

A3 INDIVIDUAL PORTION

The focus of our project is to help Cornell students find suitable spaces to study. The problem that we are addressing is the lack of available seating in the library during peak hours and the reservation of group study rooms that go unused. Lastly, we wanted to address the lack of awareness of study spaces since many on campus don't know about all the libraries and study spaces available.

Solution Space Investigation

#1.

Name: Cornell University LibCal

Source: <https://spaces.library.cornell.edu/spaces?lid=96>

Problem: Addresses the issue of finding seats in the library and knowing about the library layout

Solution: Allows users to reserve rooms so that they don't have to worry about finding an empty seat and also gives a short description for some rooms. It is a first come first serve system that requires a Cornell email to reserve rooms for different blocks of time usually between 1 and 2 hours.

Limitations: This system has a couple of limitations, one being that it does not detect whether rooms are empty or not so rooms can be left empty if the reservation times are too long and they finish their work early. Another limitation of this system is that the reservation times change depending on the library and the reservation blocks are too long which result in the room being empty for longer periods of time between reservations.

#2.

Name: Google Maps

Source: <https://www.google.com/maps>

Problem: Addresses the problem of location preferences since an important factor for determining studying location is distance

Solution: Allows users to calculate distances between libraries if they aren't sure which ones are the closest and also can show directions to the libraries for Freshman.

Limitations: Some limitations of this system are that it doesn't have the more hidden libraries since it only shows buildings and instead only has the well-known and popular ones. It also doesn't show accurate opening times since the closing times don't reflect after hours access for students of different majors.

#3.

Name: Cornell's Best Kept Secrets

Source: <https://www.hercampus.com/school/cornell/cornell-s-best-kept-secrets-study-spots-finals>

Problem: Addresses the problem of students not knowing all the studying locations on campus and being unable to find seats at the crowded ones

Solution: A list of the hidden studying spots that people might not know about and also ranks these from best to last with a description of each.

Limitations: A limitation of this is how obscure the blog is since not many people would find their way to this website that lists the hidden studying spots on campus. Another limitation would be how this solution doesn't have any maps to point out the spots and only describes their locations. Lastly, it isn't a comprehensive list of all the libraries and only has libraries that are empty which might also be farther away.

#4.

Name: Best studying places in Olin Library

Source: <https://onmogul.com/stories/favorite-studying-places-1-olin-library>

Problem: Addresses the problem of students having trouble finding a suitable studying spot that matches their preferred noise level and

Solution: A list of places to study in Olin library including very hidden spots. It also gives each location a different noise level ranking from 1 to 5 and offers notes/descriptions of each area. Lastly, each location has an image attached so that you know when you find it.

Limitations: A limitation of this list of spaces would be how it only addresses places in Olin Library and doesn't deal with other locations on campus.

#5.

Name: Uplift – Cornell Fitness

Source: Apple Store, created by Cornell AppDev

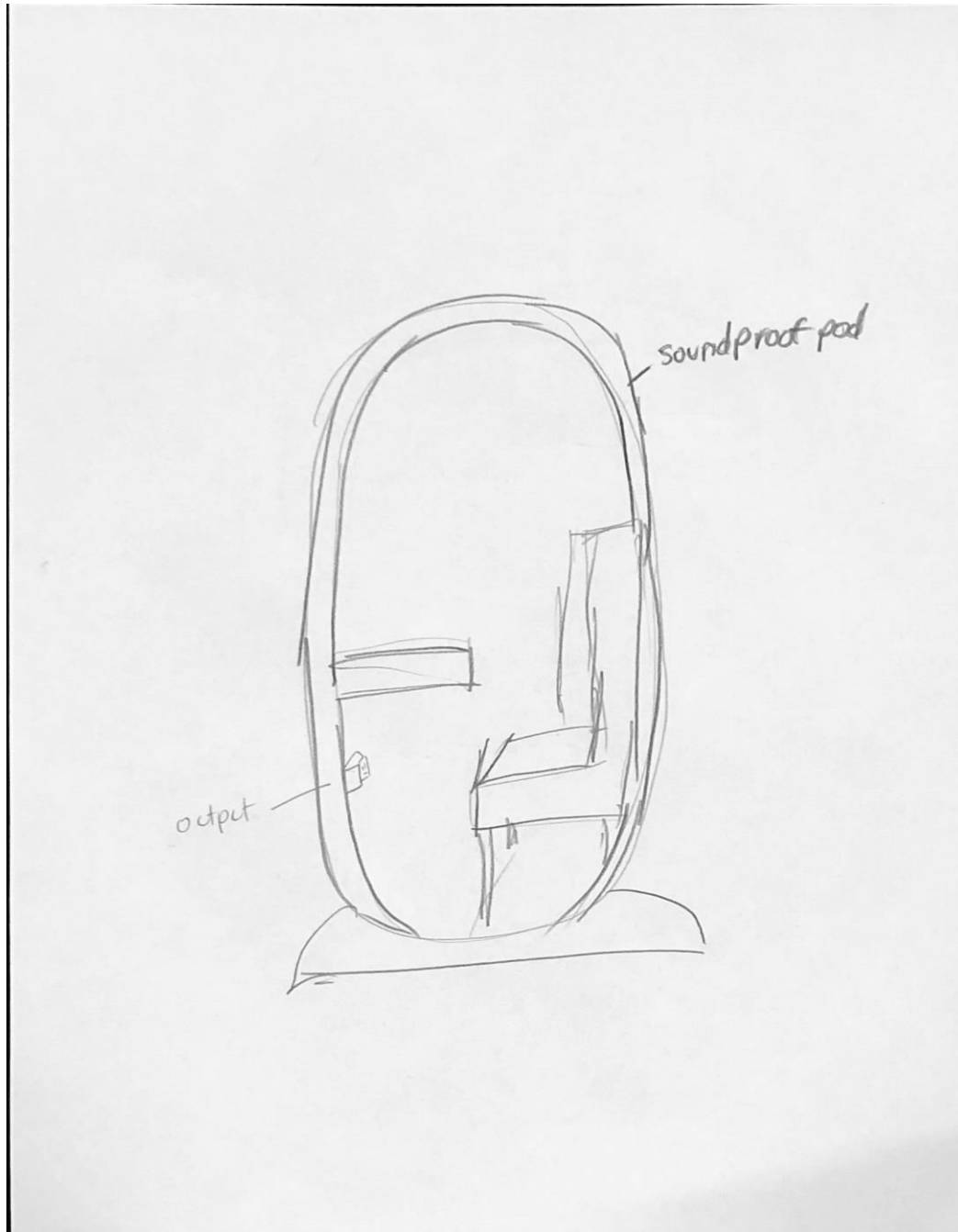
Problem: Addresses the issue of not knowing whether a library is crowded or not and wasting time to go check

Solution: While this application doesn't address studying spaces, it does show how busy each gym is for each hour of the day which I assume is based on data collection or swiping in at the gym.

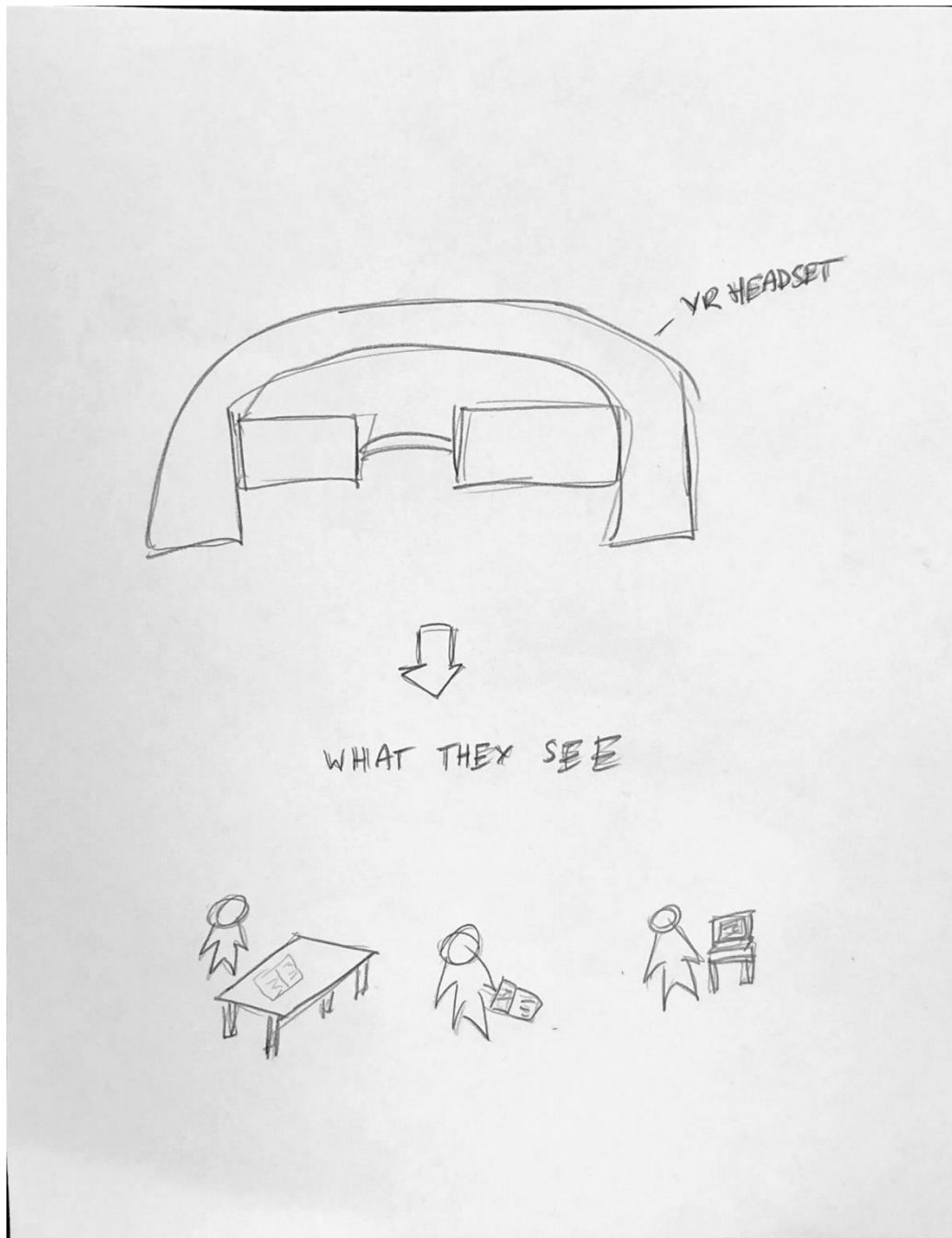
Limitations: The limitation of this would be that it doesn't address libraries and other study spaces. It also requires some form of data collection or swipe-in system to accurately display the traffic at each location.

