5C Survey Analysis

University of Michigan Campus Navigation App Creation:
Survey analysis of undergraduate study location trends/preferences

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Introduction

The University of Michigan is currently in the process of creating an app that improves student life experience at the campus. Specifically, our team was tasked with creating a survey that could relate to “Navigating the Campus.” Our team created, distributed, and analyzed a survey in order to better understand student study space needs here on campus. Through our key findings in this report, we will be recommending steps the University should take in implementing this application.

Research Questions

1. How are students at the University of Michigan choosing study spaces on campus?
2. What factors account for the differences in studying spot preferences?

Methods

Recruitment:

For our survey audience, we recruited a sample of undergraduates taking SI 422 at the University of Michigan. Thanks to the survey being part of an assignment, we were able to collect responses from 122 students.

Of the 122 survey takers, 70 participants (57%) identify as female, 50 participants (41%) as male, and 2 people (2%) as others. We had 1 (1%) freshman, 16% sophomores , 70 (57%) juniors, 33 (27%) seniors, and 2 (1%) others. The majority (61 participants or 50%) of the participants were in the School of Information with the College of Engineer being the second most popular (33 participants or 27%) school of enrollment in the class.

The gender information is really interesting as it could possibly hint to the School of Information as a whole has more self-identifying female than male, a data that the school does not publicly disclose. The information about the majority of our participants being a junior in the School of Information corresponds to the class being a core class that is required for all School of Information juniors to take before continuing on their student career. Out of the demographic questions, we believe the information about the school of enrollment will prove to be the most useful as it could determine studying habits (Example: A Ross student might prefer to study in

Ross in rooms that only they can access).

Survey Design:

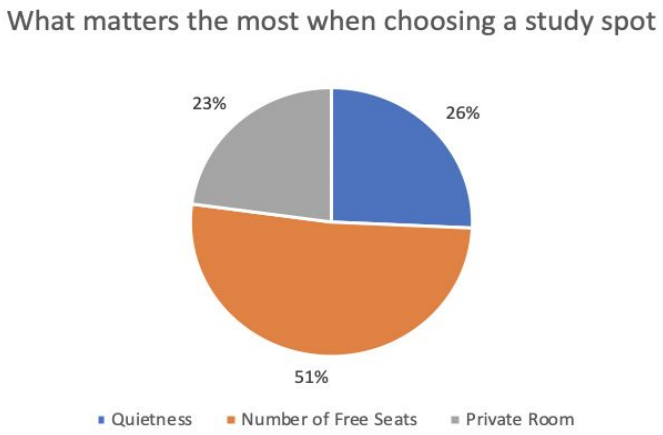
We designed our survey with three big questions in mind: Who are our participants? What is our participants' usage of study spaces? What do our participants prefer in their study spaces? By understanding these three questions, we can understand how better to customize a service that can cater to the actual needs of our participants.

We aim to answer the first question by using closed-ended demographic questions. We were curious as to where our participants lived and which college they enrolled in the university so we can use that data, later on, to see how that affects their study space habits. We aim to answer the second question with close-ended usage questions. We wanted to know how much studying and what type of studying students actually do so we can suggest the correct kinds of study spaces on campus. We aim to answer the last question by using preference questions that include close-ended questions and ranking questions. Through the ranking questions, we hope to understand what our participants find most important so we can sort suggested study spaces to them accordingly.

Findings and Recommendations

Visualization

Visualization 1



Visualization 1 displays the factor students felt was most important when choosing an on-campus study spot. The number of available seats was prioritized by about half of the surveyed students, while quietness and privacy were each prioritized by a quarter of those surveyed.

