1 Room Away

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Problem Statement

The University of Washington has over 27,000 undergraduate students (UW site) and when class is in session it is like a small city of its own. When these students need to study they often turn to campus to find a suitable space with the amenities they need to get their work done, but finding these spots is often a challenge due to the large student population. In a survey conducted by our group, we found that 74% of students said that the study spot they end up with doesn't have all the things they need to be productive. Whether it is a lack of plugs or lack of a projector, students stated that finding a room with everything they needed was harder than it should be. This is the problem we are trying to solve; we feel that the large campus we have is heavily underutilized. We set out to solve this problem by making a mobile application that students can use to find a suitable study spot.

We felt this was an important problem to solve because our own experience and interviews with University of Washington students suggested that finding a study space took longer than people had anticipated. This led to students using rooms that didn't have the features they needed. The crowds in traditional study spots like Odegaard library lead to less study time and more distractions.

The main causes for this problem, we feel, are students not being informed of other possible study spaces. The information is all out there, but it is very hard to gather and often isn't worth the students' time to compile. By making this information accessible to users, we hope that students find it easier to get their work done faster because they will be able to find a spot with all the amenities they are looking for with little effort. It will also provide relief to heavily congested study spots and encourage students to use new buildings they wouldn't have found otherwise.

Project Scope

Platforms/ Assistive Technology
At the moment, the design is confined to the mobile iOS platform, but there are plans to expand to a web platform and Android in the future. We are starting on iOS because the application conventions are more established and easier to design within. As the design is fledgling we'd like to test it out in a more controlled and simple environment. The application does not make allowances for assistive technology

Location
Study spaces we provide include classrooms, libraries, common areas, cafes, and other in-building areas. Outdoor areas are not included in our catalog. The most axial assumption we use in this application is that there is a pre-existing catalog of all spaces on UW campus, or that another team will provide one. We therefore focus on the ability to access specific results in the catalog in a simple and precise manner. There are two paths to these results that we have chosen to enumerate on: the default search and the customizable search. The exact algorithms will be specified in the Home Page section (pg. 9).

Default Search
A good default search is essential to the app. As people are interested in accessing their results as quickly as possible, we found some people did not bother to set preferences. Therefore in order for our app to achieve its goal, the default search needs to lead them to a relevant result. Our default search takes into account the student's current location, the noise and crowd levels of areas around them.

Preferences Specified Search
The customizable search is what differentiates the app from other apps that just show you where spaces are. It allows you to select several options, like proximity to: couches, desks, cafes, vending machines, computers, outlets, printers, etc. It then gives you results based upon how many of the chosen attributes apply to the space.

Filters
Each search has a filter, allowing the user to reorder the priority of results based on the chosen filter. These filters would include things like: proximity to the user, noise level, proximity to food, etc.

Ranking/ Ordering Results
The order in which the results are shown relies on an algorithm to be specified in this document (pg. 9) that pertains to what preferences the user has selected.

Database of Spaces
Our design does not include how to determine if attributes of a space are present

or how to measure or comparatively rank those attributes. We assume that the information on each space is readily available in the aforementioned catalog of spaces.

Final Result

Each result contains a map to the space. The map is intended to be linked with Google maps and so will not be discussed within the design. This is to eliminate unnecessary reinvention of the wheel.

Assumptions

       1. UW will allow us to access the information and permit us to publish the app.

       2. Information on each space is readily available, pre-catalogued.

       3. Our target audience has access to an iPhone, and the ability to use one.

Intended Users

Our app, 1 Room Away, is geared towards the undergraduate population. Most graduate and Ph.D candidates have their own offices in which to work, so finding a space is not a problem for them. Within the undergraduate population we found that freshmen and sophomores expressed the most interest in this idea, the reason being that most of them are not in their majors yet and don't have a departmental study space they can turn to.

The following two personas were chosen because they both embody traits that we believe they share with our users. We also picked these personas because their scenarios contain two problems that, while very different, are both solved by our application. We strongly believe that they show enough differences to demonstrate the broad range of needs our application can fulfill.