Brainstorming Section

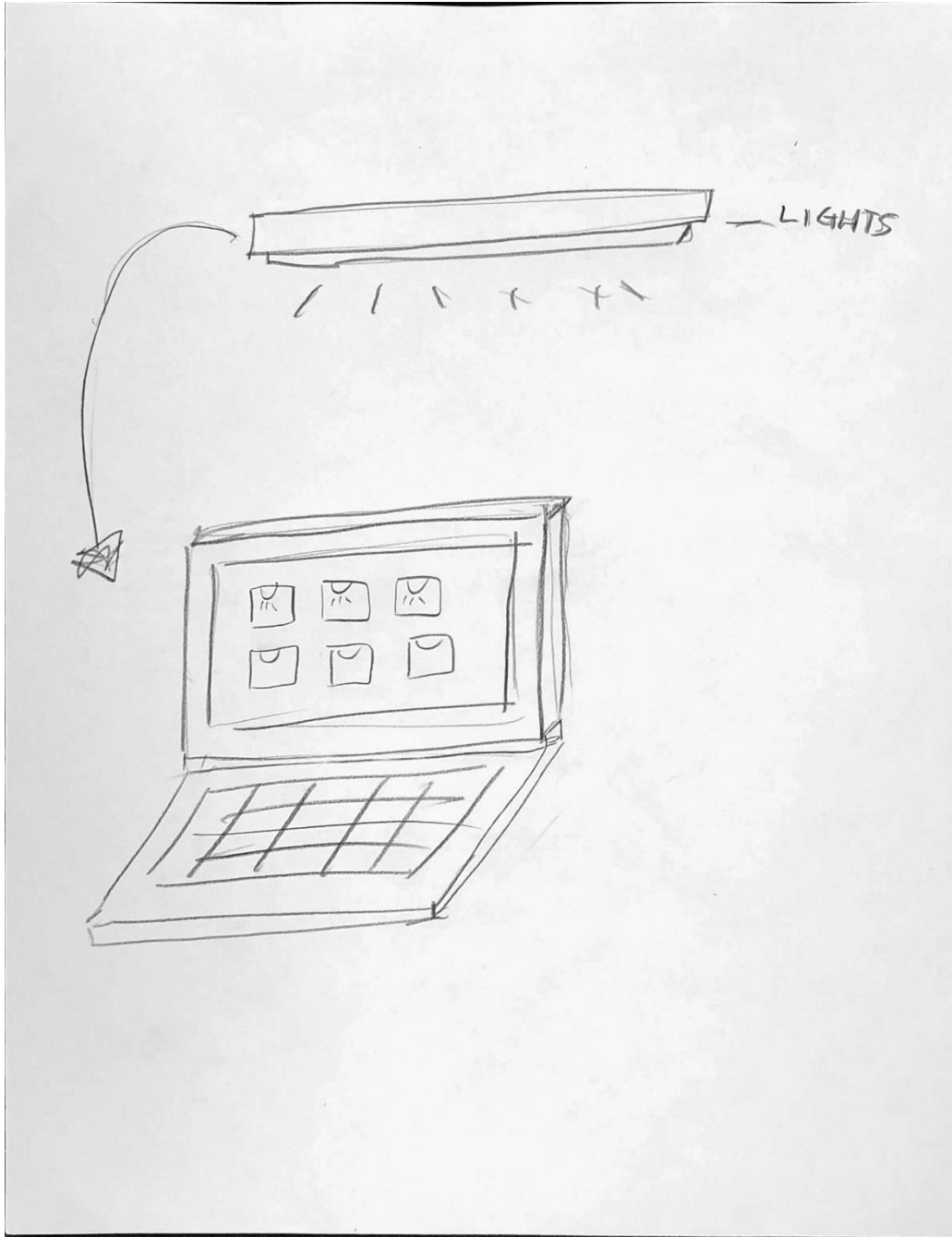
This is a design for a soundproof pod that can allow people very small and private spaces in large areas. Having these small pods around would increase the number of quiet spaces and addresses some of our personas' preference for quiet spaces. By addressing that issue, it makes their goal of finding good study spaces easier to achieve. It was inspired by the soundproof interview pods in Gates as well as our interviewees' experiences with noisy areas.



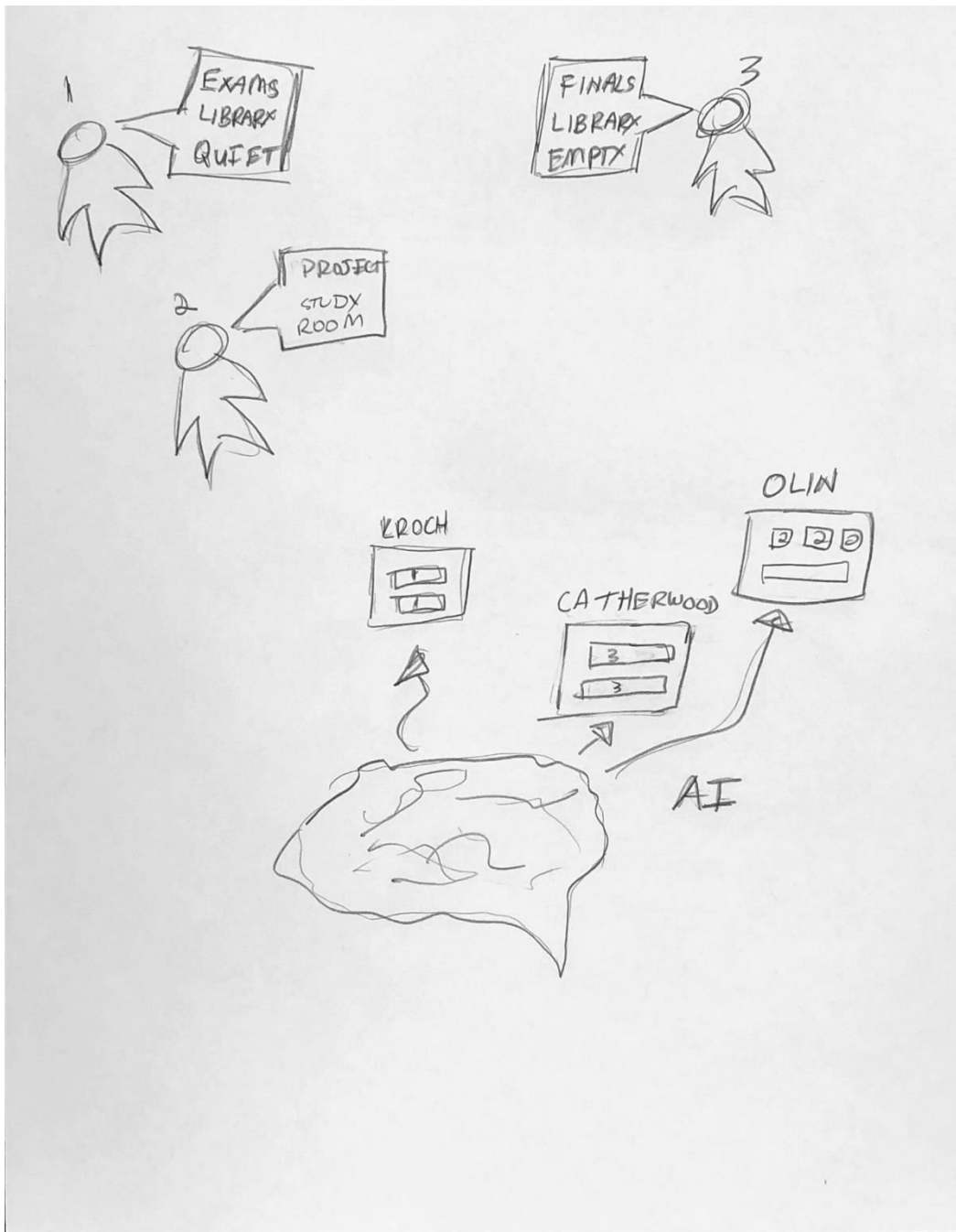
This is a design for a VR headset that will allow people to experience the atmosphere of study spaces while being at home. It addresses our personas goal of studying with friends but not being able to find a group study room which this could alleviate. This design was inspired by one of our interviewees mentioning that the library helps them study since so many others are also studying around you.