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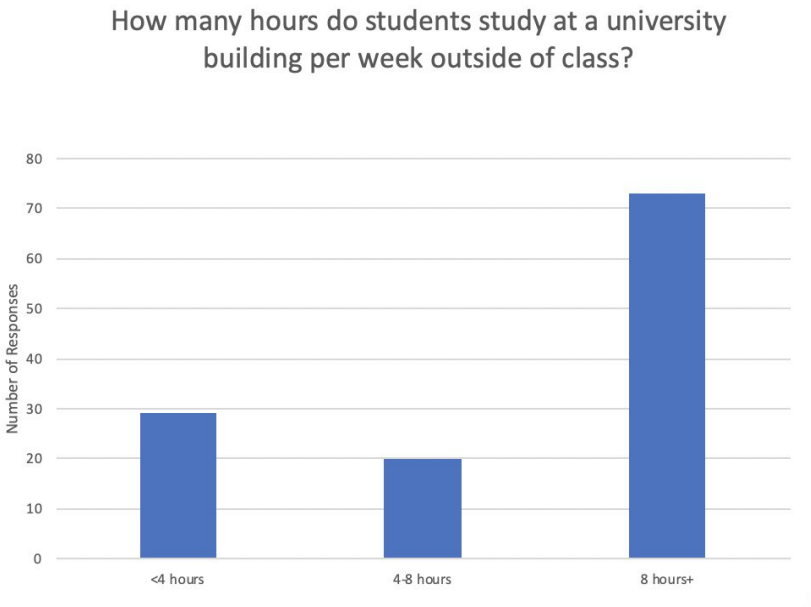
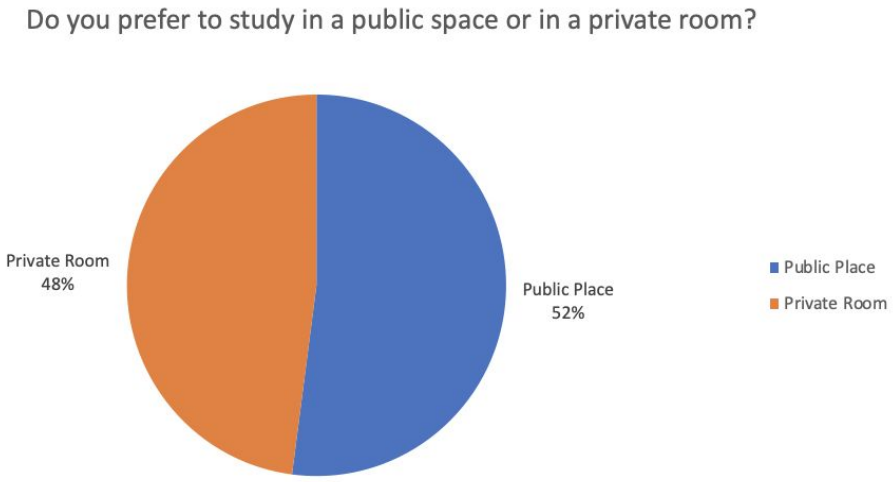
Visualization 2:



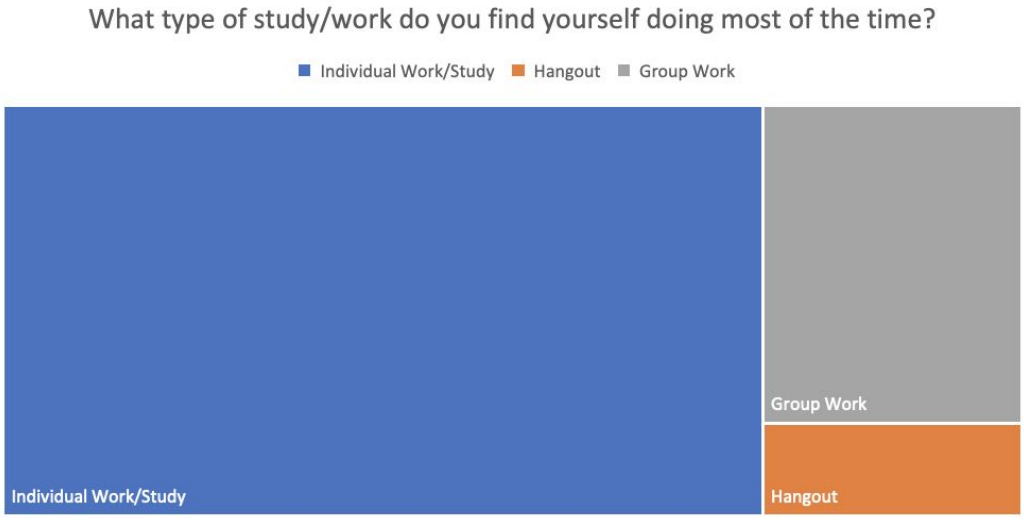
Visualization 2: displays the number of hours that each student self-identified has spent studying in a University building outside of class time. A majority of students (60%), reported spending more than 8 hours doing so.