Taylor Owens

Taylor is a junior at the University of Washington studying Political Science. He lives in Delta Tau Delta fraternity on 20th and 47th. He is from San Diego and has lived at UW for 3 years. He knows campus fairly well, and if we were to tell him to go to a building on campus chances are he could find it without help. His fraternity is not the best place to study because it's always loud and isn't always the cleanest place, which is distracting to him. His homework usually involves a lot of reading and writing papers. He has a lot of 2-hour gaps in his schedule, which he likes to stay on campus for. His schedule usually goes from 8:30-3:30, the busiest hours on campus.

The Big Paper

Taylor has a big paper due in two days and he is planning to write it tonight and tomorrow. Ideally, his study spot would be somewhere he could stay a long time and is quiet. Usually he goes to Odegaard, but with the recent construction it has become harder to find a spot there. He has his own laptop, which he will be writing the paper on so a plug is necessary as well. It's just after dinnertime so proximity to food is not an issue. He lives close to the 45th entrance to the school so something in that area would be preferable. Before he writes his paper, his teacher has assigned a long video he needs to watch, so having a TV to watch it on would be nice, but not a necessity. A big table would be nice as well because he needs to view a lot of his articles at once. Since he plans to be there for a while, a building that doesn't close would be nice. He is leaving his house and needs to decide where to study.

Marie Townsend

Marie is a sophomore at UW and is studying Informatics. Her homework consists of many group projects and many computer assignments. Marie lives two blocks north of campus on 50th and 16th. She feels that she knows about half of the buildings on campus. She walks to campus everyday. She has no gaps but stays on campus after class. She likes places where she could work with other people.

Schedule Mayhem

Marie's group is meeting after class today and has no idea where they can meet. She needs a big round table so all her group mates can sit together. A white board would be useful. She prefers a quiet space that is relatively secluded. The trouble Marie and her group are having is that some of her group mates have only small periods between classes to work on their project. They are also trying to find a space that acts as a good center point since their classes are all over campus and some are very far away from others. Some of them have laptops that will require plugs and some of them do not, so they need either whiteboards or desktops. Since none of them know the campus study areas very well they are having quite a hard time figuring out where they can complete the task given all the challenges they face. This project is a very big part of their final grade and they can't afford any error.

Design Details

1 Room Away was designed for iOS and consists of four major components with some supplementary components concerning usability and data entry. The first screen is the home screen, which has the search and preferences functions. The second is the list of building results, which lays out which buildings that best match the users needs. On building selection, the app moves on to a list of room results, which have a similar weighting scheme to buildings. Finally, when the user selects a room, the app takes them to the room details page, which outlines the room's open hours and amenities, and displays a map to the space. All evidence for user research can be found in the appendix.
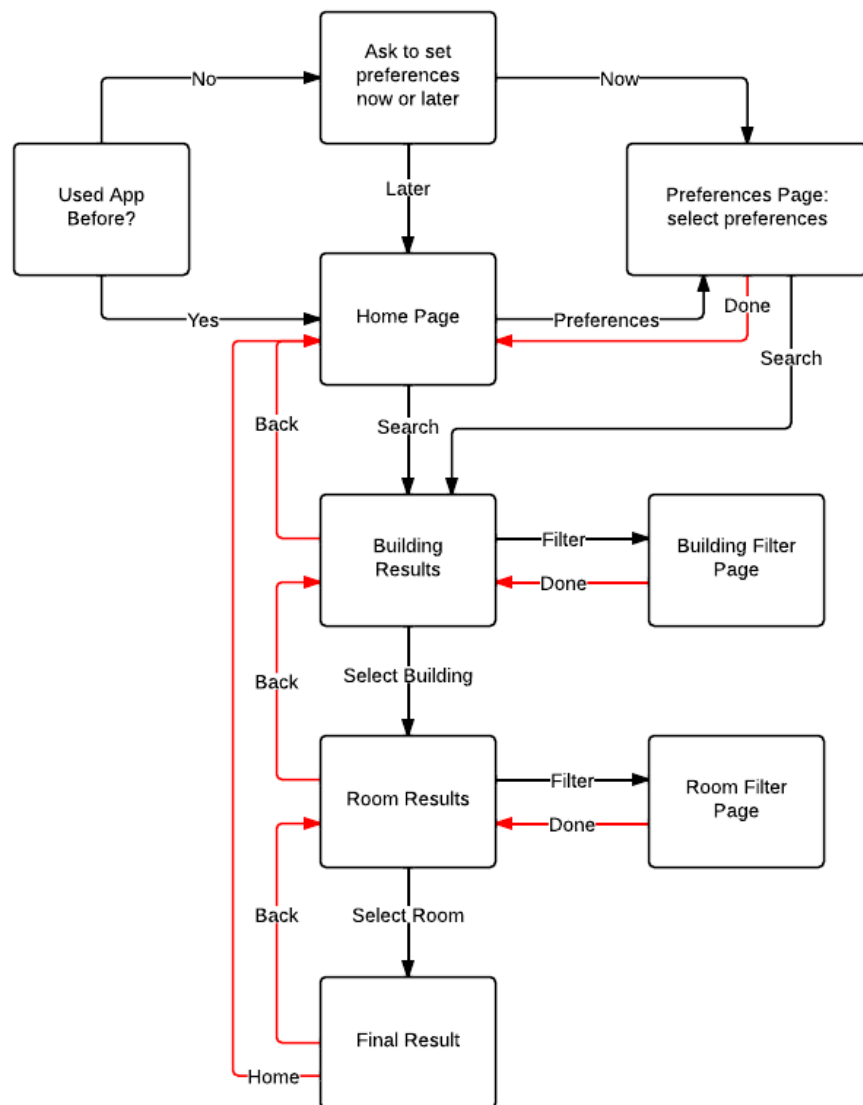
Home Page

