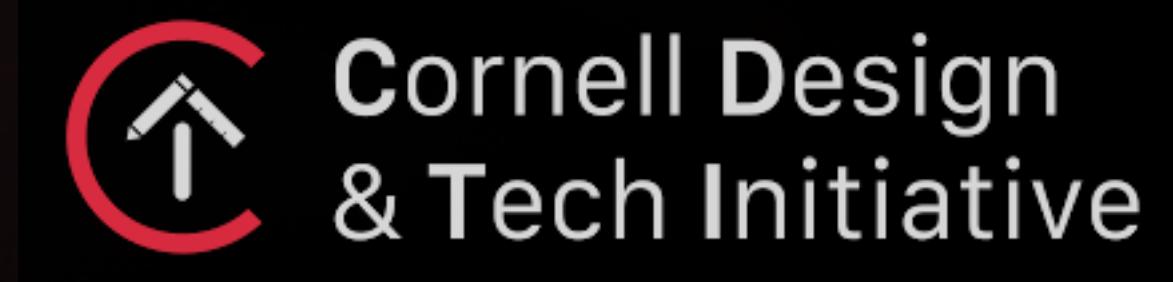


# Cornell DTI Case Study

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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 person is sitting at a desk, looking at a laptop screen. They are holding a pen over an open notebook. On the desk, there is a mug and a small potted plant.

# 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?

We 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, we created an affinity map.



# Synthesis

# Requirements

We 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.