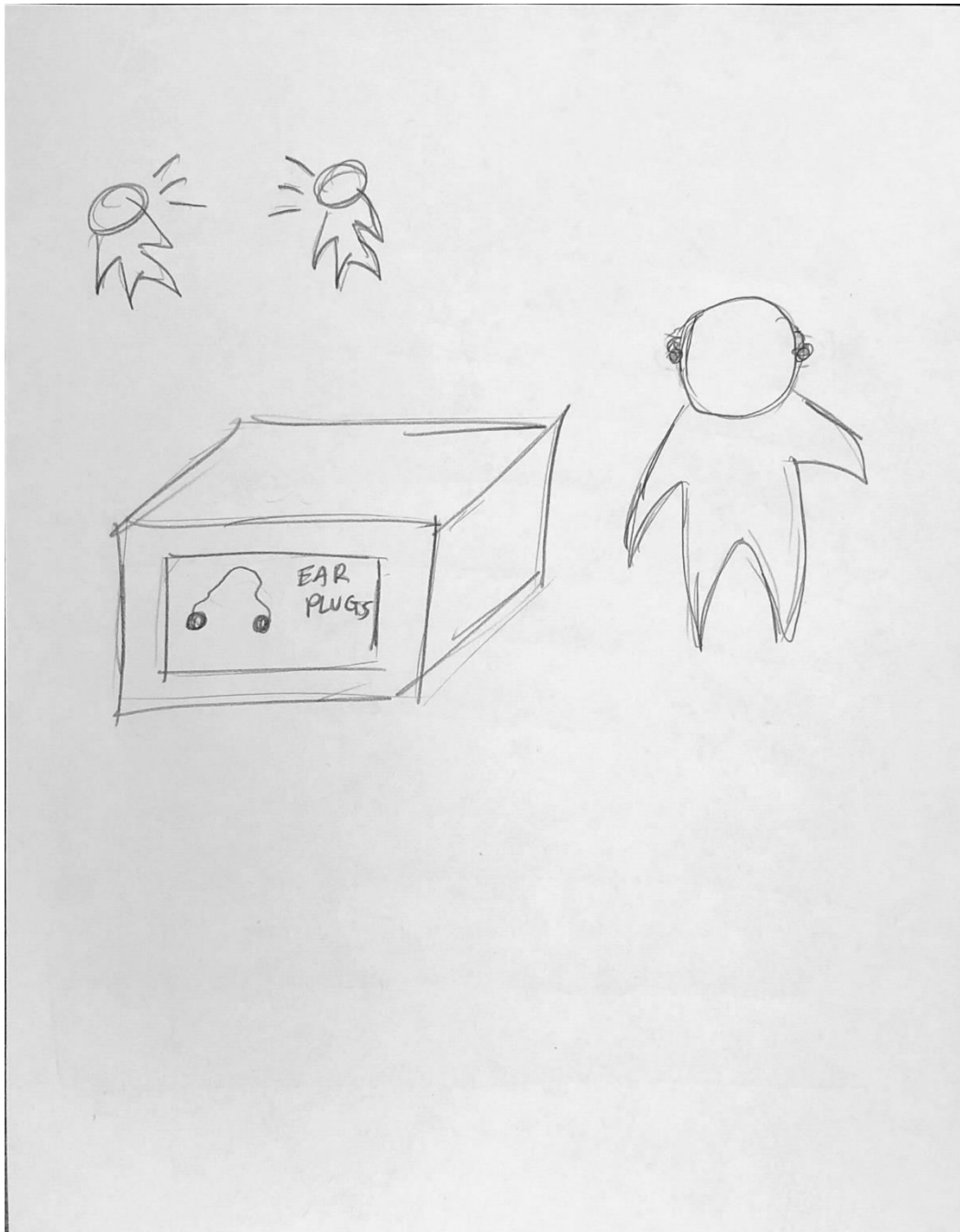
This design will show what seats are available and what rooms are available based on whether their lights are on or not. It will hopefully also persuade people to turn off their lights more since that would notify others that the space is available. This helps address our personas goal of finding available seats/spaces in the library during exam season since it makes available seats clearer. This was inspired by parking garages that have light indicators but in reverse.



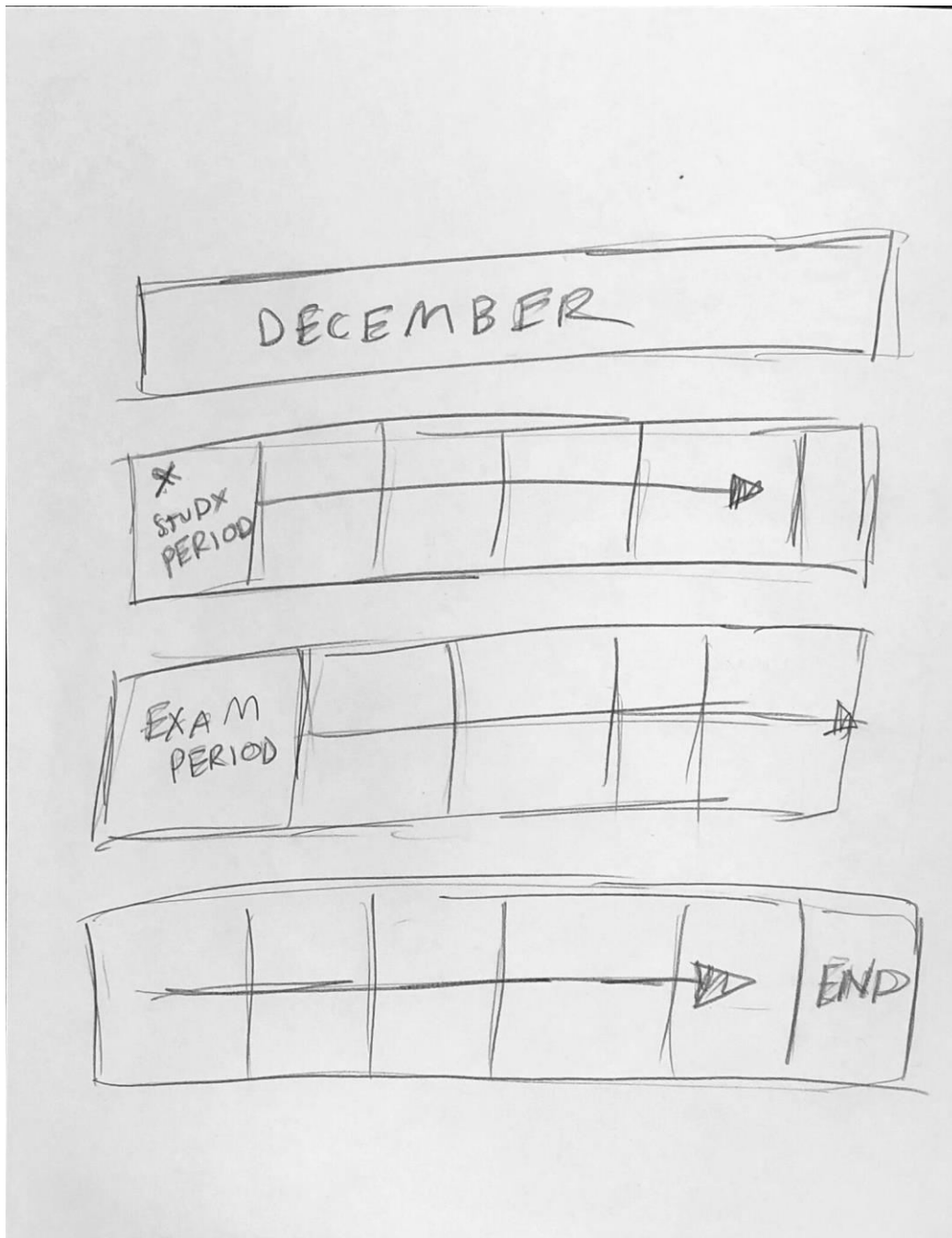
This design is for an AI algorithm that will be able to take in multiple students' circumstances and preferences and assign them different rooms depending on needs. This would address our persona's goal of finding suitable studying spaces by addressing their problem of booking rooms. We address that problem by alleviating the cutthroat nature of first come first serve and change booking of spaces to be based on need. This design was inspired by matching and ranking algorithms from networks and markets.



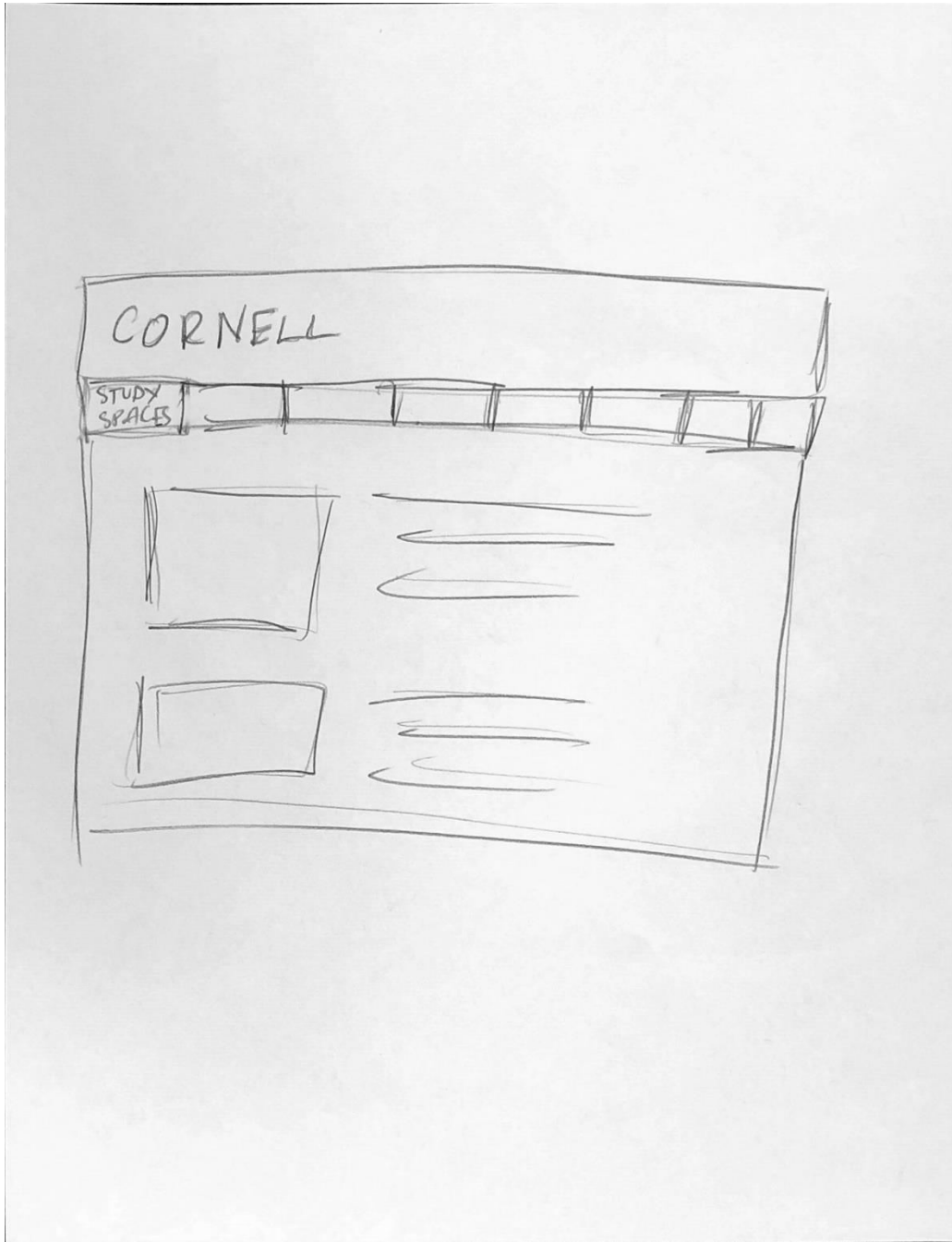
Some of our interviewees mentioned that the biggest problem while finding study spaces was finding an area that was quiet enough for them to concentrate. It also addresses our persona's goal of finding good study spaces while considering their preference for quiet spaces. This design aims to alleviate that problem by providing earplugs at the entrance of the libraries during exam weeks. This was inspired by one of my own experiences at a hostel where rooms had open tops and earplugs were necessary.



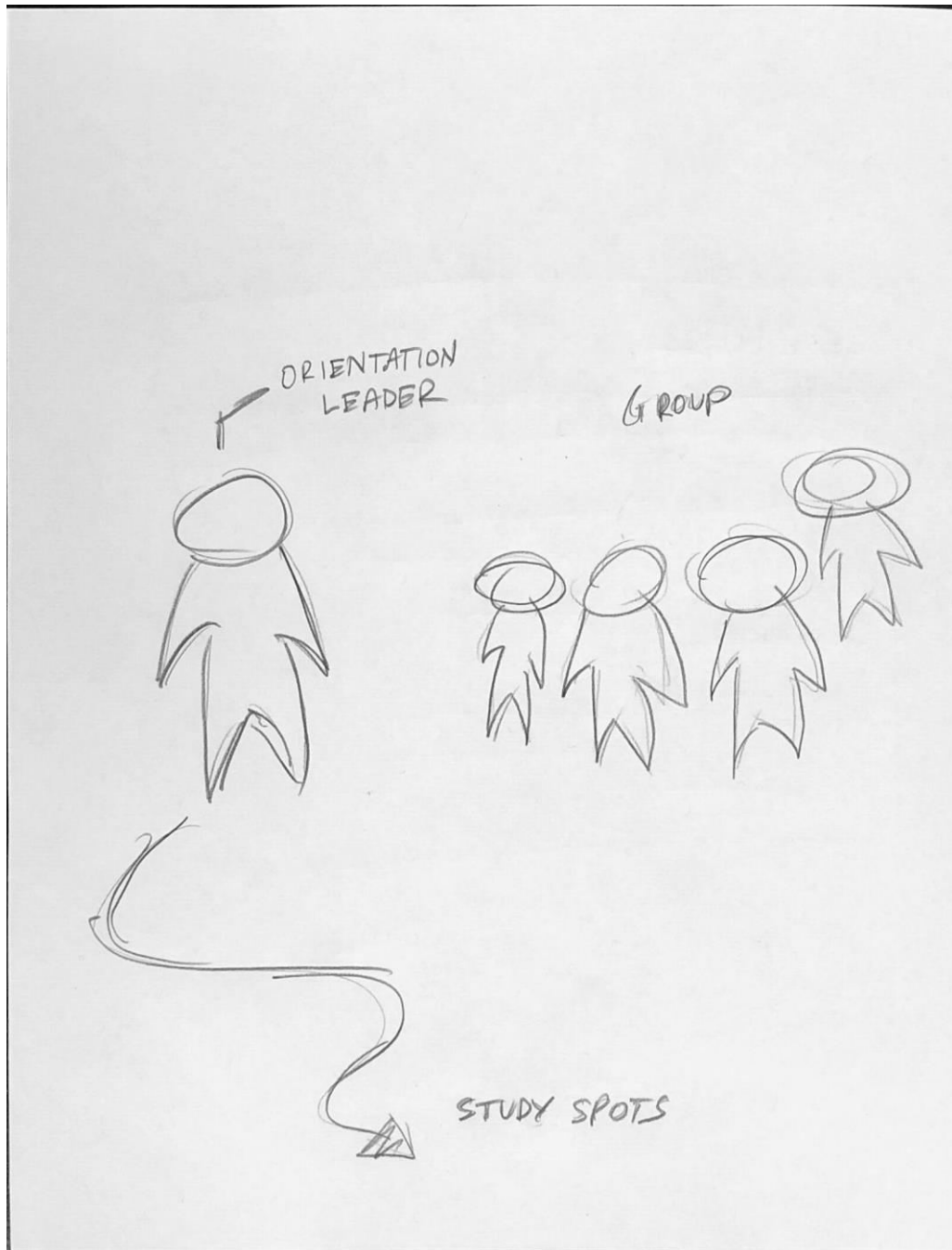
For this design, I decided to change a university policy/schedule which could potentially reduce the concentration of students with similar exam dates. It would achieve this by extending the studying period as well as finals period. Our persona wants to experience confidence while taking exams and this could address their goal. This was inspired by a recent assignment for another class that required going to a lab which had its due date moved reducing the number of people in lab and spreading them out.



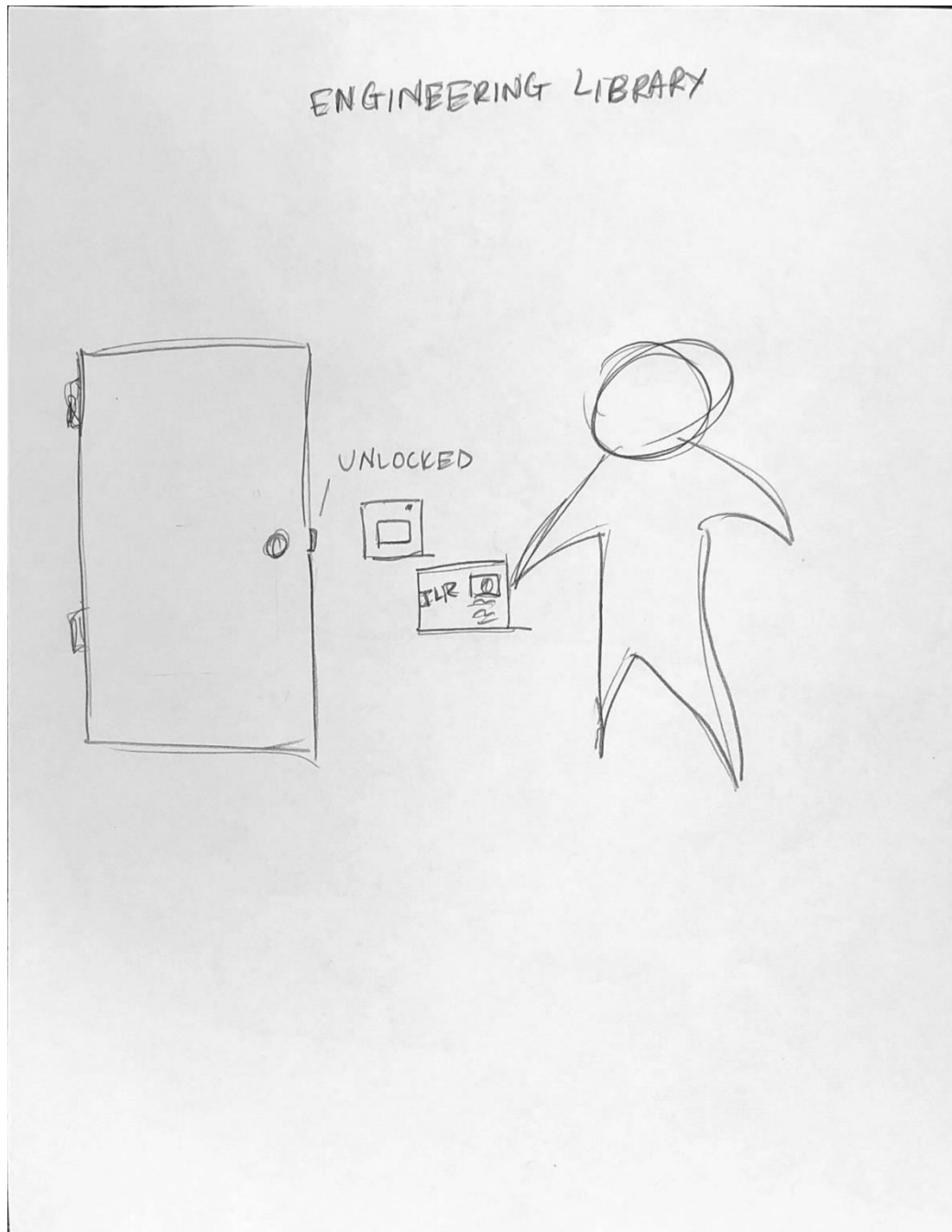
This is a redesign of the Cornell webpage which adds a study space tab with pictures and locations/descriptions of those spaces. It would address our persona's past experience of not knowing where to study as a Freshman and wandering on campus. This idea was inspired by one of the solution spaces that I investigated as well as inspired by some of our interviewees.