**Search:** Located in the middle of the page. Directs the user to the building results page.
Preferences: Located in the middle of the page. Directs the user to the preferences page, allowing the user to access and/or change their preferences.

Search Algorithms:
Default: Results are listed with the highest priority attributes at the top. The priority of attributes is as follows: 1) open buildings/ rooms, 2) proximity to user's current location, 3) more quiet, 4) less crowded.

Preferences specified: Results are listed with the highest priority attributes at the top. The priority of attributes is as follows: 1) open buildings/ rooms, 2) proximity to user's current location, 3) number of user specified preferences the building fulfills, 4) more quiet, 5) less crowded.

If any building has an equal attribute, the algorithm then compares each building on the basis of the attribute of subsequent importance.
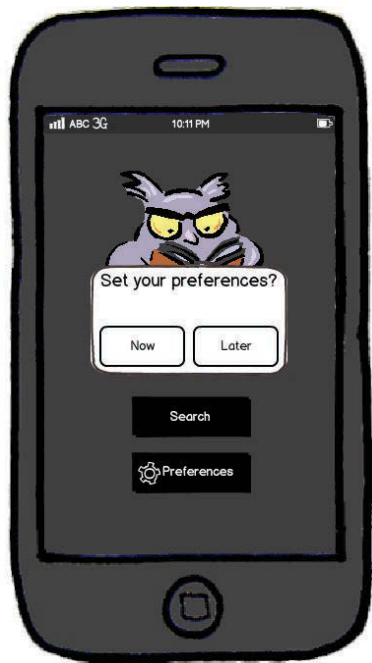
Decision: When the user opens the app for the first time, it prompts the user to set preferences, but does not require it, giving users an option to set preferences "now" or "later". This dialogue box only opens the very first time the user opens the application and after that they will use a "preferences" button located under the search button.

Rationale: Our app's goal is not just to find good study spaces, but to find ones which meet the user's very specific needs. This is the easiest way to direct the user to the preferences page because it involves no searching on the users part for an option that may or may not know exists. Letting the user pick from an easy list of amenities and room details was well received by most of the users we tested. We also discovered that some users did not want to set preferences right away, so we had to create a strong default search which still accomplishes our goal of getting people to quality, but non-popular places to study as mentioned above. We also wanted to make it clear that if the user didn't choose to set preferences "now", we would provide a way to set them "later".

Decision: There is one search button which will intelligently search for study spots. If the user does not input preferences, it initiates a sophisticated default search: if the user preferences are set, we will execute a search prioritizing those preferences first.

Rationale: This was the biggest decision that we wrestled with during the entire design process. We wanted to serve users who did not set preferences and give them a quick way to search. Trying to differentiate a 'quick search' which had no preferences, and a 'search' button which took into account preferences only caused anxiety and confusion on the part of the user. This was the essential ideology behind the intelligent single button search. We tried to tailor the default search so that it works for most users. Our user testing verified that almost all 7 participants agreed that our algorithm in association with filters to be specified later sufficiently met their needs.