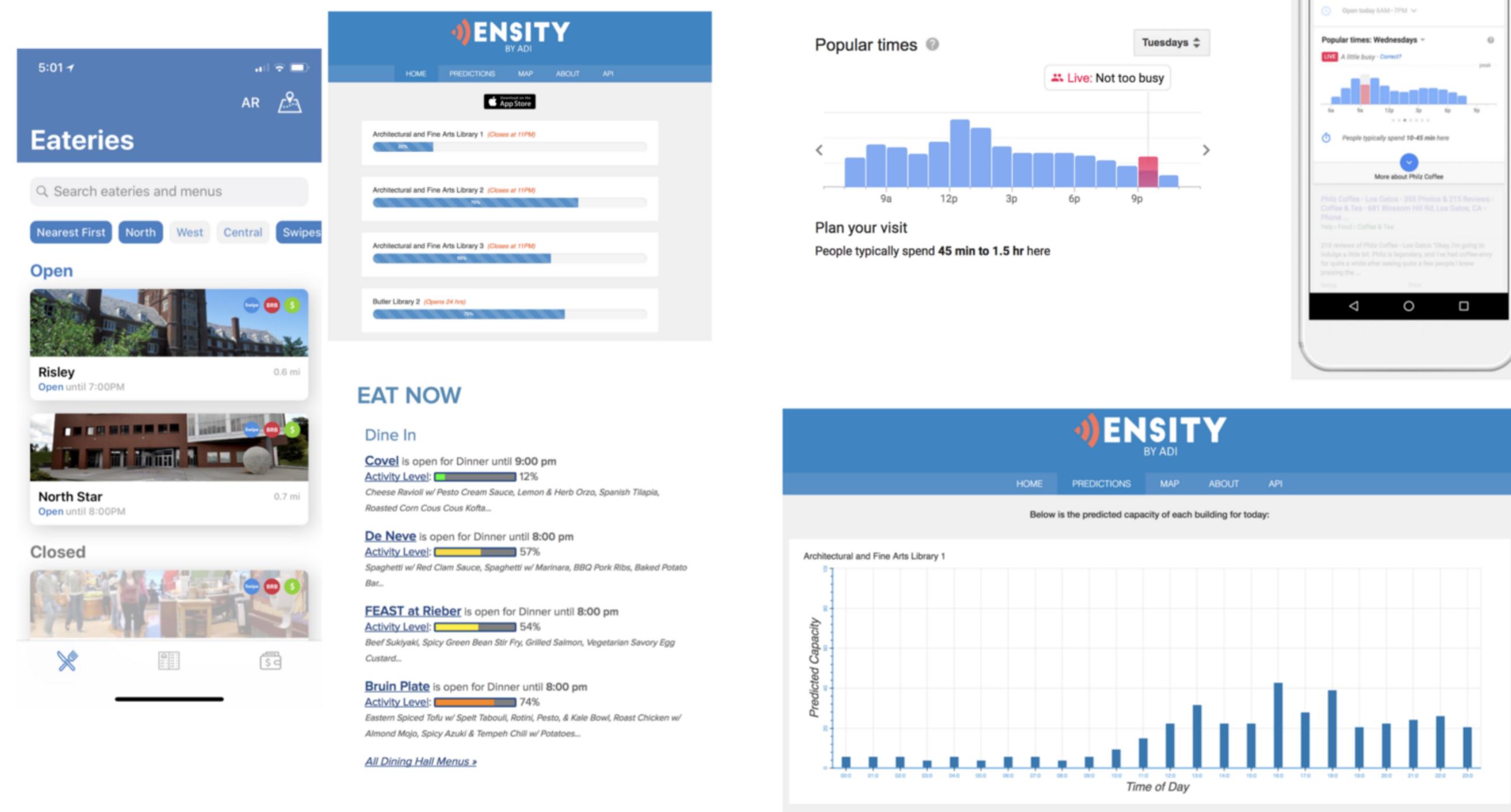


# Market Research



# Looking at Other Solutions

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



# Data Collection

# Talking to Facilities

We knew we would need the help of the other facilities (i.e. the gyms, dining halls and libraries), so we 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 titled "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 data for each facility, while column E contains notes. Row 13 is currently empty. A purple box highlights the cell in column D, row 8, containing the text "Got email (ian Gannon ig 268@cornell.edu)".

	A	B	C	D	E
1		Location	Assignee	Outcome?	What to ask
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

