

## **I4: Individual Assignment #4 – Ethnography**

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### **Summary**

For this ethnography exercise, I chose to observe the lab for Khoury students in West Village H. This setting is not directly related to my group's proposed idea of redesigning Northeastern's degree audit. However, one use case of the degree audit is when a student and advisor are looking at the student's information together, either on one screen or each on their own computers. Degree audits are personal information, as they include class grades, so I decided to find another situation where two people are looking at the same screen or information together. Many students go to the Khoury lab when they need to do pair programming, as well as get help from TAs on computer science classes. Both these cases often require multiple people sharing screens. Thus, I thought observing similar situations would be helpful as I prepare to design other interfaces that may also require local in-person sharing.

### **Biases**

I have gone to the WVH lab to work in groups and get help from TAs before, though not often. Since this is supposed to be a space for students in the college of computer sciences, I expect to see a lot of people coding. From my own experience, there will probably be people leaning over to see each other's screens and talking about what they see. I'm also observing in the afternoon, starting around 1:30 p.m. on a Monday. I'm not sure if certain people or types of groups tend to go to the lab at certain times of the day. I've had difficulty finding empty tables when I've gone later in the day.

### **Overview**

There were about 50 people in the main section of the lab when I first started observing. There appears to be more people working solo than in groups, maybe a two-thirds/one-third split. The lab wasn't full when I first started my observation, though it definitely got more crowded later in the afternoon. Fewer people working solo are wearing headphones than I expected, maybe less than half. No one working in a group is wearing headphones. Since I don't know what specific tasks people are engaging in, I'm counting a "group" as any instance of two or more people who are talking with each other as they appear to work. They may or may not be working on the same task. Out of the groups I observed, each member was using their own laptop, though people often looked at their partner's laptop. Every now and then, someone physically leaned over to their partner's laptop to type on it.

None of the people working in groups are using the bigger monitors along the wall with windows where you can hook up your laptop for more screen real estate. Theoretically, it seems like these bigger monitors could help people see each other's screens more easily. But they are mostly spread apart — separated by a few feet — so it may not be conducive if both people in a group want to use one.



*Students working in the WVH Khoury lab.*

### **People**

The vast majority of people in the lab during my observation time appear to be students. There are a few older (40+ looking) people who might be faculty. Without trying to actively invade people's privacy by looking at what's on their screens, it appears that most people in the lab are coding or looking at lecture slides. Several are using Slack, the messaging platform popular with organizations. Most people stay in their chosen seat the entire time they're in the lab, getting up to presumably use the bathroom or throw something away. The few people are walking around constantly seem to be TAs or faculty.

### **Artifacts**

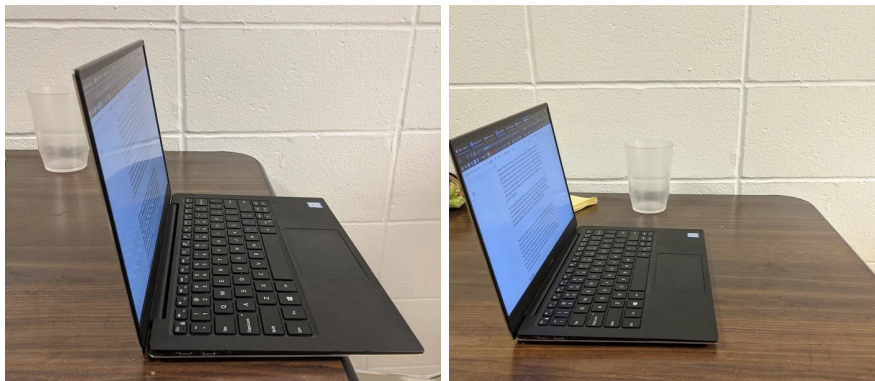
Every single person in the lab within my sight has a laptop out. Laptop brands and screen sizes vary widely, from 13 inches (based on my estimation) to 17 inches. Quite a few people have their laptop chargers plugged into the available outlets on top of each desk, which seems more convenient than having to hunt for outlets on the floor. Several people have notebooks or physical pieces of paper that they are writing on or referring to in conjunction with whatever they are doing on their laptops. The few people who have their laptops hooked up to bigger monitors are using both screens in tandem to look at different windows. Beside laptops and notebooks, I saw two different brief instances of people using the rolling whiteboards to write out something. In both cases, the purpose of using the whiteboard seemed to be to show an example to someone else.