Decision: We kept the front page very clean with our logo in the top center of the home page and our two functions in the middle. Our minimalistic design allows the user to focus on the task and not have to look too long for the core functionality.

Rationale: This decision almost made itself as the design process proceeded. We wanted a quick way to search so that people don't waste any valuable time trying to find a space and spend more time enjoying it. We put the search button almost directly in the middle of the screen to draw attention to it. If the user had already set preferences from a previous session, they could quickly commit the same search and find their desired space. Speed was the goal of the homepage and most users were able to perform a search under approximately 2-3 seconds.
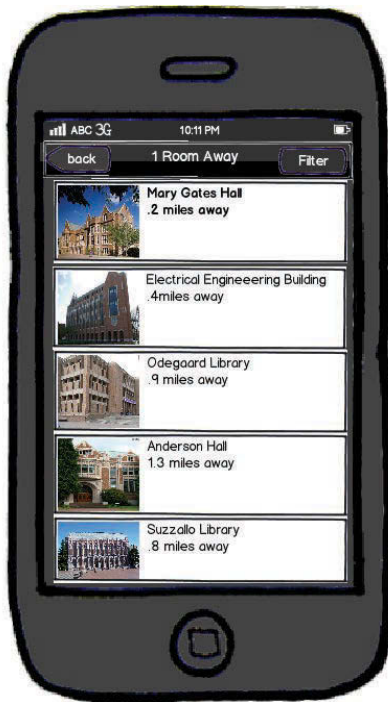
Building Results

Actions:
Back: Located in the top left corner of the navigation bar. Directs the user back to the home page if the search was initiated from the home page, or the preferences page if the search was initiated from the preferences page.

Filter: Located at the top right corner of the navigation bar. Directs to user to the building filter page, which allows the user to change how they filter results (specified on pg. 17).

Building Click: Takes the user to the room results page (specified on pg. 13), a list of rooms within the selected building which fit the search criteria, according to which algorithm is governing the search.

Decision: Building results are displayed in a simple list that scrolls on touch slide. We put a small thumbnail of the building on the left-hand side of each result. We also display the building's proximity to the user's current location to give the user more information to consider when making a decision on a building to explore further.

Rationale: Since our target users may not be very familiar with all the 70 or so buildings on campus, a small thumbnail picture helps the user figure out what each building looks like. Our users tests suggested the use of big pictures, and simple and short information so as to aid in quicker visual cognition of results. This layout allows the user to quickly see what buildings ranked highest and how close they are from said building.

Decision: We placed a filter button at the top right of the header to help the user quickly pick which things are the most important in their search. The list updates and shows new results based on those chosen options. The filter is fully specified on page 17.

Rationale: When we first ran our user tests we believed that our search results would be so good that users would not want to change them. This idea was quickly revised when observed the desire held by multiple users to refine their search. This mostly occurred when the user did not set preferences, but occasionally occurred when they had. We placed it in a spot which many other popular apps leverage, so the user would instinctively know where to find it.

Decision: We placed a back button in the top left corner of the navigation bar.
Rationale: The back button is placed on the leftmost side of the screen because people have been socially conditioned to associate left with the going backwards and right with going forwards.

Room Results

Actions:

Back: Located in the top left corner of the navigation bar. Directs the user back to the building results page.

Filter: Located at the top right corner of the navigation bar. Directs the user to the room filter page, which allows the user to change how they filter results (specified on pg. 18).

Room Click: When the user clicks on the container which contains the picture and name of the room, the user is directed to the final result page which contains all the details of the room they have chosen (specified on pg. 14).

Decision: We placed the room results in a different format than the building results and went with a 2x3 table of images per whole screen, which scrolls down on touch slide downward to reveal more rows.

Rationale: Originally, we gave both of the building and room results screens very similar layouts, but our user testing found that 5 out of 7 of the users did not catch the difference between the two screens and were generally confused between the building and room results screens. We changed the layout to make a distinction between the two and also so that the user can get a better feel for the more specific space.

Decision: The back and filter buttons offer the same functionality and are in the same exact location as their counterparts on the building results page.

Rationale: Consistency.

Decision: The building reference in the name of the room is shortened.

Rationale: This eliminates clutter on the page. For example, we use the full name of the building on the building results page such as ("Mary Gates Hall") but only the acronym of ("MGH") on this page. Once the user chooses a building, the obviously know which building the space resides within and if they forget, the acronym will still give some hint as to which building they are seeing results for.
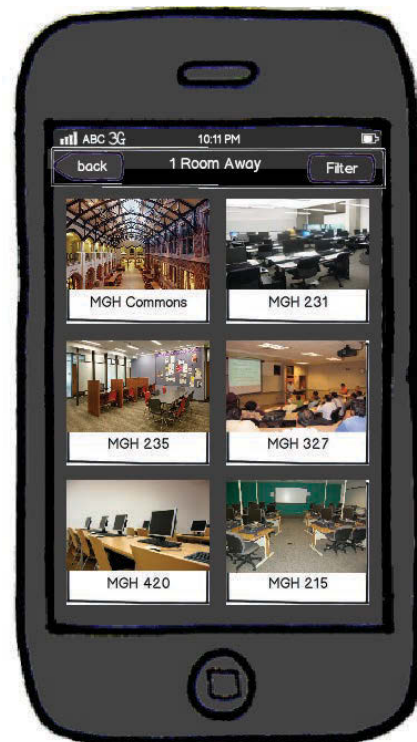
Final Result

Back: Located in the top navigation bar, at far left. Directs the user to the previous room results page.

Home: Located in the top navigation bar, at far right. Directs the user to the home page.

Decision: We placed an image depicting an aerial layout of the room, including any furniture, outlets, and accessories such as computers, whiteboards, etc. at the top left of the screen to show the overall layout and size of the room. The back button is in the same location as the previous screens, but a home button is added to the navigation bar.

Rationale: During user testing, 6 out of 7 users said that a photo of the room did not really explain what the whole space looked like or conveyed its size. Thus we went with a room layout image and all 7 users thought this made the layout of the room clearer and was more useful overall. Users also really liked our home button and were quickly able to find it when required to go back to the homepage.

Decision: We placed a small table displaying the hours the room is open, including weekday and weekend hours. To the image's right we have, in descending order, the building name, room number, and a quick reference to let the user quickly see if the room is open or closed at the time the user is viewing

the result.

Rationale: The two decisions regarding room open hours came pretty naturally to us, as we believed that leading the user to a room that is closed would be a huge frustration. Even though our search algorithm ranks open rooms higher, we know that during our tests users clicked on rooms that were currently closed. Even though we had a table that could quickly show them if it was open or closed at the time, 4 out of 7 users suggested some sort of quick text that simply says "open" or "closed" to let the user know without having to look at the table.

Decision: We placed a list of amenities underneath the table of open hours. This list includes all attributes and amenities specified in the preferences and filters that the space contains. We also report the common noise level and additional notes for special areas.

Rationale: These decisions all came pretty easily because we knew what information we needed to display and that it needed to correspond with the search parameters. We placed these below the open hours because users reported that if they saw that the room was closed that they would not read on, so it made no sense to show them this list of amenities before the hours if the room happened to be closed. We also included said information because we wanted to create a cohesive experience between the preferences page, the filters, and what you saw on the final result page pertaining to room details.

Decision: We placed a map linked to Google maps at the bottom of the screen which uses the geolocation of the user and the room they selected to show the quickest route to the entrance of the building in which the selected space resides.

Rationale: The UW Seattle campus is quite large and for undergraduate students it can be very difficult to figure out how to get places. At first, we thought about only giving the user a map with building labels but this added up to 12 seconds to user test participants search times. As Google maps is very well developed and established, we decided we could easily obtain their current location and use Google maps to guide them to their destination quickly and easily.

Supplementary Components

Preferences

Actions:
Back: Located in the top navigation bar, at far left. Directs the user to the home page.

Search: Directs the user to the building results page, using the customizable search algorithm to order results (algorithm specified on pg. 9)

Decision:
We present the user with a grid of icons that represent amenities in a room that they could choose from. These include:

- Large tables
- Couches
- Close to coffee
- Close to food
- Computer access
- Wall outlets
- Whiteboards
- TV screen/ projector
- Printing
- Libraries
- A room for groups
- A room for one person

The user can tap on the icon, which will turn it a different color, indicating that it has been selected. If they hit the Search or back button, the user's preferences are saved for later use of the application.

