

PROJECT 2: NOVEL INTERFACES
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College Library Live Usage App

PROJECT 2: NOVEL INTERFACES UNDERSTANDING

As college students, we all understand the necessity of study spaces. The importance of a quiet and conducive environment. And access to a place with reduced distractions allowing us to focus and complete our assignments and any school-related work. Environments and study spaces can have a significant impact on our ability to learn and retain information. A common and ideal space is the College Library located at the University of Wisconsin-Madison.

For our study, we chose our setting as the library. In particular, we chose to observe and study the College Library located in Madison, Wisconsin. We were particularly interested in studying and gaining insight into people's behavior and decision-making processes when searching for a suitable seat or study space.

known for offering a wide range of services and resources to support students and faculty. But mainly it is used for the number of spaces for studying and collaboration. There are reservable group rooms, quiet study areas, and computer labs accessible to students and faculty at the College Library, making it a versatile space for individual and collaborative work. The way people interact within the space and find a suitable place to study or collaborate with others, in particular, is what fascinated us. We decided on the College Library due to the fact that it is the most common and known library at this institution. This would allow us to get the most amount of data and overall insight.



The College Library is a general library that serves undergraduate students and others in the campus community. It is

PROJECT 2: NOVEL INTERFACES UNDERSTANDING

In order to better understand our setting and potential users, we conducted a design ethnography. The first step in this process was collecting "fly-on-the-wall" observations. Some of these observations can be found below:

First floor:

- Lots of people walk in and go directly to the stairs
- Some people walk in and stop and stand still for a second to look around
- Most people come in alone but a few in groups
- Some area on the first floor is reserved for GUTS tutoring so that probably has an effect
- Some people walk in and directly go to talk to someone at the front desk, outside of our scope
- People mostly sit alone, even if it's at a 2-or-more-person table
- People don't seem to sit at the same table as strangers
- I've been here for a little while now both observing and doing other school work... people seem to stay for about an hour on average but not totally sure

Second floor:

- This seems to be the "main" study area of the building
- A lot more groups than individuals here
- It still seems that no one really sits with strangers, it seems to be either individuals or groups that know each other at tables
- More groups means more talking and more noise
- Almost all the tables have at least one person sitting at them
- I've seen multiple people do that familiar stand at the front of the room and take inventory
- A lot more of the people that come here this is their destination as opposed to the first floor where most people were just passing through
- Table size seems to have very little correlation with the number of people sitting at it which is quite interesting
- It's been fluctuating between all tables taken and 1-2 available for a while now

After collecting "fly-on-the-wall" observations, the team conducted 3 interviews in order to better understand the decision-making of students in the library. Upon analyzing our interview data, we have found a number of patterns in

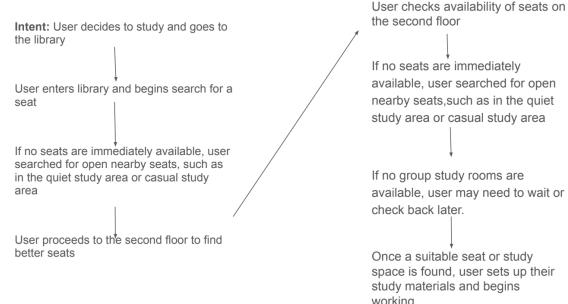
PROJECT 2: NOVEL INTERFACES UNDERSTANDING

seating preferences, availability, time schedules, demographics, challenges, etc. among students at the library. In terms of seating preferences, we noticed that most students tend to prefer the second floor over the first floor. Before students even walk through the doors of the library, they know where they're going. While background noise seems to be a concern for many students at the College Library, the students we interviewed did not seem to have an issue with it; some even appreciated it. We also found that most students prefer to study alone and avoid sitting with strangers, although they are okay if others choose to join them. Students tend to survey the library and look for an empty seat based on the vibe of the location. Unfortunately, if it is busy, some students will actually leave the library to go elsewhere. Schedules can vary from student to student, but it seems that many students visit the library a few times a week. This ramps up during midterms and finals. Most people found at the library are of course college students, but these students use the space for a variety of activities, such as studying, researching, and providing tech services. The main challenges students seem to face in the study environment involve finding seating during peak hours. Students can become frustrated when they cannot find a place to study in peace, and the lack of quiet areas, harsh lighting, and