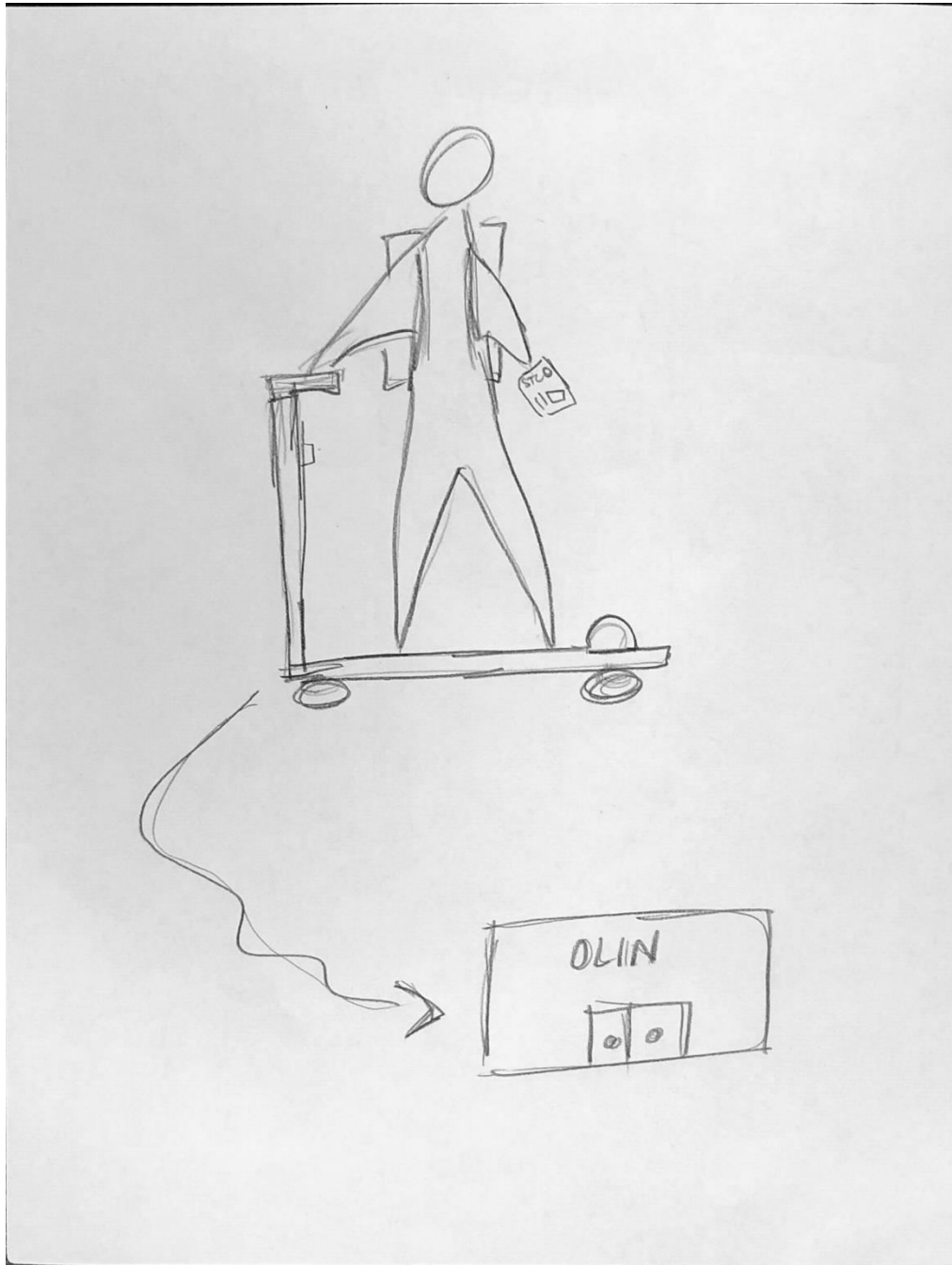
This design attempts to help Freshman out by showing them some obscure study spaces during orientation week. It would address our persona's past experience of not knowing where to study as a Freshman and wandering on campus. This idea was inspired by my own experience as a Freshman and meeting up with my orientation leader as well as our interviewees experiences.



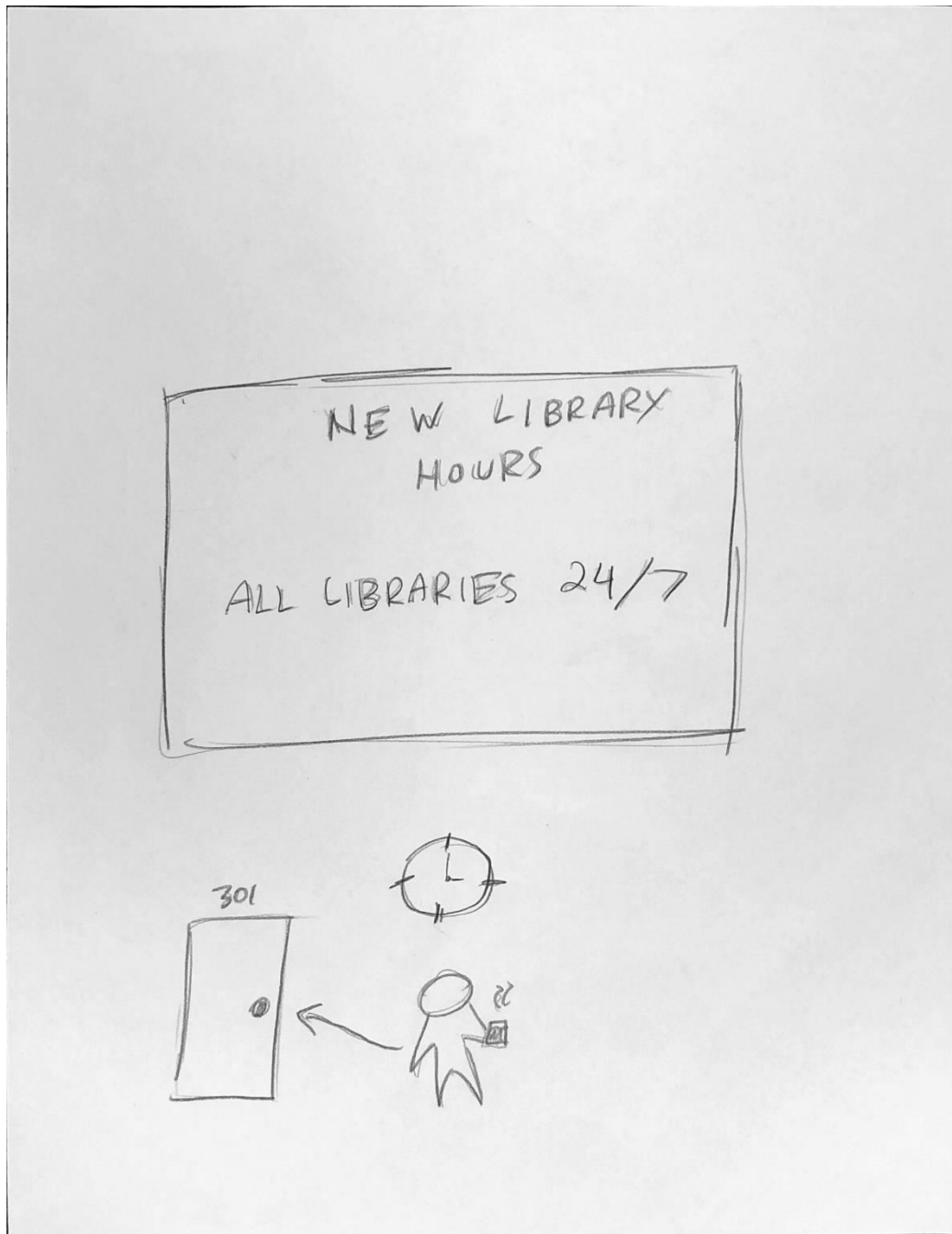
This design attempts to open up more studying spaces by making all the libraries less exclusive and more accessible by removing the need for specific IDs and only needing Cornell IDs. This design addresses our persona's goal of being able to find study rooms so that they can study with their friends. It is also inspired by my personal experiences of having to leave Catherwood and the Law library after they close.



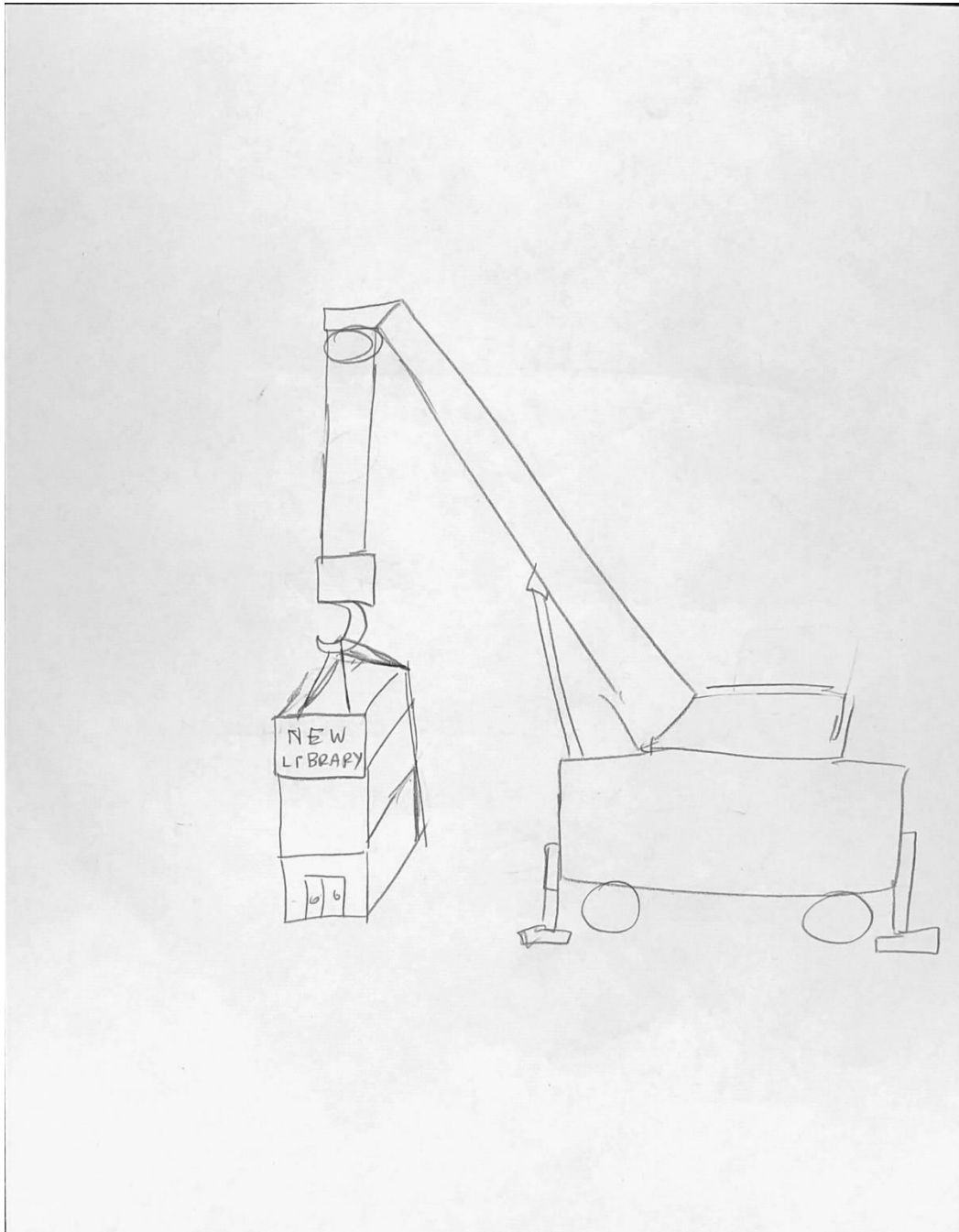
This design addresses our persona's preference of close locations by making every location easier to reach. It achieves this by having electric scooters that can be activated with student IDs. This idea was inspired by lime bikes as well as motorized skateboards that some students use to travel to class.