Rationale:
Users found that the pictures on the icons helped them understand better what they were selecting for the rooms. The large touch targets made it easy and fast for them to select things for their room. We chose to save the results from this page because users stated that it was an annoyance to have to select the items they wanted every time they used the application. Should the user need to change these settings, they can come back to the preference page and permanently change it or they can make a one time change using the room filter page (filter behavior specified on pg. 16-17). We also realized through user research that users wanted to go directly from setting preferences to searching and did not want to return to the home page. We added a button to do this exact thing at the bottom center of the page.

Filters

<u>Search Algorithms:</u>
Filters: When any of the filters are set the algorithm changes and accounts for the new parameters in a ranking scheme as follows: 1) filter parameters, 2) open buildings/ rooms, 3) proximity to user's current location, 4) more quiet, 5) less crowded.

Building Results Filter

<u>Actions:</u>
Back: Takes user to previous screen

<u>Decision</u>
When the user is presented with a list of all potential rooms, they have the ability to filter the results by 5 quantifiable factors: proximity to one's self, proximity to a cafe or food, crowdedness, proximity to libraries and the level of quietness.

<u>Rationale</u>
One of the things we learned from user testing is that long list of buildings was overwhelming to the students and they wanted other optional parameters that give them more specific results. Our user research illustrated that most students preferred a building that was closer to their current location than further away, so proximity is an optional filter. When the user chooses to sort by proximity to food, buildings are sorted by their distance to the nearest food or coffee establishment. In an interview we conducted with Jerissa Lussoc she stated frustrations with settling down in a study spot and then having to move when dinnertime came and she had to get food. Other students expressed this concern as well, so to mitigate the concern we made proximity to food an option. The last option is to sort the building list by quietness level. There was a great level of variability in the noise level that students preferred when they studied but they all mentioned that noise level was something important to them in a study spot. We included a slide bar that students can set to indicate how much noise they would accept in a room, the rightmost meaning that noise level didn't matter and the leftmost meaning dead silence was necessary.

Room Results Filter

Decision:

The room filters page is a mechanism for users to reset options that they find important in a room midway through our application's process. This page is populated with all the options that the user can find in the preferences page and has the ability to change any decisions they made initially with the preferences page. For a user who hasn't set preferences at all, they now have the ability to select the features they want in the room. The filter option does not save any changes in the originally saved preferences and is only applied to this specific room result list.

Rationale:

The rooms filter exists to allow the user to have flexibility with how they want to use the application. We got user feedback that suggested that users liked having the ability to change the features they wanted in a room for a one-time use scenario. They liked the fact that they could set a base of regular features they wanted in the preference page and then change one or two items in the filter options for their specific study sessions. This feature also came in handy for people who chose not to set their preference page and wanted to specify one or two features in a room without having to save them.

Impact and Resolution

Our observations and user research suggest that we did in fact solve our original design problem: helping students find study spots that were less crowded and full of amenities that they required. We got a lot of user feedback saying that this is a legitimate problem that needed to be solved for this campus because there was just too much space being under utilized. Students attributed a lot of problems they had with finding study spaces with lack of knowledge about spaces, and the general consensus is that this application solves that problem.

Appendix

User Testing

Seven undergraduate students took part in usability tests to test the prototypes of 1 Room Away. They were not previously familiar with the app, and had no previous preparation. The names of the participants and the script used in the test are shown below. The tests were performed by members of our design team using low to mid-level fidelity paper prototypes. Their responses are summarized in the table below.

Participants	Comments	Significance	Insights
Jerissa Lusoc	Problem finding quiet room. Failure to find study spots during gaps decreased overall productivity.	Quietness is a priority, Service would be useful.	· Other amenities are just as important as an open plug · Participants didn't know of spots where amenities were offered besides traditional spots.
Howard Lin	Failure to find study spots during gaps decreased overall productivity.	Service would be useful.	
Ramin Nechiri	Commuter. Plan schedule to avoid breaks to go home to study.	Only people with breaks find service useful.	
Cody Stebbins	The auxilliary details are most important. Whiteboards, desks, couches, vending machines all relevant. Study on campus a lot because commuter. Spend a lot of time in libraries. Private/ Quiet for focusing or good for groups.Service needs to be quick/ easy to use while walking.	Finding plugs or open computers is not as important as finding other items. Spends time in traditional study areas. Differentiates group and single spaces. Wants portability and simplicity in interface.	· The issue of finding a school computer available may not be as relevant as we thought. · People actually do use classrooms and other non-conventional study spaces. · People want to know quickly and on-the-go. · There are different categories of study spaces-- silent vs. group. · While plugs are important, other considerations are foremost-- setting, other amenities.
Sean Payne	Utilizes classrooms as study spaces a lot. Likes table better than desk but otherwise doesn't care. Space where no one else there, silent.	Classrooms are valuable spaces. Differentiates between desk and table.	
Ashish Chandwani	Study more on campus or in the library if they knew ahead of time that there would be vacancies or that it was less crowded. Have to hunt for computers in Odegaard.	Students are hindered from working efficiently on campus. Mainly uses conventional spaces.	· Overall crowdedness of the building and noise level are important. · Empty computers or plugs are no the most important considerations in study spaces
Taylor Owens	Study more on campus or in the library if they knew ahead of time that there would be vacancies or that it was less crowded.	Students are hindered from working efficiently on campus.	