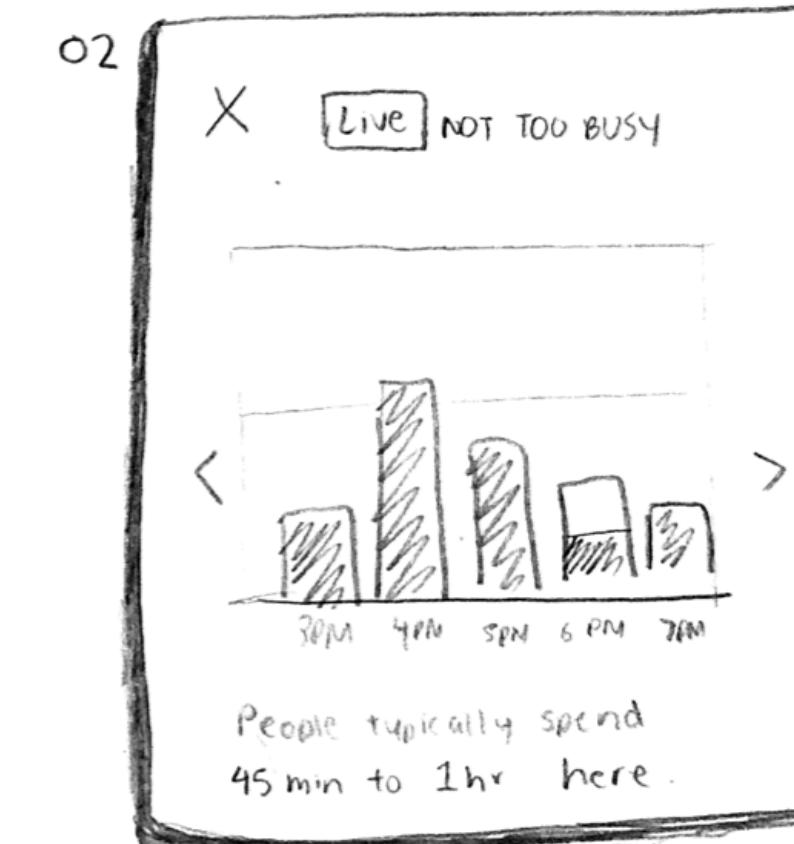
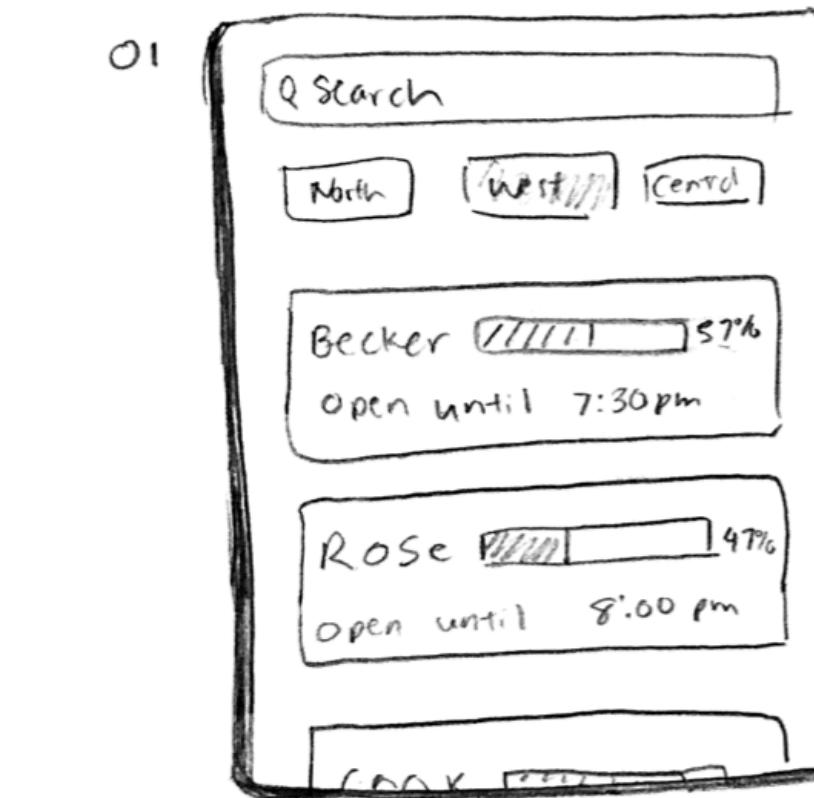
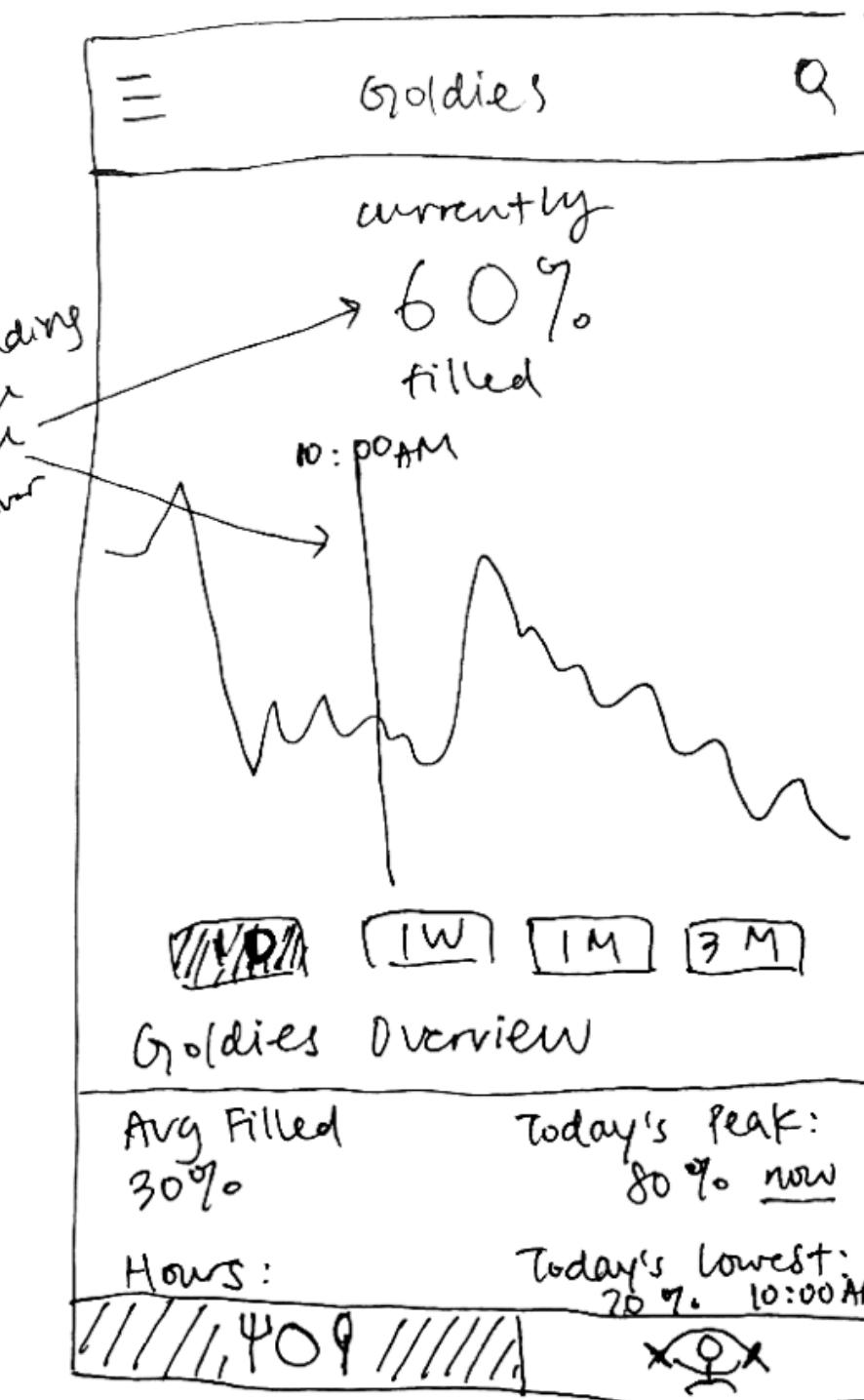
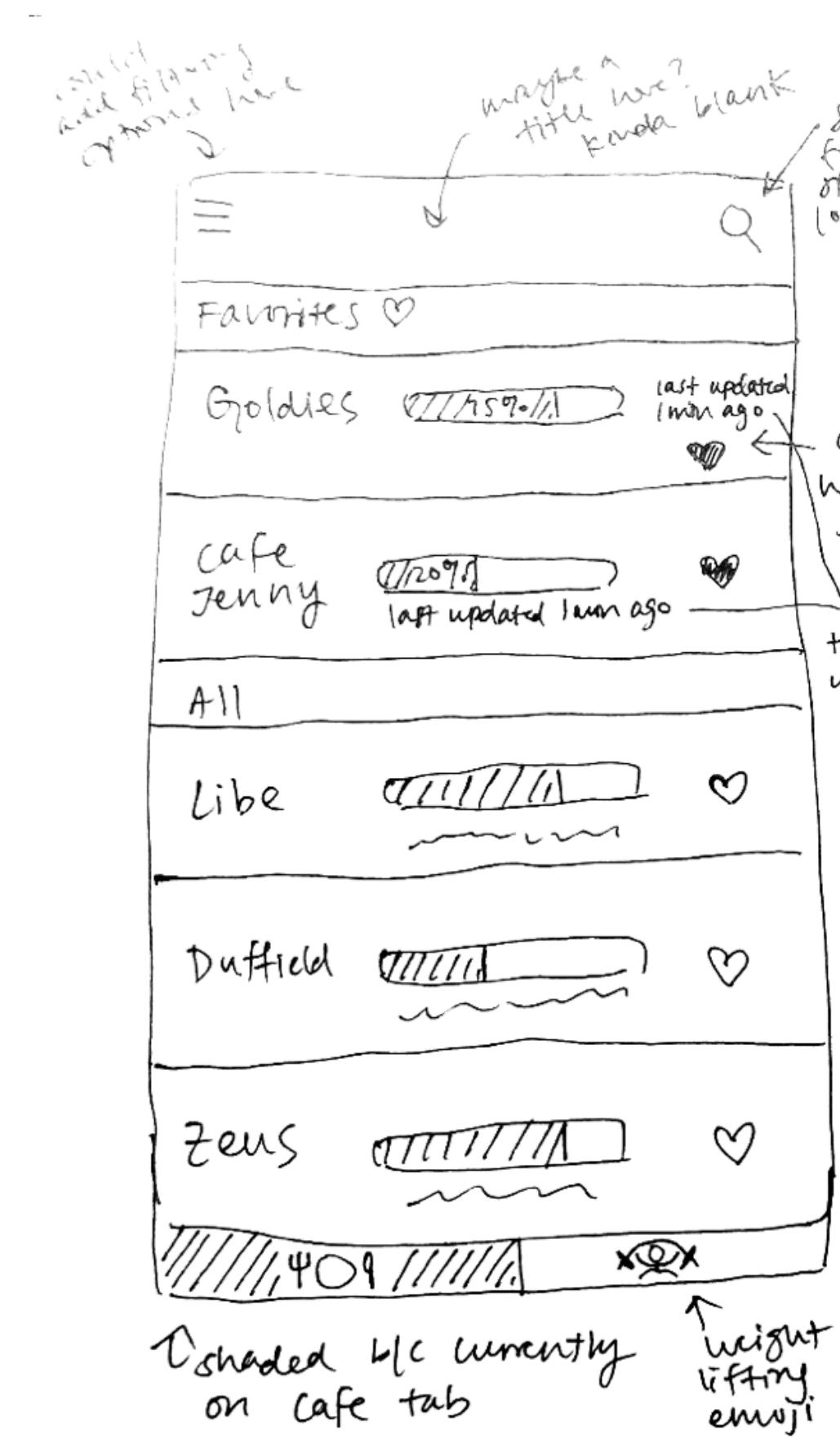
Time	Scale	# ppl in line
1:30	Full (41)	5
1:50	Some seats (40)	2
2:10	Some seats (45)	0