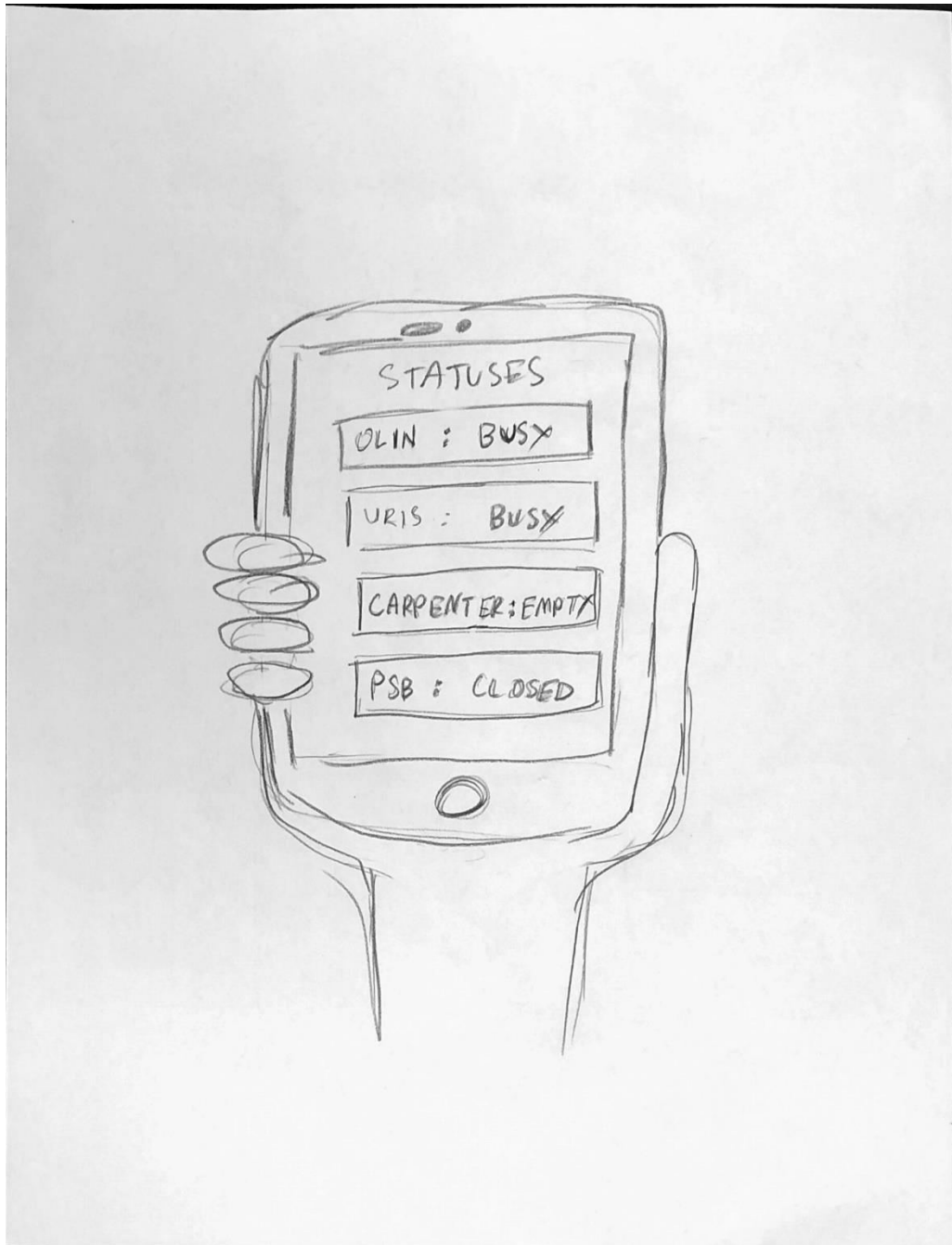
This design attempts to open up more studying spaces by extending the time that libraries are open so that students don't have to all cram into the library while they are open. This design addresses our persona's goal of being able to find study rooms so that they can study with their friends. Furthermore, it builds on their experience of a 24-hour cram session for finals. It is also inspired by my personal experiences of being kicked out of Catherwood library after it closed at 11pm.



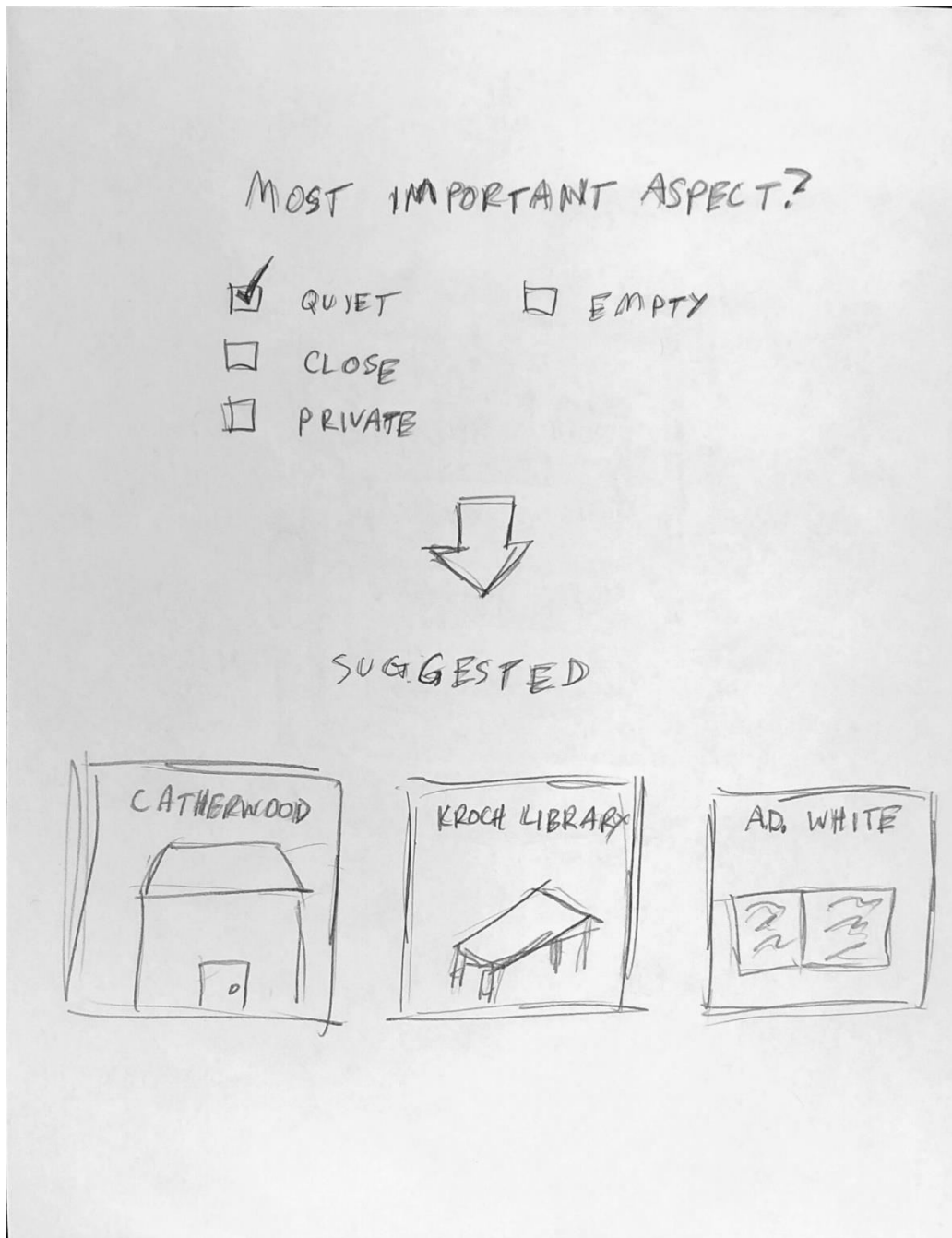
One of our persona's goals was to be able to study for all their classes with friends in group study rooms and this design addresses any issues with space since the design is the construction of a new library that can be used for that purpose. It is inspired by the news that North campus will be getting new dorms to accommodate the rising number of students.