Script
Thank you for taking the time to test this prototype for us. We won't be answering any questions about how the design works as we test, so if you have any questions, now would be an excellent time to voice them. As you test out the design, it would be helpful if you would tell us what you're thinking, like what's confusing, what you're looking for, etc. That way we know if the design is failing in any way. This is not testing your ability to do any particular task, it is testing the design's ability to accurately and intuitively meet your needs.

For the sake of this first scenario, let's pretend that you're just coming from class, and you're looking for a place to spend a few hours studying before your next class. You've heard about this app that helps you find a place to study on campus, and you've decided to see if it's any good. When you bring up the app, it takes you to this home screen.

- *What do you do next?*
- *Tell me a bit about this screen.*
- *What's the next step?*

- *How do you think this list is organized?*
- *How do you expect this map to work?*
- *Are you satisfied with the result?*
- *What do you think the five stars are denoting?*
- *How do you feel about having a rating system? Is it helpful?*
- *Did you notice our Filter button?*
- *Are these options helpful? Are there any you'd rather see?*
- *What other features would you like to see?*
- *Is there any additional feedback you have for us?*

Reflection

Overall, people seemed to agree that our app was pretty well thought out thus far. There were a few specifics, though, that need more work, as well as some functionalities we hadn't considered.

The home page, in general, went over pretty well. Alex loved the name of the app, something we weren't quite sure about. One of the things that I noticed was when we gave the participants the task of finding a room people consistently chose the quick search option first. This bypasses one of the main functionalities of the app, rendering the preferences essentially useless. When discussing this with Alex, he suggested that more descriptive button labels might be in order: perhaps a 'Personalize My Space' versus a 'Nearby Spaces'. Ang suggested a third button, a 'Favorites' list.

Moving on to the preferences page, for the most part our participants instinctively knew how to handle the drag and drop feature. Jonathon assumed that multi-touch was supported, which brings in a whole new level of interfacing with the device. Michael's first instinct was to simply tap the items as opposed to dragging them into the cart. He only realized the directions on the cart after we pointed it out to him. Ang pointed out that there was no back button on this page, in case he decided he didn't want to set preferences. This is important because we always want the user to feel like they have a choice. Stella and Alex both expressed concern over the semantics of the different options, pointing out that 'desk' and 'table' might be too fine of a distinction. We may need to go through and rethink what preferences are actually necessary and unique. There was also some concern over whether there would be a key to define all the icons appearing as preferences. For instance, participants have been almost split down

the middle on whether the people icon denotes crowded versus non-crowded or group versus individual study spaces. We would like to create icons that are self-explanatory enough that you don't need a key, but perhaps this is too optimistic.

Tiffany also suggested that the preferences screen was a little too crowded and left no room for subjectivity. She recommended sliders for each option instead. While that is more accurate for the more subjective items, it creates more complications for a default search and for displaying the data in a concise manner on the results pages.

When it came to the buildings result page, people were pretty clear on what was happening. It took a second to orient themselves to the page, but they understood it. The people icon, again, created confusion. Stella suggested that instead of proximity to you being the default filter, how quiet a room is should dictate the order of the results. Both Ang and Stella expressed an interest in having a few keywords under the building name to get a sort of first-glance synopsis of the building or room. By this suggestion, I can infer that the icons are nowhere near clear enough at the moment.