Visualization 3:



Visualization 3: shows a relatively even split amongst students who prefer studying in private workspaces versus public ones.

Visualization 4:



Visualization 4: Depicts the type of work that takes an individual's time. A large majority of students report studying independently, while the second most reported type of work is done in groups. Work categorized as “hangouts” was reported the least.

Key Findings

Findings 1:

About 60% of the survey respondents stated that they spend eight or more hours every week studying in University buildings outside of designated class time. An interpretation of this finding stems from the fact that a majority of lectures run until 5:30 pm. From this, it can be deduced that a majority of study spaces and student time become available in the evening therefore that is when students seek study spaces in University buildings the most.

Findings 2:

The discrepancy between the number of individuals who prefer to do their studying in private rooms versus public spaces is fairly negligible. Out of those surveyed, 48% of individuals reported liking studying in private spaces, whereas 52% of people reported a preference for studying in public spaces. A further interpretation of this finding is that generally speaking, university students have an even spread of preference between public and private spaces. Therefore, both types of spaces should be available.

Findings 3:

When asked to prioritize what matters most when choosing a study space, approximately half of the students said that the number of available seats matters most, whereas a quarter of the students reported quietness as being the most important, and the remaining quarter reported privacy as being the most. This preference for privacy and quietness makes sense given that and another survey question, a majority of students reported having more individual work/studying compared to the amount of group-oriented work. It is important that within this interpretation we acknowledge that although a majority of student prefer one study environments the proportion that prefers another show that it is a preference that varies and may vary based on other student demographic results such as majors, year in college, preference to studying alone, etc. which would require more research on a school-wide level.

Recommendations

Recommendation	Finding Connection	Next Steps
Having a baseline of inputted information that creates a study space profile for each student based on demographic information (major(s), year, etc.) as well as preferences (public/private spaces)	A variety of known factors play a role in a student's inclination to choose a study space that may stem from demographic properties.	Have students answer a brief round of questions when downloading the app in order to maximize their experience.
To show students study space availability	Study spaces are high in demand based upon how many hours outside of school-hours students devote to studying in campus spaces.	Create an infrastructure to be able to estimate the proportion of a building that has available study space (possible options include cameras, tracking wifi numbers)
Base study space recommendations upon the individual taking into account different factors that go into an individual's choice to study somewhere	Out of the three surveyed factors that may play a role, preferences on which was most important varied by students.	The app can create a personalized formula for each individual based on how much worth they assign certain factors in their decision-making process. This will create an output that has the most relevant study spaces listed first for the student.

Conclusion

With the overarching goal to create an application for the University of Michigan that benefits student life. This research project focused on two research questions:

1. How are students at the University of Michigan choosing study spaces on campus?
2. What factors account for the differences in studying spot preferences?

A survey was chosen as the best medium for this research because it allowed us to gain insights on demographics, behaviors, and attitudes. The survey was multiple choice and allowed us to gain quantitative insights into answering the research questions. Through analyzing the data and creating visualizations, we were able to gain three key insights about study space demand, preferences, and environments. From here recommendations were made for the Michigan application that was drawn from our key findings. These include creating student profiles, tracking study space availability, and creating a personalized formula for each student that takes into account previously surveyed preferences.

Within a future extension of this project, it would be worthwhile to conduct this survey to a variety of majors, people who live on-campus vs. off-campus, etc in order to get a more accurate picture of how student demographic information correlates with study preferences.

Appendix

Name	**Contributions** (Collectively discussed. Individually delegated and executed.)
Kelvin Chang	• Proposed 1 finding • Proposed 1 visualization • Created all documents (5A, 5A Grid, 5C) on Google Docs • Formatted all documents • Clarified assignment details in office hours • Proposed research questions, survey topic, and survey questions • Pulled reading materials into 5A • Cleaned up survey dataset and pinpointed relevant data
Leo Luo	• Proposed 1 finding • Proposed 1 visualization • Reformatted and restructured datasets for visualization • Created 4 different visualizations for the report

Priyanka Khetarpal	• Proposed 1 finding • Proposed 1 visualization • Interpreted collective findings • Wrote out recommendations/conclusion • Edited formatting of Survey Analysis
Katie Xu	• Excused due to sickness • Edited formatting of Survey Analysis