### **Activity**

The main activity I focused on was when people interacted with someone else's laptop. Each time I saw someone in a group slid or tilted their laptop so their partner could see it better, that interaction did not last beyond a minute. After whatever task they were doing was completed, the laptop owner pulled the device back to its original position. Not everyone tilted or moved

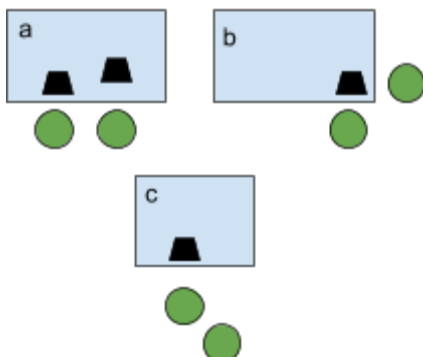
their laptop when sharing. Sometimes the other person just leaned over in order to get a better view. The interaction includes various pointing and talking about what's on the shared screen. Some of these interactions were shorter than 10 seconds. Even if this action of sharing the laptop screen is undertaken repeatedly, such as once I observed three times in five minutes, the laptop owner always moved their laptop back and forth instead of leaving it in a position more conducive to sharing.

One interesting observation I noticed was that people had their laptops placed at varying distances from their bodies. Some had it pulled close and partway hanging off the table. Others had it pushed as far as a foot inward from the edge of the table, which means they had to lean forward put their elbows on the table to type. These positionings do not seem to correlate with height or whether they are with a partner; it is probably personal preference.



*Different laptop positions I observed in the lab (posed in my apartment).*

When looking at someone else's laptop, people seemed to unconsciously adjust how they moved their bodies based on the laptop position. Many have to lean close to the device in order to see what's on the screen, some as close as 6 inches between their face and the screen. A few times, I saw someone pull their laptop forward and tilt it in order for their partner to more easily type on it. They would then push the laptop back afterward. At one point, an older-looking person pulled up a chair to help a student. He set the chair so he was perpendicular to the student (example b in the below diagram). There wasn't any other logical position to pull up a chair to, but this position also seemed gives better access to looking and pointing at the student's laptop than if he was facing the same direction on the adjacent side of the table (example c).



*Diagram of different group setups I observed as members shared a screen. Blue rectangles are tables, green circles are people, and black are laptops.*

- a) Two owners sat side-by-side, each with own laptop
- b) Viewer stood perpendicular to laptop owner to help
- c) Viewer stood behind owner to help them

## **Interviews**

I interviewed two people about their habits in the lab, obtaining verbal consent from both. Interviewee 1 said she comes “very often” to work on group projects with classmates. She said she always brings her laptop to work on, and usually has Google Docs open when working in a group. The real-time update functionality of Google Docs means she doesn’t have to look at other members’ screens much if that’s the only application they’re using. “We’re usually doing our own work, and then when we have questions we talk to each other. I find that less distracting,” she said. I noted she and her partner were sitting side-by-side and asked if they ever have to adjust the positions of their laptops to share screens. She had to pause and think about if she took these almost unconscious actions. Eventually, she said it depends on how far she and her partner were sitting apart. If they are relatively farther, she does have to move her body forward in order to see the other screen.

Interviewee 2 said he has one class for which he comes to WVH to do group work. He never comes here just to work by himself. His group for that class has three people, and everyone brings their laptop. When I asked how they work together, he said, “sometimes we divide up the parts, and sometimes we talk together and look at each other’s screens to see whatever code that person has pulled up.” Something Interviewee 2 mentioned that I did not directly observe during my time at the lab was that sometimes his group ends up split between two tables if they can’t find one that fits them all. Then when they want to look at someone else’s computer, they may have to stand up and walk to where that other person is sitting. Or he might pick up his laptop and take it to the other person. I asked if it would be helpful to have bigger monitors to share screens. He said he would if they were “very easy to use,” but other people might be using them all the time. He cited the fact that conference rooms in WVH have such screens but are usually taken.

## **Implications for UX design**

My main takeaway from observing group interactions in the WVH lab and the interviews is that sharing screens in-person is nuanced. People look at each other’s laptops from different directions and angles depending on the environment and personal habits. Therefore, when designing interfaces you know will be used by people in-person together — or even when you’re not sure — it’s important to test with real people sharing the screen the way they would naturally and allow them to move around. It also must be tested on different screen sizes to reflect real-world conditions, both mobile and different desktop sizes. Design elements such as layout of content and font size may need to be adjusted to better facilitate shared reception of the available information.