The first time around no one really used the filter button. Either it is not apparent enough, or people don't feel a need for it. There was some debate over what should be put in the building filter. Tiffany said she would never use the library filter because she already knew where those were. Stella suggested a privacy filter. Ang said it would be nice to filter by which rooms have printers.

The rooms page, again, took a second for people to orient themselves to. Justin suggested that the icons visible on this page should only be the icons not specified or chosen in preferences- the extra amenities. Again, the filter was not used.

The final result page has a few bugs to be worked out. First off, Ang pointed out that the page does not actually contain the room name on it, a huge oversight. One of the bigger points of contention on this page was the rating system. Stella and Alex felt very strongly that there should be no rating system or comments. They felt that including those elements gave away the secret of their favorite places, possibly ruining them with crowds. However, many of the other participants specifically stated that as a feature they would like to see included so that they could better judge which spaces to try out. Justin even went as far as to suggest connectivity with Facebook. We also got varying responses on how the map was expected to work. Most participants assumed that the map would have a pin denoting where the study space was and a pin denoting where they were. Ang said that if he clicked on it he would expect it to switch to the default device mapping system where he could get further directions if wanted. When asked about directions to the space, all other applicants thought it would be annoying to have directions show up, and if directions were to be offered, would prefer to have a 'Give Me Directions' button that they could choose to push. When asked about the integration of a room time schedule for availability, most participants responded positively. Ang even went as far as to say he would like to be able to reserve the space using that schedule. Alex, however, thought that was too much information and simply wanted a color-coded system to tell him whether the room was available. Justin agreed, saying he would like to see what time the room is

available until.

Overall, our app has a lot of topical adjustments to consider. There are a few functionality disputes, but mainly over matters not vital to the main functionality.

Participant	Comment	Significance
Justin Zillmer	· The icons on the rooms page should only be the icons not chosen in preferences- the extra amenities. · Connectivity with Facebook would be cool. · Would like to see what time the room is available.	· Rethink where we put icons or how they work. · Bring in social element? · Perhaps just name time restrictions of spaces?
Tiffany Huang	· Preferences screen was a little too crowded and left no room for subjectivity in preferences. · Never use the library filter because already know where those are. · Map should give directions only if I ask for it.	· Perhaps use sliders for things like quietness and crowdedness. · Rethink what you can filter by. · Make two options for viewing maps.
Alex Constant	· Semantics of preferences too similar. · Including ratings and comments gives away the secret of their favorite places, possibly ruining them with crowds. · Wanted a color-coded system to tell him whether the room was available.	· More descriptive or differentiated prefences labeling. · Carefully think out whether or not to include ratings and comments. · Give easy to see indication of current availability.
Ang Li	· Favorites list would be nice. · No back button on preferences page. · Maybe a few keywords to get a first-glance synopsis. · Filter by which rooms have printers. · The rooms page does not contain the room name. · Expected that if he clicked the map it would switch to the default device mapping system. · Would like to be able to reserve the space using a schedule native to app.	· Ability to save certain spaces. · Need to make sure navigation is consistent. · Icons aren't clear enough. · Rethink what you can filter by. · Don't make user remember things page to page · Use device standards in mapping. · Consider reservation system.
Jonathon Wai	· Assumed multi-touch was supported.	· Think about different interfaces.
Stella Stuckey	· Semantics of preferences too similar. · Instead of proximity to you being the default filter, how quiet a room is should dictate the order of the results. · A few keywords under the building name to get a sort of first-glance synopsis of the building or room. · Suggested a privacy filter. · Including ratings and comments gives away the secret of their favorite places, possibly ruining them with crowds.	· More descriptive or differentiated prefences labeling. · Rethink ranking algorithm. · Icons aren't clear enough. · Rethink what you can filter by. · Carefully think out whether or not to include ratings and comments.
Michael Beswtherick	· Assumed preferences were buttons.	· Create clearer/more intuitive directions
General	· Consistently chose quick search option. · Drag an drop was pretty instinctive. · Key for prefernce icons would be nice. · No one really noticed the filter button. · Most assumed that the map would have a pin where the study space was and a pin where they were. · Integration of a room time schedule for availability of room would be convenient.	· Need more descriptive button labels. · Feature works well. · Icons not instinctive enough. · Needs to be made more prominent, or there is no need for it. · No need for further directions in mapping. · Add in a time dimension.