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

# Prototyping

## Prototyping

# Low-Fidelity Explorations



# Discussion Points

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

Prototyping

# Medium-Fidelity Mockups

The image displays two medium-fidelity mobile application mockups. The left mockup shows a search interface with a search bar, a filter section with 'All' selected, and five results for 'Bethe Dining Hall'. Each result includes a progress bar indicating crowding levels. The right mockup shows a detailed view for 'Becker House' with a 'Save' button, a 'Popular Times' chart for Sunday, and a summary of average stay times. The bottom half of the right screen lists daily operating hours.

Sketch 9:41 AM 100%

Search

All North West Central

Bethe Dining Hall Pretty crowded

Last updated 5 min ago  
Powered by DTI

Sketch 6:41 PM 100%

Becker House Save

Popular Times Sunday

6pm: as crowded as it gets

9am 12pm 3pm 6pm 9pm

People usually spend 14-45 min here.

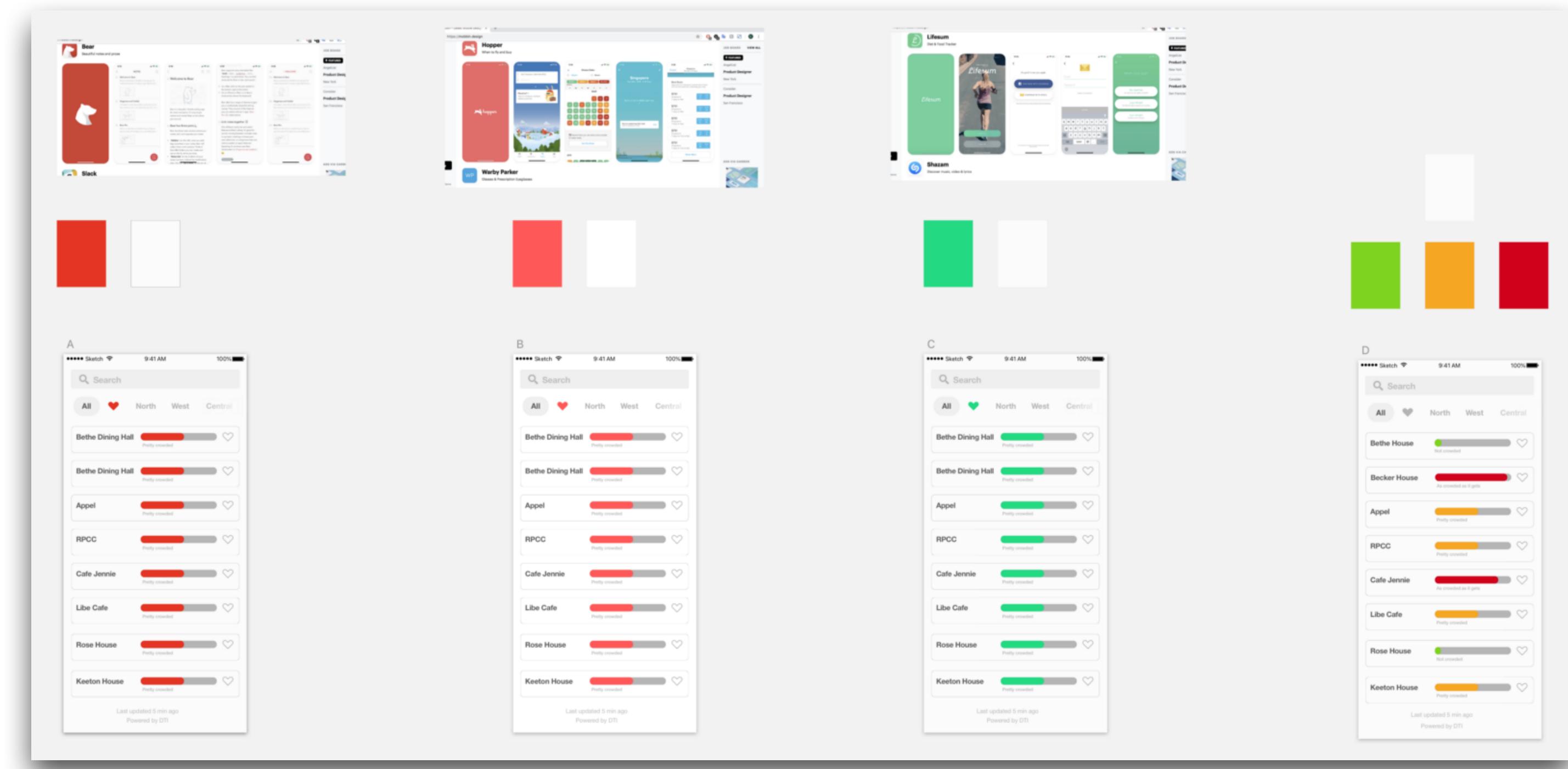
Hours

Day	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

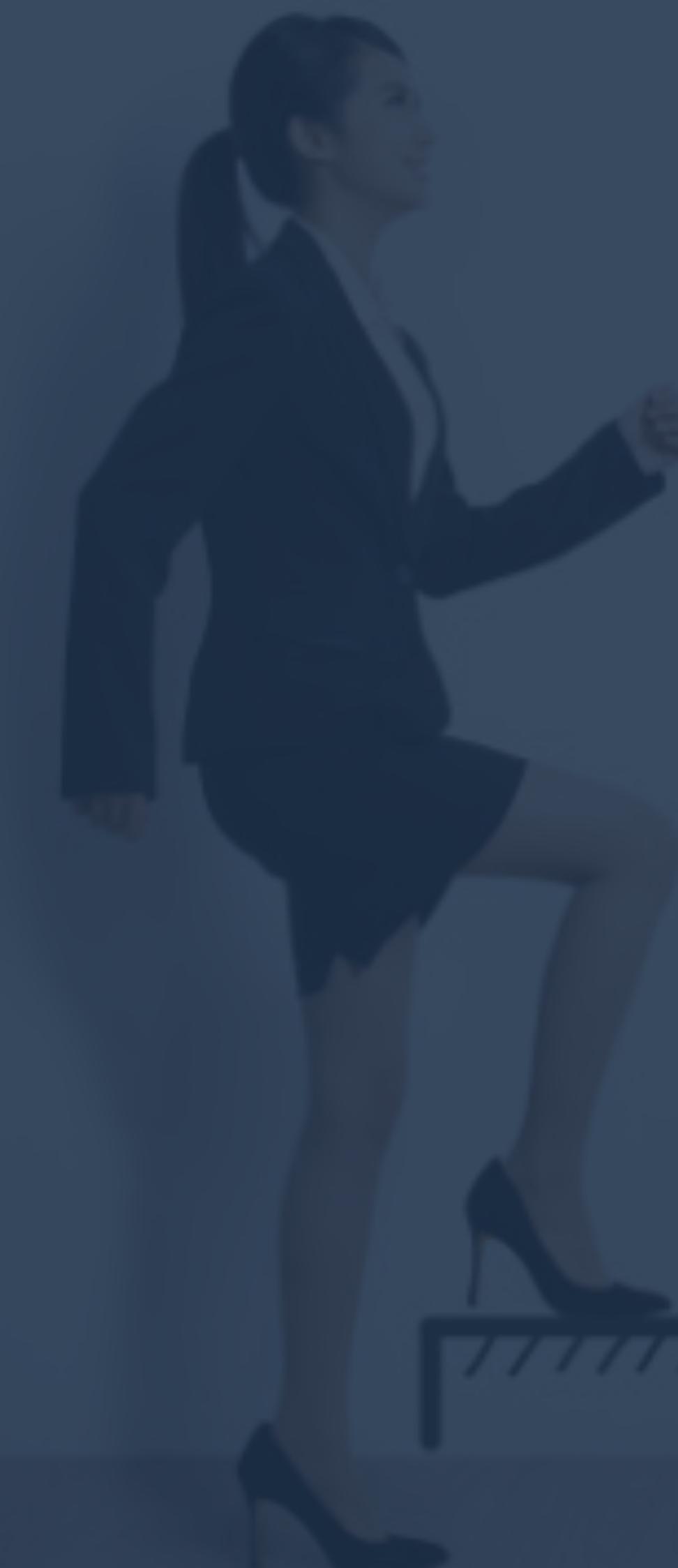
## Prototyping

# High-Fidelity Prototyping

We've just begun high-fidelity prototyping, and the design team is exploring different colors to represent the crowdedness of facilities.



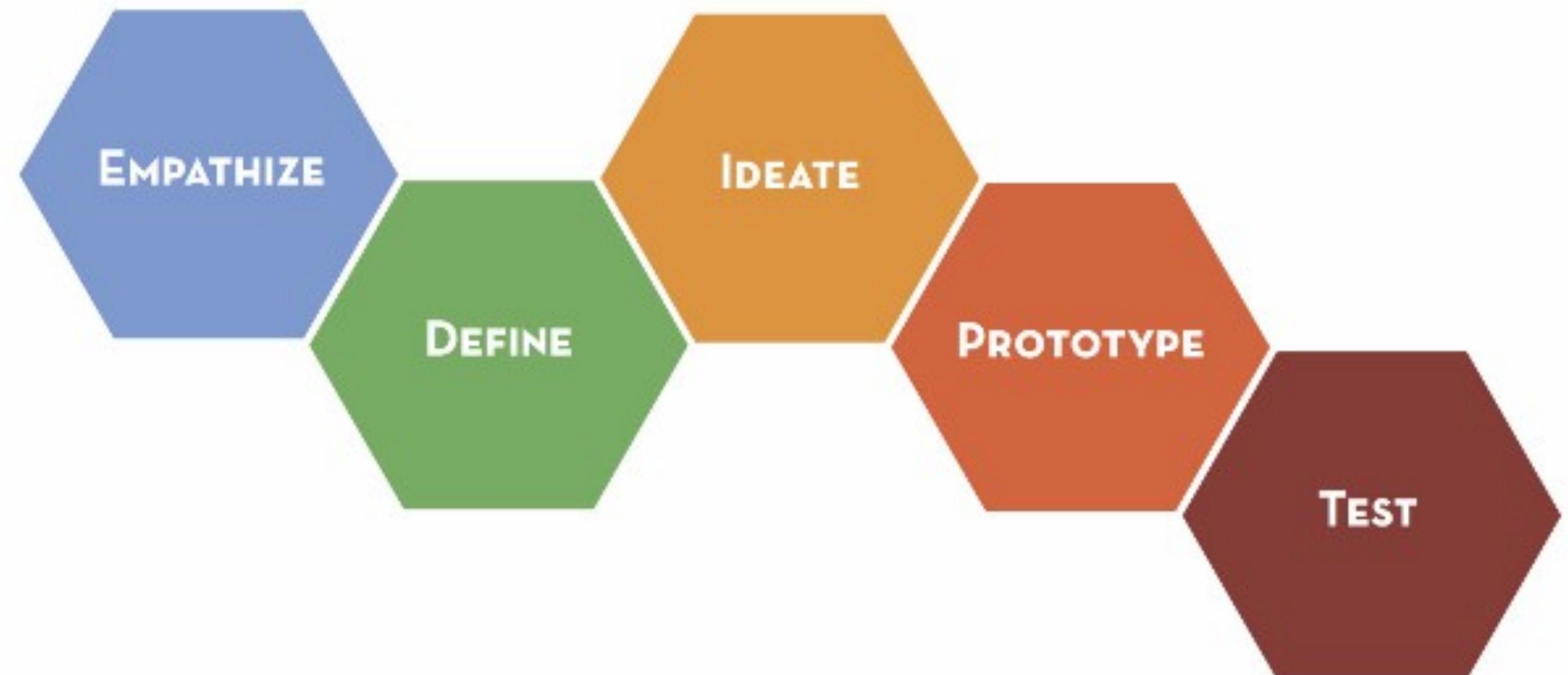
# Next Steps



## 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 dark, angular roof is visible. Behind it, a dense cluster of buildings and trees in shades of yellow, orange, and red are scattered across a hillside. The city skyline is visible in the background under a clear blue sky.

Thank You!