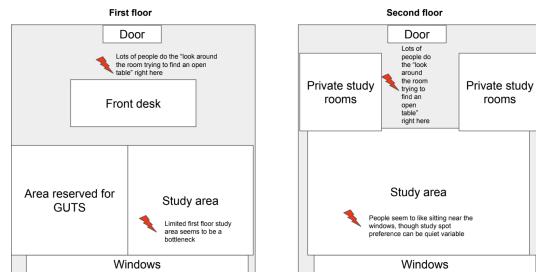
uncomfortable seating only adds to the problem.

Finally, we analyzed our collected data by organizing it into affinity diagrams and models. Some of the most impactful models we developed are shown below:

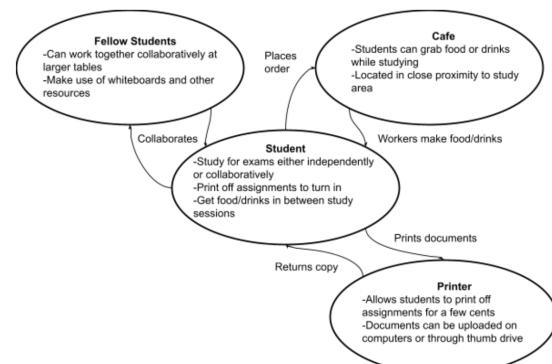
Sequence Model (Aslam)



Interview 1 - Physical Model



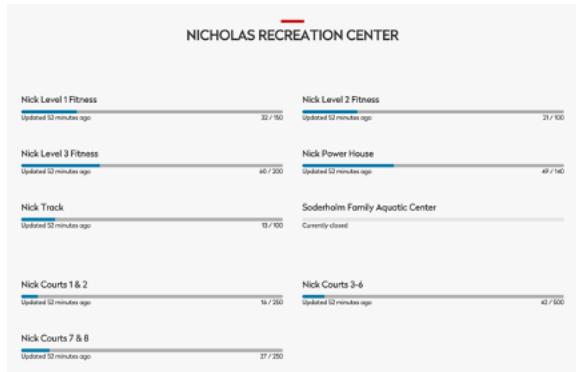
Flow Model



PROJECT 2: NOVEL INTERFACES IDEATION

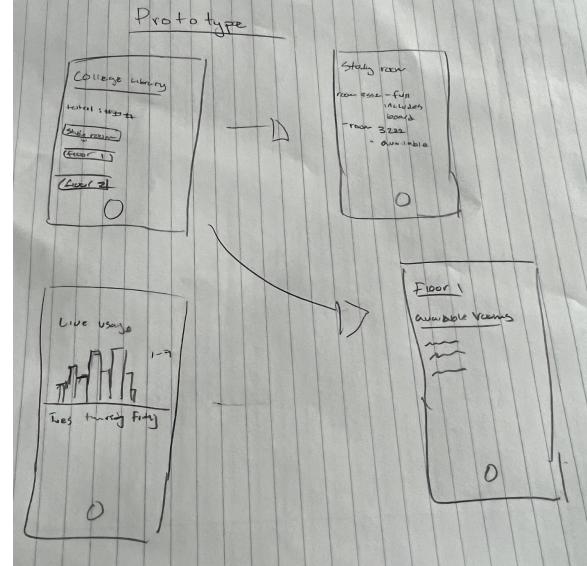
As we were looking for example of similar applications, we came across the Nicholas Recreation Center “Live Building Usage” feature.