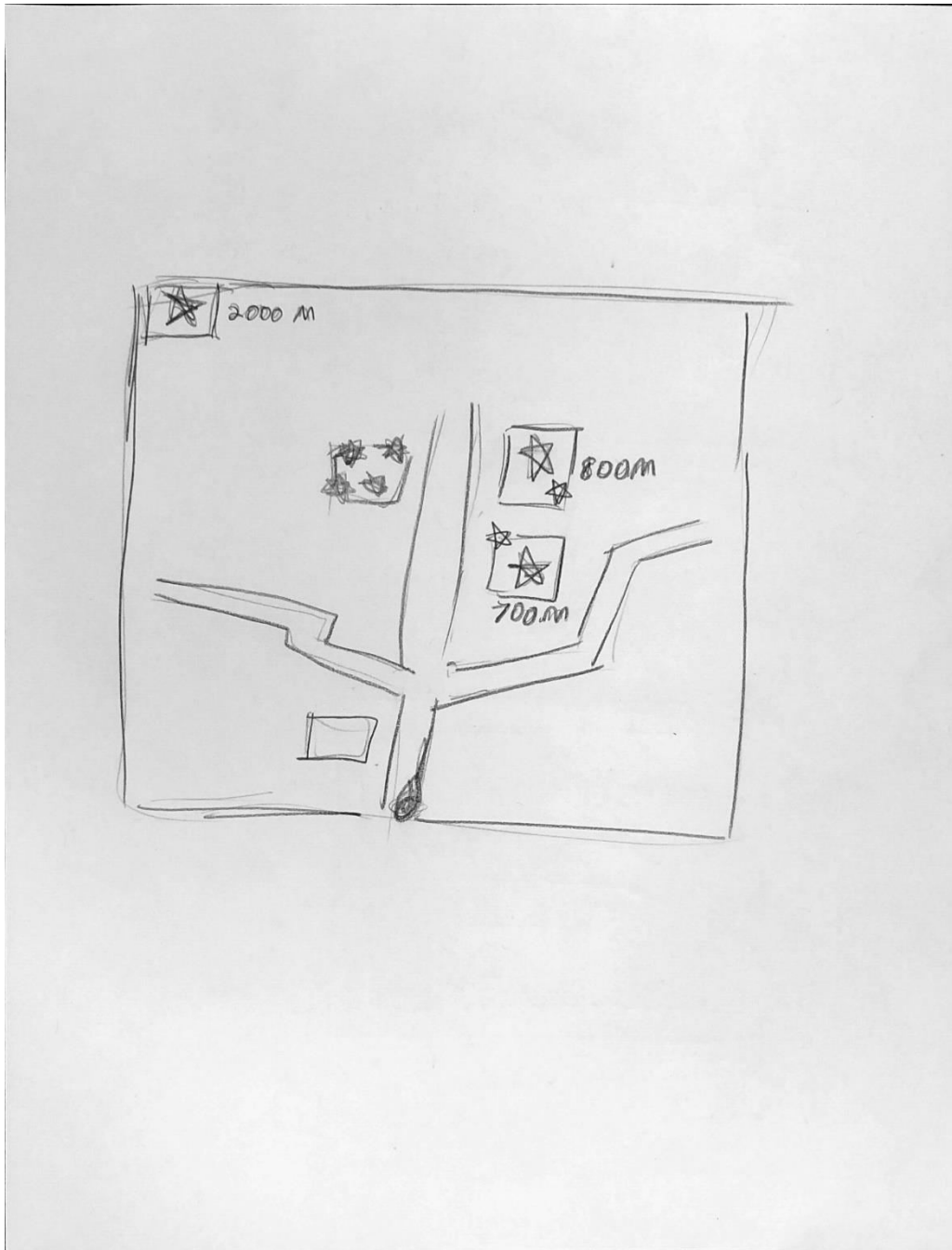
This design aims to show which libraries are busy and which ones are empty so that our persona can find their studying area faster and not get stressed out for their exams. It achieves this by having people download the application and showing each other what library they are studying at for mutual benefit. This idea was inspired by the Uplift – Cornell Fitness application that shows how busy gyms are.



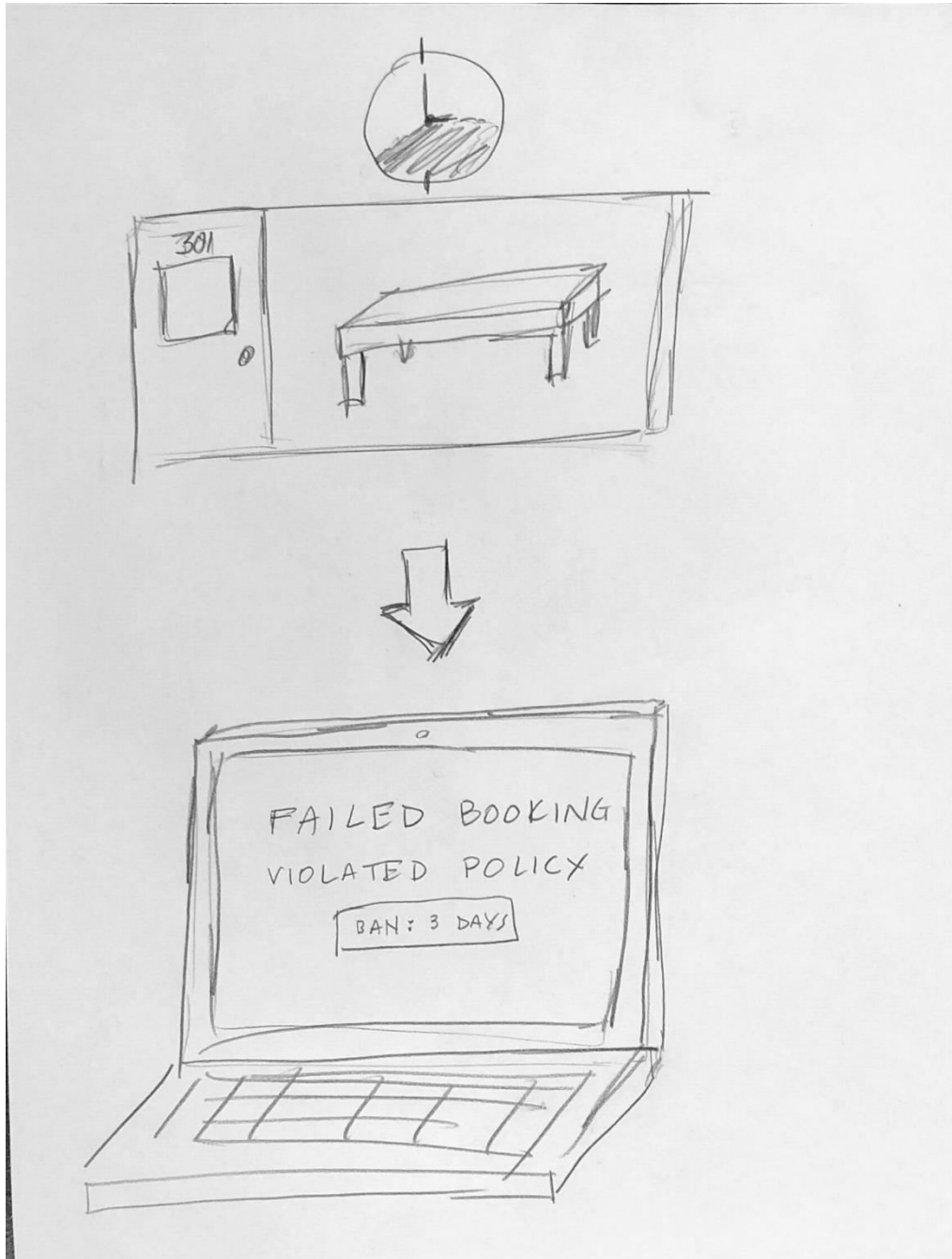
Continuing with the trend, this design also attempts to help our persona find a good studying location, but it also considers other students who might have different preferences. This design essentially uses an algorithm to ask what properties are the most important for each student and offers suggestions for where to study. Many applications nowadays have suggestions such as Netflix and YouTube which is what inspired this particular design.



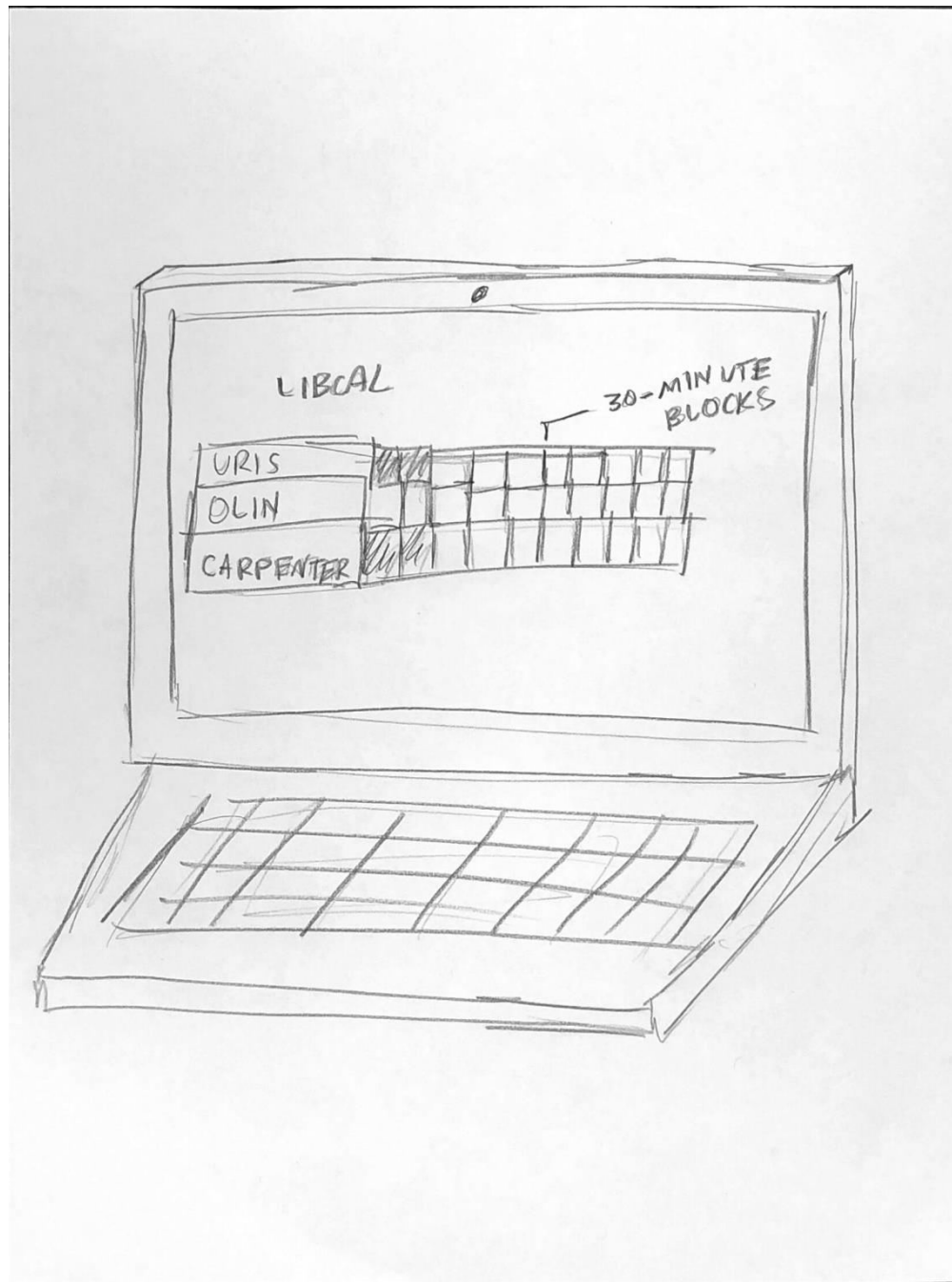
This design is also meant to help our persona find a studying space and achieves this by showing all the different studying areas in each building rather than just libraries. Every star on the interface is a known studying location and it also shows distance to help users navigate to the closest study space. This is inspired by Google Maps but is specialized for studying locations on campus.



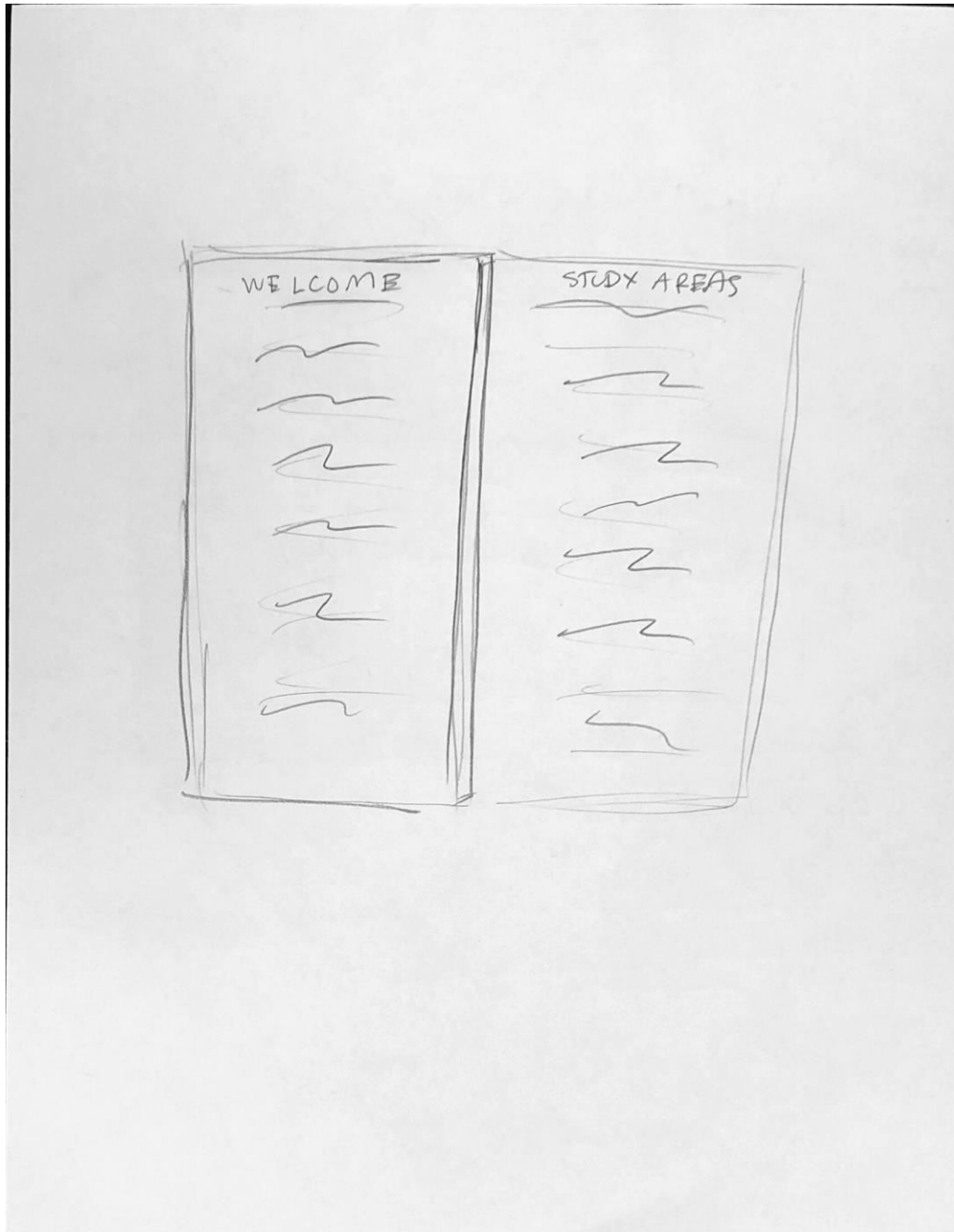
One issue commonly seen around campus is the reservation of rooms that end up getting left empty for hours. It reduces the amount of space available to use since many students don't want to take the risk of entering a reserved room and getting kicked out a little bit later. This design changes policy to punish people who repeatedly do this. It would also address the lack of spaces that our persona has experienced and will help them find studying locations. This was inspired by my personal experience as well as some interviewees' in seeing empty study rooms that were reserved.



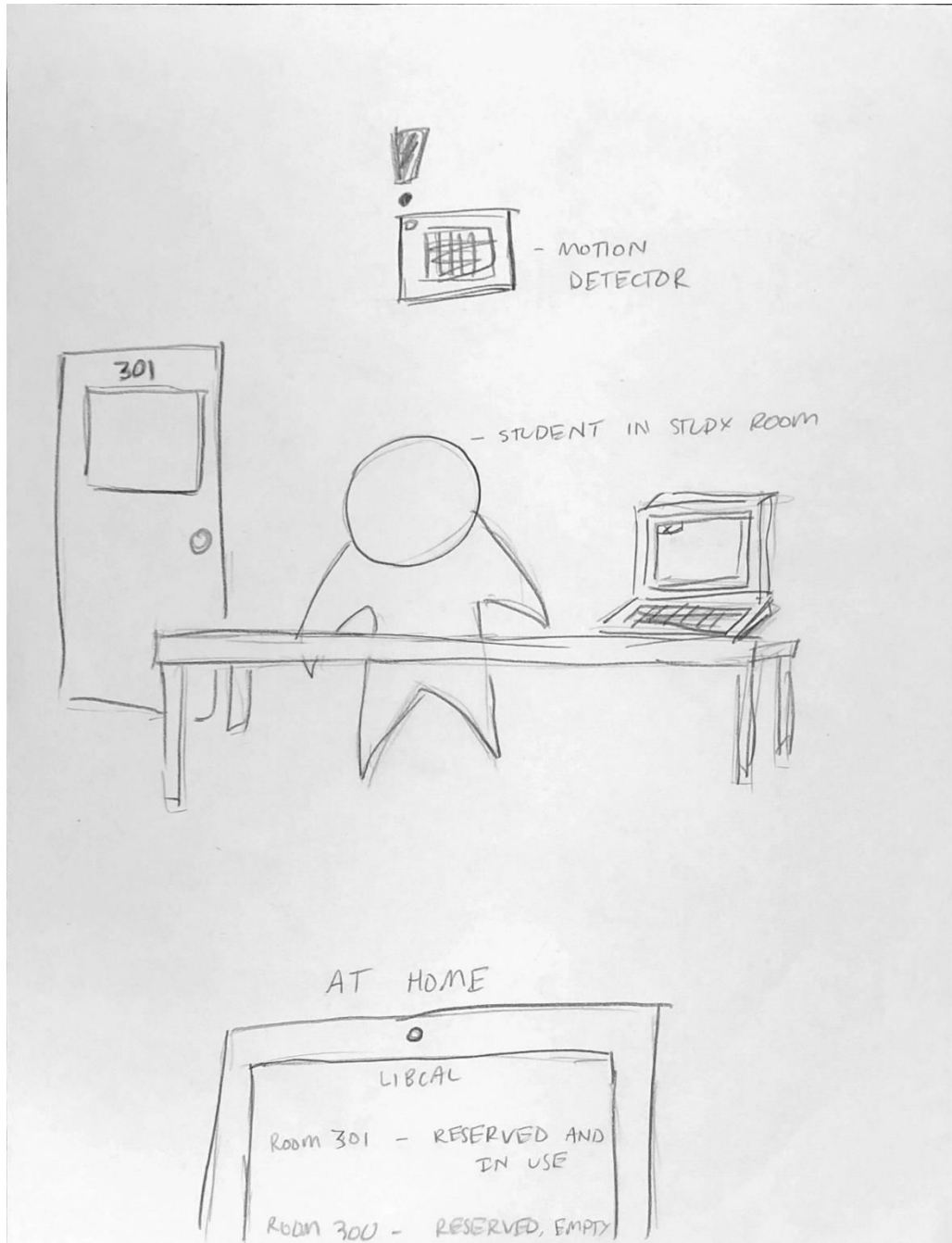
One of our interviewees mentioned that an improvement to the reservation system would be to standardize the time chunks since they currently vary between 1-hour and 2-hour reservations. Our design aims to resolve this issue by standardizing them to 30-minute blocks which would allow for more accurate reservations and reduce downtime of room usage. It would also address our persona's goal of finding group study rooms to study with their friends. This was also inspired by some interviewees' experiences as well as some of my personal ones.



At the beginning of my time at Cornell, I got 2 maps and pamphlets to introduce me to campus which is what inspired this idea. This would be a pamphlet with all the studying locations and short descriptions of them. This would address our persona's issue of not knowing all the studying locations and potentially help them achieve their goal of finding suitable studying locations.



This idea also addresses the issue of rooms being empty by equipping the rooms with a motion detector and making rooms reservable again if they are empty for extended periods of time. It would reduce the downtime of rooms not being in use and help our persona have access to more study spaces. It was inspired by home alarm systems that require motion detectors in certain rooms.



Lastly, this idea is similar to the one above since it also tried to check whether a room is actually being used or not. However, it does this by locking the room with an ID scanner so that people don't feel like the motion detector is spying on them. It also helps the persona find empty study spaces by having an online interface that shows what rooms are empty. This was heavily inspired by the Uplift – Cornell Fitness, an application that I investigated in my solution space.