Nicholas Recreation Center

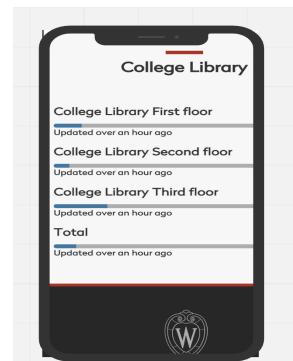


The Nicholas Recreation Center is a popular state-of-the-art fitness recreation facility also located at the University of Wisconsin-Madison. Where students and other members of the community using the gym often check the feature.

This allowed us to get a better idea on what our final solution should look like similarly. Looking at our observations and fieldnotes we noticed that the main issues we needed to address was quick access. And having users efficiently get what they need to see.



This was our initial design in which we are able to see the live building capacity on each specific floor. Along with the total number of people in the building. This helps people who plan on using the library check how busy it is. And what to expect.



Here is another interaction of the live building usage feature.

PROJECT 2: NOVEL INTERFACES PROTOTYPING

In order to create our video prototype, we first started by developing an outline of what our video should include. After some iteration, we landed on a rather simple outline:

1. Intro: College Library Live Usage App
 - a. Describe the first main feature: checking current capacity
 - b. Describe the second main feature: checking individual study room availability
 - c. Describe the third main feature: checking the popular times data
2. Feature #1 demo: student on the way to the library checks the capacity of spaces in College Library, telling them where they can sit
3. Feature #2 demo: student at the library checks the availability of individual study rooms and finds one for themselves
4. Feature #3 demo: student checks the popular times data in the app to know when it's best to come to the library

After developing this outline, the group members developed the script for our video prototype. Making the outline first made this process pretty easy, as we

just had to explain each of the demos in story form.

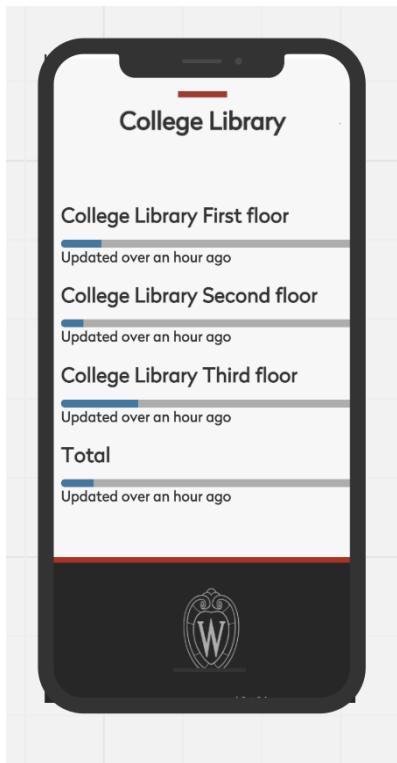
Next, the team members collected pictures of themselves and in College Library that could be used to act out these demos. Additionally, we made a few demo screenshots of what the app could look like to include in the video.

Finally, we produced the video. One of the group members recorded themselves reading the script while another worked on putting the pictures in iMovie. Then we added the voice over the photos, added the screenshots of the app, and added music in the background. Then we just made some minor tweaks to get the timing right and our video prototype was complete.

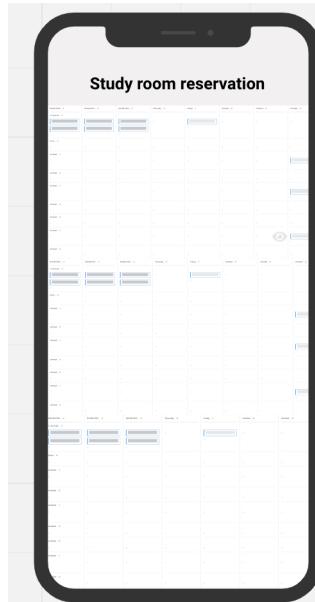
PROJECT 2: NOVEL INTERFACES FINAL SOLUTION

As discussed in the previous sections of this processbook, the three main features of the College Library Live Usage App are checking the current capacity, checking the availability of individual study rooms, and viewing popular times data. Each of these functions is represented by a screenshot of our prototype below.

Check the Current Capacity:



Check the Availability of Study Rooms Live:



Popular Times Data:

