Final Submission Report

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User Research (Milestone 2)

Key Findings

Based on our interviews and <u>affinity diagramming</u>, we can summarize the following key findings about our audience:

- Challenges with transportation occur frequently during Visit Days. Multiple interviewees expressed issues they had with transportation, whether that be due to affordability, timing, or weather. Interviewees used a variety of transportation methods to get to their destination (flying, public transport, car), as well as many different travel tools (ex. Kayak, navigation apps).
- Networking with professors is crucial, and contact with them often extends
 outside of students' Visit Day itineraries. There were some expressed issues on
 professor availability and accessibility. Prior to Visit Day, students indicated
 preference as to which professors they wanted to speak with during their visit, and
 several also contacted their professors before their visit for additional networking.
 Users also look for potential advisors for their research as a PhD student.
- Information about campus layout was often lacking and/or confusing. Students often did not know where to seek help when searching for a building or facilities during their visit.
- Crucial information about Visit Day is sent out via email— not much other valuable information on logistics could be found online. This finding varied slightly among interviewees, but the general consensus was that email provided the means to get to and around Visit Day.
- Most students take advantage of the reimbursement process, especially for travel. This process seemed to vary in efficiency and procedure across different universities.

Interview Approach

Our approach to performing research on our intended audience is through semi-structured interviews. The goal is to discover the pain points they've experienced in planning and attending visits to the universities that have invited them to learn more about their respective PhD programs. We seek insights into these topics: program communication, information accessibility, travel logistics, reimbursements, faculty and student meetings, scheduling and activities, and transportation.

Each of us interviewed one candidate, and we strived to find candidates that had varying backgrounds and experiences with the campus visits. However, they should each have a past experience at a PhD visit to a university. With these criteria, we were able to interview **five incoming or current PhD students** who have experienced visits at various universities and departments, including Cornell's IS department.

At the beginning of each interview, we introduced ourselves: Thank you so much for agreeing to interview with me today! I am creating an app prototype for the Information Science department PhD visit day at Cornell. To fully understand what PhD students need to know during the visit day process, I will be asking you a few questions about your experience on your visit day. There are no right or wrong answers and you may stop the interview at any time. Do you agree to participate in this interview?

Following the introductions, we began to guide the interviewee through the following list of questions, which primarily served as a rough outline for topics that we wanted to hear about.

- 1. Can you describe your experience planning visits to your university as a PhD student?
- 2. What are some challenges you have faced when organizing logistics on these visits, such as transportation, lodging, meals, and scheduling?
- 3. How do you stay informed about important events and deadlines during your visits to your university?
- 4. What role do mobile apps currently play in your logistics planning process for visits to your university? What role do websites/web apps play?
- 5. Did you have any moments during your visit or planning before where you felt stuck or did not know how to proceed? What did you do?
- 6. Did you have any moments during your visit or planning when you were able to quickly find the information you needed? How did you find it?
- 7. Where is the first place you looked for information about visiting the college?
- 8. Were there any challenges with the weather during your visit?
- 9. Did you ever go through the process of getting costs reimbursed from your visit? Please explain what you remember from this process.
- 10. What transportation services did you use, if any? How did you get information about these services?
- 11. What steps during visiting day did you take to network with students and advisors?

See Appendix A for notes taken from the interviews following this guide.

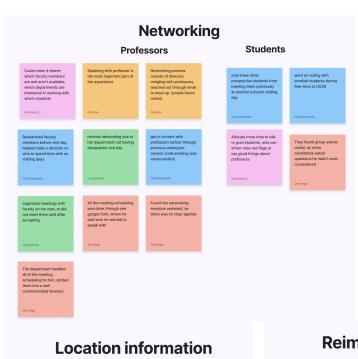
Users and Audience

For this prototype our audience consists of Cornell prospective PhD students. This potential user group includes **all students admitted to Cornell University's Information Science PhD program**. The audience will use this application to organize their admitted students PhD visiting day. For interviews, we found five candidates that all have a background as PhD students who attended visiting days after their acceptance to their school.

For research purposes, we conducted 5 interviews with 5 different PhD students and candidates to talk about their experiences with admitted students visiting day both inside Cornell's IS program and outside of. Although some interviews were from students not in Cornell's IS program, we felt that including different experiences would help narrow down overarching goals of potential users. **Participant A** is a first year PhD student studying Government, Political Theory, and International Relations whose visit occurred a year ago. Although only being able to attend one day, Participant A was able to provide a great deal of information about visiting days. Participant B is an admitted student at various PhD programs who is in the process of visiting accepted schools, UT Austin and Comumbia being the two they have already visited as an admit. **Participant C** is a 5th year PhD student who attended visiting days for admitted students at Cornell University, University of Pennsylvania, Northwestern, and Brandeis. **Participant D** is a 5th year PhD student researching Human Computer Interaction who attended the visiting days in the spring which led to their decision in choosing Cornell University. **Participant E** is a first year PhD student researching Human Nutrition who conducted their own visit day during the summer at Cornell University. Participant E was able to provide a unique perspective for students who are not offered a visit day by their department at Cornell but still seek similar goals to that of other participants of visiting campus before choosing.

Affinity Diagramming











funds were not heavily discussed during visit day although they were a large part of decision







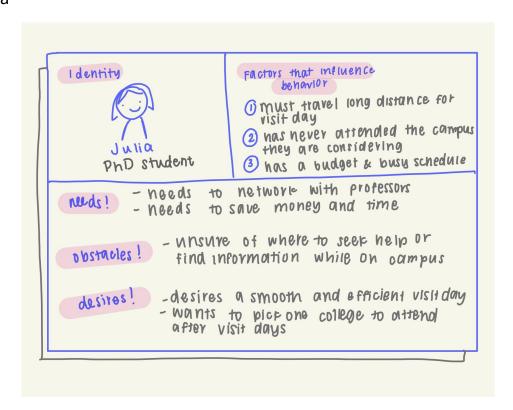
Design Approach (Milestone 2)

User Goals

From looking through the affinity diagram, key findings, and user interviews we crafted four goals we find to be shared between members of the user group. Each goal reflects a want, need or desire that was frequently mentioned and discussed with the user group.

- 1. Network with professors, current PhD students, and other visiting students
- 2. Explore campus during free time
- 3. Easily navigate to and around campus to attend scheduled events
- 4. Get reimbursed for transportation, lodging, meals, and other accepted costs

Persona



Task Scenarios

Task 1: Julia is planning her visit day to Ithaca, and she currently lives in Seattle. She wants to get to Ithaca the night before her events schedule begins, and she wants to save money by booking connecting flights but take at most one bus.

Task 2: Julia is very excited for her visit day, and is interested in Human-Computer Interaction and wants to speak with Professors Harms and Guimbretiere to get to know the PhD program better as part of her networking during the visit day.

Task 3: Julia has made friends with some other people on visit day, and she wants to hang out with them, but first, she wants to make sure that she's not supposed to be at an event right now.

Task 4: Julia was headed back to their hotel from their visit day, but decided to stop by the commons for some food. After eating dinner, she wants to check how to get reimbursed for their meal.

Task 5: Julia has a couple of hours between events and she's not sure what to do on campus. She's heard a lot about the beautiful scenery and views on campus, so she wants to know what the best spots on campus are to visit

Task 6: Julia has spoken with some colleagues at a networking event and wants to speak with Professor Kelinberg about potentially advising on her PhD, but she doesn't know how to approach them.

Design Phase (Milestone 3)

Final Design Sketches

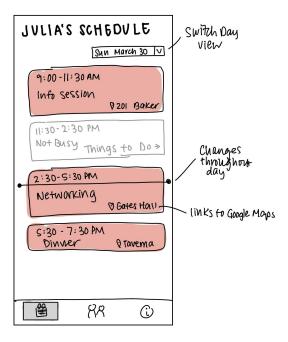


Fig 1. Schedule View Sketch:

A representation of how the schedule page would display events they have on specific days during their PhD visit day experience. Julia can use the dropdown menu to change dates and see a different schedule. Clicking on links like the map-pin icon redirect users to Google maps for directions.

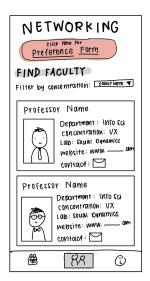


Fig 2. Networking View Sketch:

Sketch of where users will be able to search for professors they would like to network with during their visit day, and allows them to filter their search by concentration using the dropdown menu.

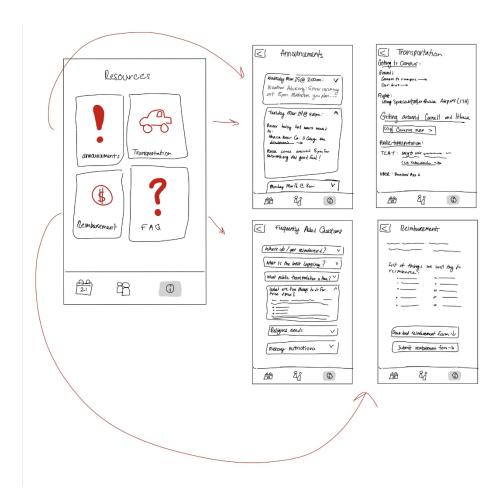


Fig 3. Resources View Sketch:

A representation of the resources page in which users can find additional information on topics such as announcements, transportation, reimbursement, as well as access an FAQ during their visit day. Users can access these pages by clicking on the button icons. Each page is organized using either collapsing modules for information or linked buttons that take users to additional information sites.

Edit from M3 feedback:



Design Rationale

We are doing a mobile design because based on our user goals and interviews, users will need to access this app on the go and while their visit days are going on, so it makes sense to focus on mobile design. As part of the mobile design, we decided to have only three main views, schedule, networking, and other info, in order to avoid cluttering the menu bar at the bottom. The tradeoff for this is that the other info tab will expand to have more information and this information will have to be compartmentalized. As our design sketches show, the other info tab is divided into four components which the user can tap on to expand. We justify having fewer views than members by including more components and information within each view.

3

We attempted to simplify this starting view of resources to maintain simplicity for Julia and keep the information organized. Announcement, transportation, reimbursement, and frequently asked questions were the four most important features, not including schedule and networking, that Julia has shown the most need for. The large icons and square two by two layout improve accessibility especially when Julia is glancing at the information before heading to an event. The announcements page provides announcements listed in order of newest to oldest to place emphasis on new and possibly important announcements. To improve efficiency, the announcements are presented as expandable and collapsible so that Julia can easily scroll through them with minimal searching to find the announcement she is looking for. The FAQ page has a similar appearance where questions are listed and the responses are expandable and collapsible. This page hosts the more specific questions that Julia expressed having that all can be easily accessed in one place. The transportation page accessed by clicking on the icon on the resources view is organized around transportation to or from or around campus. This allows users to explore different ways to get to campus. We chose to create a reimbursement page accessed through the resources view that lists means of getting reimbursed as well as two linked buttons to download the form to be reimbursed and a link to where it can be submitted on Cornell's website. These features were included because they were all expressed as important and significant parts of the visiting experience that users heavily requested information about during their preparation.

Our schedule view is rather straightforward, because we want the user to be able to refer to it throughout their visit with ease. First, we decided to include a drop-down to allow users to select the day they'd like to view; this was selected since there aren't many days that the user has an itinerary for. Once they do this, they can see the day's events, in a style somewhat similar to that of Google Calendar (which we chose to mimic due to its minimalism and effective communication with the user). Each event has a block that corresponds to the length of the event, with details on location, time, and activity. We also added a greyed-out "break" with a link to things to do for students to do in their free time, as this is one of our user goals. Finally, we have a time tracker that informs the user on where they are in the day. (*Note: We have the Javascript code for this tracker, but the tracker is currently hard-coded at 7pm for grading purposes*).

For the networking view, we included a link to the faculty preference form at the top of the page which users can click to be prompted to a preference form they can fill out. We decided this should be at the top of the page since it is required for students to fill out and should be easily accessible upon entering the page. We designed this to be a button shape so that the user will know it is clickable. Underneath the preference form button, students can search and find information about faculty. They can do so by filtering by concentration to narrow down their search and finding professors information quickly during their visit. Each professor profile card includes information such as department, concentration, lab, website and contact information.

See <u>Appendix B - Brainstorming Documentation</u> for all previous iterations of sketches that preceded the final sketches.

Task Scenario Completion

Task 1: To fulfill our first task, we added a travel information component to the other info view. This way, Julia can find information on how to get to Ithaca by going to the third tab and clicking the transportation button to learn more about the cheapest and best options.

Task 2: We created a network tab, where Julia can fill out a networking form to say who she wants to meet with, and the networking page also has information on professors and labs filtered by concentration, so Julia can more easily find professors and labs that fit her interests.

Task 3: We created the schedule view, where Julia's entire itinerary is visible. This way, she can know where she's supposed to be at all times, and can properly schedule additional meetings and hangouts.

Task 4: We added a reimbursement button to the other info view, which Julia can click on and learn all about what she needs to do to be reimbursed for her meal, and provides her with the necessary form.

Task 5: As part of the other info tab, within the FAQ component, Julia can find information on what she can do around campus in her spare time.

Task 6: Julia knows she wants to meet a certain professor, so we added their contact information and department and interest information to help Julia find them by filtering.

Revisions to Milestone 2

- **User goals:** For milestone 3, we consolidated our several goals into fewer, more concise goals due to the redundancy that our grader mentioned in our feedback. For instance, we had a goal for planning travel arrangements as well as one for navigating around campus— this could be combined into one goal of "Easily navigate to and around campus to attend scheduled events." Having fewer goals would allow us to have a less complicated and confusing design process.
- **Task scenarios:** We also edited our task scenario section of milestone 2— this involved deleting the "contexts" we had initially provided for each scenario (we decided these were not valuable to include anymore) and making the task scenarios more testable. Additionally, we standardized the names to fit personas and made the tasks more testable, as well as fitting the tasks to fit the user goals more closely.

Contributions

Our group met in person together to do the brainstorming sketches (partially done in class) as well as the final sketches. As we made our design choices, we discussed them in depth before allowing individual members to sketch out these ideas. The "Member Contributions" section shows which sketch each member was primarily responsible for, but we'd like to stress that the sketches are reflections of group-wide discussion.

Implementation (Milestone 4)

Design Updates

Generally, we've adhered very closely to the original sketches. We've only made changes to the designs involving external resources, as some that we planned to include were not made available to us on Canvas. These include the *Faculty Preference Form* on the Networking tab, *Campus Map* pdf on the Transportation resources page, and *Reimbursement Forms* on the Reimbursement page.

Design System: Since the sketches have no colors, branding, or high-fidelity icons, we created a <u>design system</u> to guide the assets and color palette of our web app. These are the parts of our app affected by this addition:

- Time-tracking line: the color of this is red, and whichever schedule entry is currently in progress has a higher contrast with a gray background and white text, rather than a white background and black text.
- The buttons on the Resources tab have a dark red background to reflect Cornell's branding.

Planning Artifacts

Libraries: We will use Bootstrap-Vue for uniform material components, e.g. buttons, dropdowns, cards, and navigation. For maintaining app state between pages, we'll use the Reactive library provided by Vue.

Navigation: Navigating between pages would be implemented using routes between three tabs: Schedule, Networking, and Resources. The Resources tab also provides interactions for the user to route to four more pages: Announcements, Transportation, Reimbursements, and FAQs. Each of these components has a route with their own name, except for Schedule, which will use the root '/' route, as it is the first page that users should see when they first open the app. From Bootstrap, a NavBar component will be used within 'App.vue' to allow the user to quickly switch between the three main tabs' routes.

State: The actively preserved state of the app only tracks two variables: the selected dropdown option for the day of the schedule, and the selected dropdown option for the filter on the faculty list. We want the user to be able to return to a particular day's schedule even after switching to another page, so we use Reactive to maintain these two state variables within 'state.js'.

Pages: Each page corresponds to one route in our app, according to our designs. We are sticking to our designs as closely as possible, changing only what we can't implement with our current limitations in technical knowledge and time for this milestone. These changes include:

• Hard-coded a time of 7:00pm for the dynamic time bar to ensure that graders can see it regardless of when they open our app for grading. The javascript is there to update the line depending on the time, but for the grader, we set the time in the website to 7:00PM.

Fixtures: The dummy data on each page is listed in 'fixtures.json' and structured in a way that each root-level object corresponds to a single page. Each page can then query the fixture for their relevant information, such as Schedule returning a list of days, each of which contains a list of schedule entries and their corresponding details.

Contributions

Our group used the in-class studio session to meet and determine which features each member would take on for the weekend. Han took on setting up the repository (installing vue, libraries, dev container, and removing bloat from the Vite boilerplate), and implementing the navigation and routes to blank pages. Javi implemented the Schedule tab, Carly implemented the Networking tab, and Chloe and Liz split the pages included within the Resources tab. We met again on Tuesday to collaborate on technical challenges, reallocate remaining tasks, and touch-up the styling. The whole team contributed to compiling this report.

Evaluation (Milestone 6)

Key Findings

(should indicate which parts of the evaluation went well, and which parts need additional work. Frame results using task scenarios)

- Participant A:

- Had issues understanding the reimbursement buttons / which to pick
- Had issues with last FAQ / viewing the text (you have to scroll down after clicking the accordion)
- They successfully identified travel information (task 1), found the information for professors they hoped to network with (task 2), found the unstructured time in their schedule (task 3), and found the announcements tab and the relevant announcement for a snow update (task 6).
- They struggled with finding the reimbursement information (task 4), and with finding the relevant information in the FAQs to find out what to do at Cornell (task 5).

- Participant B:

- Struggled to find announcements for task 6; initially thought to look in schedule, but eventually went to resources
- Struggled on task 1, since there was only information for ithaca and syracuse for plane travel. She thought she would fly in from new york, so she was surprised there was no info on it
- They successfully found professor info on the networking tab (task 2), navigated their schedule (task 3), found the reimbursement form (task 4), and found the FAQs (task 5).

- Participant C:

- Succeeded on finding the finding the travel tab and bus information (task 1), navigating the networking tab and finding professors Choudhury and Kizilcec (task 2), finding the free time in their schedule (task 3), and finding the snow weather update announcement (task 6)
- For task 4, the participant did not navigate back from the Google Drive file to look at the "Submit Reimbursement Form" button. This might be due to a lack of instructions within the app on how to successfully submit a reimbursement request.

- For task 5, the user clicked on three different question tabs (that all addressed questions similar to the task scenario) to reach her answer. This wouldn't count as a "failure," per se, but might indicate that there is a more efficient way to find the answer to a frequently asked question.

Participant D:

- Succeeded on all tasks except for Task 3.
- Struggled with understanding the prototype's hard-coded 'current time' at 7:00pm. Thought label for current time was included as a sub-event within 5:30-7:30pm 'Dessert w/ Professors' event.
- Excelled at Task 5. Cross-referenced downloadable map with Google Maps locations on Schedule and saved them to Google Maps app.

- Participant E:

- Succeeded on all tasks but ran into a few issues with tasks 4, 5 and 6.
- In task 4, they found that they could download the reimbursement form but the submit form button did nothing when they tried to click it. They mentioned they had gone through the reimbursement process before and knew they had to submit the form via email but the button confused them.
- In task 5, the user was able to find the FAQ that corresponds with the task but had to scroll down to view the test when she initially thought the dropdown was not working upon selection.
- In task 6, the user noted that some of the dates were contradicting between the schedule and announcements view. For example the schedule said Fri. March 30th meanwhile the announcements said Sat. Mar 30th.

User Testing Methods

Below is the method we used to obtain consent and test our app prototype on our participants. The task scenarios have been revised based on our final prototype design, and are phrased to be directed at a participant (rather than in the third person).

Hello! Today we will be asking you to complete some tasks on an app for incoming Information Science PhD students. The tasks outline scenarios in which you would be using the app. Please know that you can stop at any time. If you consent to this please state "I consent". Thank you for your participation.

We ask that you please walk us through your thinking process while completing the tasks. This will be a great help to us to improve our application.

If you feel comfortable, please tell us a little about yourself.

Task 1: You are planning your visit day to Ithaca. You want to get to Ithaca the night before your events schedule begins, and you want to save money by booking connecting flights but take at most one bus.

Task 2: You are very excited for your visit day, and are interested in Computing and Information Science and want to speak with Tanzeem Choudhury and Rene Kizilcec to get to know the PhD program better as part of your networking during the visit day and don't know their contact information.

Task 3: It's Friday at 12pm. You made friends with some other people on visit day, and you want to hang out with them, but first, you want to make sure that you're not supposed to be at an event right now.

Task 4: You were headed back to your hotel from your visit day, but decided to stop by the commons for some food. After eating dinner, you want to check how to get reimbursed for your meal.

Task 5: You have a couple of hours between events and you're not sure what to do on campus. You've heard a lot about the beautiful scenery and views on campus, so you want to know what the best spots on campus are to visit.

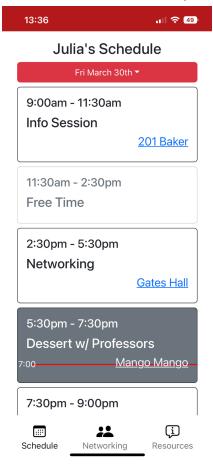
Task 6: You wake up Saturday (mar 31) morning and see snow. You wonder if any plans are affected by this weather update.

Participant Overview

(contextualize why the user is valid for your evaluation, i.e. they are a members of the app's target audience)

- **Participant A** was a graduated university student who had recently been accepted into different PhD programs. She had toured different universities earlier in the year for accepted students.
- **Participant B** is a PhD student at Cornell who's done a visit day before.

- Participant C is a current senior studying Information Science at Cornell. While she
 may not be the most fit user for this evaluation, she knows about the PhD process
 because she is interested in pursuing a PhD and has done several university tours. She
 is only a few years younger than the age of the target audience, so she should have
 about the same familiarity with app interfaces as a typical user.
- **Participant D** is a current first-year PhD student at Cornell who has done several visit days before choosing Cornell.
- **Participant E** is a current senior at Cornell who will be a PhD student next fall and has done several visit days before.



Here is a screenshot of our app installed on a phone during testing.

Changes

The dynamic timeline on the Schedule tab could be more explicit in communicating to the user which event is currently underway. The inverted colors are good, but an explicit 'Happening Now' label in addition to the inverted colors might be more effective than a moving line with a time label.

The reimbursement tab could be more descriptive in terms of what steps need to be taken to successfully submit a request. Given that the buttons themselves do not provide all of the necessary information and the introduction on the page is quite vague, it would be helpful to provide more detail on how the actual process works. This could be done by providing step-by-step instructions to guide the user and/or by removing the submit button which does not function. Adding a section on where the form should be sent upon completion is another option for clearer context.

The transportation tab could be improved by providing information on a variety of options aside from Ithaca and Syracuse for people who want to explore other options. This could be done by providing a section that includes other frequently used airports such as NYC.

Some users, though successful in the tasks involving the FAQ, experienced a less streamlined experience when navigating this tab which could potentially use some improvement. The first is that users spent time looking for questions by having to read through them, so a more efficient way could be to organize the questions based on category or add headers for different types of questions. The second delay lied in the fact that users had to scroll down to see the answer to the final question on the FAQ. However, both users were able to intuitively problem solve within a few seconds and scroll down to view the answer.

Contributions

Every member of the team scheduled their interview on Monday 5/8 and brought their organized notes to a meeting where we shared our insights and discussed the potential changes to be made to our prototype.

Member Contributions

Liz

- M2:
 - Created persona
- M3:
 - Final networking sketch & resources sketch
 - Design sketch captions
- M4:
- Resources tab
- M6:
 - Conducted user interview

Carly

- M2:
 - Organized affinity diagram & extracted key findings
- M3:
 - Revisions based on M2 feedback
 - Detailed member contributions
 - Final schedule view sketch
- M4:
 - Networking tab
- M5:
 - Debugged fixture during publishing
- M6:
 - Conducted user interview

Hanzheng

- M2:
 - Created interview questions, drafted 'Interview Approach' section
- M3:
 - Ensured completion of all milestone requirements
 - Design rationale
- M4:
- Setup repository & implemented navigation, state, fixtures
- M5:
 - Implemented first version of the published app
- M6:
 - Conducted user interview

Chloe

- M2:
 - Added interview question, developed users and user goals section
- M3:
 - Initial schedule sketch
 - Final resources view sketches
 - Design rationale for resources
- M4:
 - Resources tab
- M5:
 - Added icon to the published app
- M6:
 - Conducted user interview

Javi

- M2:
 - Task scenarios
- M3:
 - Design rationale
 - Task scenario updates
 - Initial networking view sketch
- M4:
 - Implemented Schedule tab
- M5
- Debugged fixture during publishing
- M6:
 - Conducted user interview

Appendices

Appendix A - Interview Notes (M2)

Interview 3/27/23: Participant A

About Participant A:

- 1st year PhD gov; political theory and IR
- Visit was around this time last year
- Only visit day he did
- 1. Can you describe your experience planning visits to your university as a PhD student?
 - a. Got news later than usual
 - b. Given a certain amount of funding for the visit
 - i. Booked hotel
 - ii. Took a while, had to come from Chicago
 - 1. Fly to NYC, take a bus up
 - 2. Perhaps down to the limited funds, took longer because of layovers
 - c. Organized by the government department
 - d. Visit itself was spread out over a couple days, but he only spent one day here, logistic issue mostly
 - i. Not the bad part, they covered most
 - ii. Main issue was the fact that it's so far from other places; heard from other similarly that they didn't want to spend too much being here if they weren't sure they were visiting
 - e. International students didn't visit, too expensive, also just far out the way
 - i. Not sure the reason they didn't come, but it could be cost related
- 2. What are some challenges you have faced when organizing logistics on these visits, such as transportation, lodging, meals, and scheduling?
 - a. Main issue was considering how long he wanted to spend in cornell. The visit was planned over multiple days, but he only stayed for one bc he wasn't sure it was worth being here for longer, especially considering the long travel time from chicago
- 3. How do you stay informed about important events and deadlines during your visits to your university? Main channels of info?
 - a. Informed through email; send out a schedule designed for you
 - i. Only when there were changes; they were very responsive, however
 - b. Virtual open house; didn't use, but it was made available
 - i. Used Slack, was open until the deadline to accept offer

- 4. What role do mobile apps currently play in your logistics planning process for visits to your university? What role do websites/web apps play?
 - a. Flights: kayak
 - b. Bus: wanderu
- 5. Did you have any moments during your visit or planning before where you felt stuck or did not know how to proceed? What did you do?
 - a. No, the free time he did have was welcome, as it let him explore the campus.
- 6. Did you have any moments during your visit or planning when you were able to quickly find the information you needed? How did you find it?
 - a. All of it was well communicated, he know exactly what he had to do and communication changes were communicate quickly
- 7. Where is the first place you looked for information about visiting the college?
 - a. Info online was pretty generic, for PhD info he just asked people he met
- 8. Were there any challenges with the weather during your visit?
 - a. Weather was good, no issues (maybe gov phd visit days are later
- 9. Did you ever go through the process of getting costs reimbursed from your visit? Please explain what you remember from this process.
 - a. Reimbursement done through receipt
 - i. He gave them bank information, but did not hear back for a while
 - ii. Said they sent for a check
 - iii. Never got it, it bounced
 - iv. Took multiple weeks, eventually did a direct deposit
 - v. They were very responsive and apologetic
- 10. What transportation services did you use, if any? How did you get information about these services?
 - a. He used the aggregators wanderu and kayak to aggregate tickets and find the best deal
 - b. Thinks it would be better for them to book given dates
- 11. What steps during visiting day did you take to network with students and advisors?
 - He was given a google form asking if he wanted to meet with anyone in particular, and the department coordinated and scheduled all these meetings gor hill didn't have to do any cold emailing
 - Coming from India, he wasn't used to asking such forthright questions, so he found group events helpful, as other PhD students asked questions he hadn't even thought of
 - c. Spoke with both profs and grad students; all of it was scheduled by the program, based in the interests he told them

Interview 3/22/23 - Participant B

About Participant B:

- Senior ECE major at Princeton from Houston, TX
- Admitted to Columbia University PhD program
- Attended PhD visit day UT, Columbia, will do CMU soon
- 1. Can you describe your experience planning visits to your university as a PhD student?
 - a. She got invited to attend four different PhD visit weekends: UT Austin, NYU, Columbia, and Carnegie Mellon. Of those, she has attended Columbia and UT so far, and CMU is coming up in a few weeks. She did not attend NYU since it coincided with Columbia, which was her top choice.
- 2. What are some challenges you have faced when organizing logistics on these visits, such as transportation, lodging, meals, and scheduling?
 - a. UT: The program booked the flight and hotel for her, which was both convenient, but could have been the opposite if she had a prior commitment.
 - b. Columbia:
- 3. How do you stay informed about important events and deadlines during your visits to your university?
 - a. UT: there's a single point of contact for everything related to the visit. Communicating with this PoC happened over email, which was both convenient but not scalable for multiple correspondences, since responses could take a while. The schedule wasn't finalized until the last minute, but monitoring her inbox allowed her to stay on top of it.
 - b. Columbia: the coordinator for the visit would send an email to amend the hard copies given to the candidates upon arrival.
 - c. CMU: She was emailed an incredibly detailed & personalized timetable that served as a master timeline for her entire trip. This made her feel at ease.
- 4. What role do mobile apps currently play in your logistics planning process for visits to your university? What role do websites/web apps play?
 - a. Schedules were given either as PDF or just a physical sheet of paper given to her upon arrival. Very little use of mobile apps.
 - b. Columbia: some meetings had to be taken on Zoom, so she had to bring her laptop around.
- 5. Did you have any moments during your visit or planning before where you felt stuck or did not know how to proceed? What did you do?
 - a. UT: The program organized visits to every lab in the department, but she didn't want to see every single one, so she zoned out during the ones she was not interested in.
 - b. Columbia:

- i. Faculty meetings: aside from the general itinerary, the school did not give her a personalized schedule, so she had to organize individual faculty visits on her own, which made it extremely difficult to cover all the bases that she wanted to cover. A faculty and current student directory was provided, but it was not up to date, which led to many awkward encounters with PhD students who had either graduated or no longer worked for a lab. However, there were opportunities to go sightseeing with members of the department, which she leveraged heavily to compensate.
- ii. Hotel: candidates got randomly assigned to a roommate. She got lucky and got a nice roommate, but it could have been bad if not. The hotel was located in lower Manhattan, which was far from both campuses. This, plus the fact that public transportation was not reimbursed, caused frustration.
- 6. Did you have any moments during your visit or planning when you were able to quickly find the information you needed? How did you find it?
 - a. UT: Many of the faculty members made videos to introduce their work and their team, which eliminated the need to personally do research. For the other faculty, the coordinator gave a presentation about them on the first day. Online versions of information pamphlets about various labs were made available prior to the visit.
 - b. Columbia: They gave her a detailed itinerary of the entire visit, in addition to recommendations on how to spend downtime around the city. There were online pamphlets available prior to the visit as well.
- 7. Where is the first place you looked for information about visiting the college?
- 8. Were there any challenges with the weather during your visit?
- 9. Did you ever go through the process of getting costs reimbursed from your visit? Please explain what you remember from this process.
 - a. Columbia: Reimbursement required tax forms, receipts, and identifying information (SSN), which was extremely inconvenient. She tried to have as many school-provided meals as possible to avoid reimbursement.
- 10. What transportation services did you use, if any? How did you get information about these services?
 - a. UT: She was given a coupon for Lyft that covered the cost of transportation up to a certain allowance.
 - b. Columbia: She took the NJ Transit train from Princeton to Penn Station, then took the subway to Columbia. Public transportation was not covered in the reimbursements, which she and many other candidates were peeved about.

Follow ups: Screenshots of emails

Interview 3/23/23: Participant C

About Participant C:

- PhD candidate 5th year
- Frank Schroeder Lab @ Boyce Thompson Institute
- Department of Chemistry and Chemical Biology, studying metabolism
- Visit Day already here for master's program
- Did UPenn, Northwestern, Cornell, Brandeis

Questions:

- 1. Can you describe your experience planning visits to your university as a PhD student?
 - a. It's been 5 years!
 - b. Two-day weekend (1.5 days), started friday evening with poster session where different groups showed their posters, then dinner
 - c. After that, some recreational activities board game night after dinner
 - d. Saturday morning, talk from director of chemistry department
 - i. Another lecturer
 - ii. Graduate student panel
 - iii. Then lunch time
 - iv. In person 1-on-1 talk with professor, spoke with 4 or 5 professors
 - v. Dinner at moakley house
- 2. What are some challenges you have faced when organizing logistics on these visits, such as transportation, lodging, meals, and scheduling?
 - a. Transportation to other schools was the biggest challenge
 - b. If you come from driving distance, it's not that big of a problem, but if you have to fly it's complicated
 - c. Timing is also hard, starts on a friday so you have to travel earlier
 - d. Other schools: all covered transportations between 400-500, sometimes not enough
 - i. In general, money not the problem
 - ii. Have to schedule yourself
 - e. Depending on the time, have to plan around it
- 3. How do you stay informed about important events and deadlines during your visits to your university? Main channels of info?
 - a. Before and after, emails
 - b. At Cornell, internal chem assistant for housekeeping issues
- 4. What role do mobile apps currently play in your logistics planning process for visits to your university? What role do websites/web apps play?
 - a. Websites were mostly for looking for professors to talk to
 - b. Every student chooses 4-5 professors in advance, tell the assistant who you want to meet with as long as professor is there, he'll be there and accommodate your time
- 5. Did you have any moments during your visit or planning before where you felt stuck or did not know how to proceed? What did you do?
 - a. Not with Cornell, at some other universities traffic, missing first hour and not knowing where people are, lots of crowds

- b. Typically stay with chem group
- 6. Did you have any moments during your visit or planning when you were able to quickly find the information you needed? How did you find it?
 - a. Really isn't much you need
 - b. Speaking with professor is most important, knowing location of offices, Cornell did a pretty good job
 - c. Gives you a binder
 - d. Professor he currently works for actually had students drive the visitors because labs are far, sometimes take a classroom
- 7. Where is the first place you looked for information about visiting the college?
 - a. Usually other schools reach out to you
 - b. If they accepted you, they tell you when their recruitment weekend is
 - c. Also times when you have 2 schools with conflicting times
- 8. Were there any challenges with the weather during your visit?
 - a. Yes! I remember very vividly it was mid March and snowing
 - b. Had to walk from apartment to department Cornell street, Maple Ave
 - c. For external students they keep you in Statler
- 9. Did you ever go through the process of getting costs reimbursed from your visit? Please explain what you remember from this process.
 - a. Mostly for travel (other schools) plane tickets, uber, 1 or 2 meals
 - b. Take picture of receipt and send it to them, they have a max
- 10. What transportation services did you use, if any? How did you get information about these services?
 - a. Once you get to schools, mostly accompanied by local graduate students and they'll help you out
 - b. Usually don't have to worry about transportation
- 11. What steps during visiting day did you take to network with students and advisors?
 - a. Mostly getting to know the professors and telling them you're interested, mingling
 - b. Through email only, emails online
- 12. Anything else about other schools?
 - a. Brandeis recruitment weekends didn't work and he went earlier alone
 - b. Weren't many students to talk to, kinda wandered around campus
 - c. One of the biggest things for non-academic issues (where is ____, what do i do if i miss first 30 minutes) needs to be a better way of communicating with host graduate student
 - i. Cornell was OK because name tags
 - ii. Host is always with you, basically wasting 2 days on you going to things with you
 - 1. Mostly for poster and talking to professor
 - iii. Other schools did worst with that

Interview 3/22/23 - Participant D

About Participant D:

- PhD student, head TA
- Researching human computer interaction
- 5th year at Cornell
- 1. Can you describe your experience planning visits to your university as a PhD student?
 - a. Before doing visit days, he did research on what faculty members research he found interesting in order to find out who he talked to
 - b. Started the research a week or two before coming to visit day
 - i. Knew who he wanted to talk to before he was even admitted; he had to talk about his alignment of research interests in personal statement
 - c. How did you get in contact with these professors?
 - i. Cold email or an intro from another professor
 - 1. Cold emails were not successful; just met them on visit day
 - 2. Professors get tons of emails like this
 - d. Did you get in contact with other prospective students before?
 - i. Knew some from visiting day in UCSD and was briefly in contact with them before visiting day
 - e. They really liked the campus; there was a storm, so mostly inside
 - i. Visit to tech campus; liked it, although it was pre-roosevelt island
 - f. Is there anything you wished to have researched more before attending?
 - Wanted to know more about the students and faculty already at Cornell's research and published work
 - ii. Wanted to know about current projects to be able to have productive conversations during visiting
- 2. What are some challenges you have faced when organizing logistics on these visits, such as transportation, lodging, meals, and scheduling?
 - a. Recall expenses?
 - i. No; they were reimbursed for everything, including gas for driving.
- 3. How do you stay informed about important events and deadlines during your visits to your university?
 - a. Given itinerary;
 - Went and visited every lab; could talk to students, then had a scheduled meeting with the advisor you are matched with / have interest in partnering with.

- Visits labs no matter interest thought this experience was exciting and enlightening because they felt that it was interesting to see other possibilities for future collaboration and study
- iii. Then did a tour
- b. Tour information
 - i. Consistently with a group aside from meeting
- c. Free time
 - i. Schedule was packed during morning and early afternoon
 - ii. During free time you can continue talks with other students or professors
 - iii. Late afternoon was open (think bars, dinners, things to do)
 - iv. Wished they had explored more of ithaca while there beautiful campus
 - v. Went to bar in san diego after with current students helped get along
 - vi. Networked during events to plan meetups during free-time
- 4. Did you have any moments during your visit or planning before where you felt stuck or did not know how to proceed? What did you do?
 - a. Not really, since the itinerary is simply given to you, and with free time, you can go and find what to do
 - b. Found the tech campus very cool but confusing to get around
 - i. Big building with many floors
 - c. Advisor
 - i. His advisor from bachelors at rochester was his main means of connecting with individuals through previous collaborations and networking
 - ii. Other than advisor, it was difficult to connect with advisors
 - 1. Could cold-email them but they had no success with this protocol as advisors get hundreds of cold emails
- 5. Did you have any moments during your visit or planning when you were able to quickly find the information you needed? How did you find it?
 - a. For his UCSD visit, all planning was handled by the university; they just had to go to where they were told
 - i. All communication was through one person with email
- 6. Where is the first place you looked for information about visiting the college?
- 7. Were there any challenges with the weather during your visit?
 - a. There was a bad snowstorm when they visited
 - i. Lived in the area, so they were familiar with the storms so they know what to expect
 - ii. A lot of people his year just couldn't come to visit day here
- 8. Did you ever go through the process of getting costs reimbursed from your visit? Please explain what you remember from this process.
 - a. Just give the receipts, fill out the appropriate form, and be done.
 - b. Gave them bank information, got reimbursed that way

- c. Reimbursed for gas and food accommodations
- 9. What transportation services did you use, if any? How did you get information about these services?
 - a. Car; they drove here and were reimbursed
- 10. What contributed to school choice after visiting day
 - a. Funds were a huge pull for making decisions (UCSB was too expensive to live around)
 - i. Talked about this point a lot
 - ii. Living arrangements and costs are very important and not as much talked about during visit days or applications more individual research
 - iii. Looked into housing and other living costs for decisions
 - b. However, for cornell visiting day, the research aligned a lot more with Ru do they decided on cornell eventually

c.

11. Extra information

- a. Used phone as primary planning and guidance technology
- b. Wanted to talk to more faculty during the visit

Interview 3/24/23 - Participant E

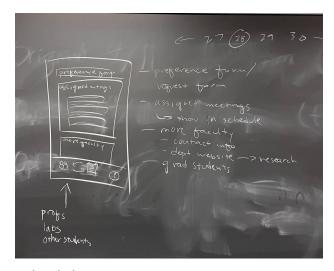
About Participant E

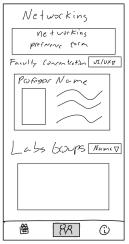
- First year PhD student
- Department of human nutrition at Cornell
- Ovary Lab research
- 1. Can you describe your experience planning visits to your university as a PhD student?
 - From long island There was no train that took her to Ithaca from where she lived
 - She had to take the LIRR
 - Then subway and a bus (coach usa)
 - Hotels were so expensive so she decided to do a day trip only spent two hours on campus
 - Felt fortunate that she could do a day trip to save money
 - Her program didnt specifically offer a visit day which was :(but she still visited twice on her own
 - Knew some people here who provided some guidance
- 2. What are some challenges you have faced when organizing logistics on these visits, such as transportation, lodging, meals, and schedule?
 - She had to schedule how she was going to get back and coordinated based on bus time
 - First visit- her friend who was a senior introduced her to Muslim student association so she could get to know the community as a practicing Muslim
 - Visited a lab and met the PI of the lab
 - Second visit- navigating campus and figuring out where to live
- 3. How do you stay informed about important events and deadlines during your visits to your university?
 - Was based on what she heard from people she knew here already
- 4. What role do mobile apps currently play in your logistics planning process for visits to your university? What role do websites/web apps play?
 - Websites- google maps for creating an itinerary
 - Coach usa booking bus times
 - LRR nta app to coordinate transportation
 - Struggled finding the dairy bar and using google maps was difficult when she first got here
- 5. Did you have any moments during your visit or planning before where you felt stuck or did not know how to proceed? What did you do?

- During her second visit with her dad, she needed to find somewhere to pray and struggled to find a place to pray on campus when she arrived
- Found out it was near mann library but when the strangest path which was difficult to catch the bus with her dad (walking up hills and such)
- Kept asking around, keeping account of the time to find mann
- 6. Did you have any moments during your visit or planning when you were able to quickly find the information you needed? How did you find it?
 - During the second visit- she got off the bus downtown and asked a woman for directions who happened to be an orientation leader who directed her to her lab
 - Finding a restroom was difficult was guided by the OL
 - Was shocked there was no formal student or welcome center to go to upon arrival
- 7. Where is the first place you looked for information about visiting the college?
 - People she knew
 - Were there any challenges with the weather during your visit?
 - Really hot during summer, didn't face any challenges
- 8. Did you ever go through the process of getting costs reimbursed from your visit? Please explain what you remember from this process.
 - No her department didn't do a designated visit day which she felt :(about
- 9. What transportation services did you use, if any? How did you get information about these services?
 - Coach USA, subway, tcat bus, LIRR
- 10. What steps during the visiting day did you take to network with students and advisors?
 - There was a lot of faculty, she hadn't met because there was no designated visit day or way to find them
 - She would like to have something where you can set preferences (dietary restrictions, religious affiliation, etc) or find helpful spots like RR on campus
 - Tailored experience

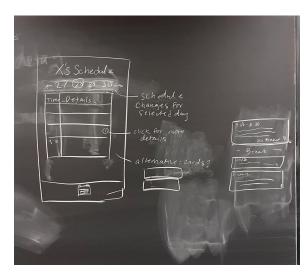
Appendix B - Brainstorming Documentation

Network



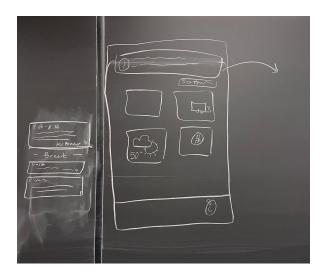


Schedule





Information



Appendix C - User Testing Notes (M6)

User Test 5/8/23: Participant A

- Gave consent verbally

If you feel comfortable, please tell us a little about yourself.

- Graduated cornell
- Got into a few PhD programs
- Looked at a few different schools earlier in the year

Task 1: You are planning your visit day to Ithaca. You want to get to Ithaca the night before your events schedule begins, and you want to save money by booking connecting flights but take at most one bus.

- Goes to Resources page
- Clicks Transportation button
- Looked at buss links
- Clicked on different links
- Chose 'our bus' and chose a bus to take from new jersey

Task 2: You are very excited for your visit day, and are interested in Computing and Information Science and want to speak with Tanzeem Choudhury and Rene Kizilcec to get to know the PhD program better as part of your networking during the visit day and don't know their contact information.

- Goes straight to networking tab
- Rather than scrolling through she decides to click on sorting.
- Asks again the name of her interest
- Clicking on computing and information science
- Sees Tazeem and reads aloud email
- Scrolls down
- Finds rene and reads out email

Task 3: It's Friday at 12pm. You made friends with some other people on visit day, and you want to hang out with them, but first, you want to make sure that you're not supposed to be at an event right now.

- Schedule
- Clicked on friday tab
- Looked at events
- Checked for what she had at 12
- Saw the free space

Task 4: You were headed back to your hotel from your visit day, but decided to stop by the commons for some food. After eating dinner, you want to check how to get reimbursed for your meal.

- Clicked Resources page
- Clicked Reimbursement button
- Tried to go to submit reimbursement
- Thought she had completed the prototype task
- Didn't click download form
- Didn't read the information

Task 5: You have a couple of hours between events and you're not sure what to do on campus. You've heard a lot about the beautiful scenery and views on campus, so you want to know what the best spots on campus are to visit.

- Resources page
- FAQ button
- Reading faq lists
- Say the drop down suggesting fun things to do in ithaca
- Had trouble clicking on the bottom faq
- Saw she had to scroll down the page to see it

Task 6: You wake up Saturday (mar 31) morning and see snow. You wonder if any plans are affected by this weather update.

- Goes to schedule
- Looks around

- Goes to announcements
- Looks for day and time (sun morning)
- Sees the weather update posted that morning (mar 31 8am)
- Reads the update
- Voices that nothing has changed

User Test 5/8/23: Participant B

Gave verbal consent

Background info:

- 2nd year PhD student
- Went to a few visit days

Task 2:

- Scrolled through schedule page, didn't find anything useful
- Clicks on networking tab
- Tries sorting the filter
- Clicks computing and information science
- Sees Professor Chowdhury
- Notices their mail
- Scrolls, finds Professor Kizilcec
- She says she would email them both

Task 5:

- First she checks her schedule for things to do, doesn't find things for her free time
- Clicks resources on the resources tab
- Goes to FAQ
- Reads some of the FAQ, not useful so far
- Reads "What are some fun things to do around Cornell"
- Clicks on that tab, finds fun things to do

Task 6:

- Sticks on networking tab, to see what she has that day
- Changes tab to Saturday 31
- Sees her only event is in Gates hall, so its likely nothing changed
- Wasn't satisfied with that, so she checked the resources tab
- Went to announcements
- Sees the update about the weather, and confirms nothing changed

Task 1:

- Goes to resources
- Clicks the transportation button
- Notes that she will have to research more deeply into which bus she will use
- Sees that the airport options suggested are ITH and SYR, but she's left wondering about options form NYC

Task 4:

- When do they have time for dinner?
- Clicks to resources; thinks this is where the info for food would likely be.
- Clicks reimbursement information
- Downloads the reimbursement form
- Satisfied since they now know what they need to do to fill it out

Task 3:

- Already on schedule tab, so they just look at their schedule
- Since its 12, they see they have some free time
- They don't need to be anywhere right now, but noted that they need to be at Gates at 2:30

User Test 5/8/23: Participant C

Gave verbal consent

Background info:

- IS senior at Cornell
- Has not done a Visit Day, but knows about the PhD process and has been on several school tours

Task 1:

- Clicked through all three tabs quickly
- Selected Resources page
- Selected transportation, reads page
- States that she found everything she needs

Task 4:

- Clicks back to resources
- Clicks reimbursement
- Opens reimbursement form in Google Drive

Task 2:

- Chooses networking, points to Tanzeem's email to indicate she found the contact information
- "I know networking means people, so I clicked networking"

Task 5:

- Clicks Resources
- Clicks FAQ
- Scrolls, reading through the options.
- Clicks on the following three questions:
 - Will I be able to explore Ithaca?
 - How can I make the most of the visit?
 - Fun things to do around Cornell
- Says the last question/answer is the most useful

Task 3:

- Navigates to schedule
- States that she has a gap in her schedule from 11:30 2:30

Task 6:

- Clicks announcements
- Clicks "Weather Update" announcement, then and "Weather Alert tomorrow" announcement
- States that there's no changes due to the weather

User Test 5/8/23: Participant D

Gave verbal consent to taking notes on this interview.

- Received B.S. Computer Science from Columbia University in 2022
- Got into a few PhD programs including Columbia & Cornell
- Interested in research on scalable neural networks and internet of things

Task 1:

- Clicked on the dropdown menu and selected the day before the events schedule begins
- Scrolled through schedule entries and noted the time of the last event
- Clicked into the Info tab, they clicked on the Transportation link and found information about the bus system in Ithaca.

Task 2:

- Clicked on the dropdown menu and selected Computing and Information Science.
- Scrolled through the list of professors and found the names of Tanzeem Choudhury and Rene Kizilcec.

- Wrote down their names to remember and learn more about them during their visit day.

Task 4:

- Clicked on the Reimbursements link and read through information on reimbursements.
- Clicked on Reimbursement form for more details.
- Went to FAQs to find instructions on how/where to submit Reimbursement form.
- Returned to Reimbursement page to find Submit button.

Task 6:

- Checked the schedule entries for Saturday and did not see any cancellations or delays due to weather
- Checked announcements link on Info tab for weather-related information. Found "Weather Alert" announcement.

Task 3:

- Checked the current day's schedule to see if there were any events happening at the current time.
- Was unsure of the meaning of the various colors of events entries. Asked about the red line that was labeled 7:00pm.

Task 5:

- Clicked on the Transportation link and found a map of the campus
- Downloaded map to their Photos app.
- Checked schedule locations on Google Maps and saved them as pins. Cross-referenced with map photo.

User Test 5/8/23: Participant E

Gave verbal consent to taking notes on this interview.
Planning to receive B.S. Nutritional Science from Cornell University in 2023
Got into a few PhD programs including Florida State & Emory
Has attended several visit days

Task 1:

- Locates schedule

- Looks at schedule and sees that she starts march 30th
- Notes that she will try to get there the 29th
- Selected and looks through the networking tab
- Then Checks resources
- Clicks on Transportation
- Formulates a plan:
 - Uses bus from nyc
 - TCAT or Uber
 - Campus map
 - Notes that the map is Confusing/overwhelming

Task 2:

- Selects the networking tab
- Sees tandem when she scrolls down
- Sees email
- Clicks on it
- Then found Rene and his email

Task 3:

- Selects Schedule tab
- Indicates she is viewing Friday on the schedule
- Notes At 12pm she has free time
- Says she will go to gates at 2:30

Task 4:

- -clicks on reimbursement in resources tab
- Clicks Downloads form
- Wants to submit it but button Doesnt work
 - Change to mail

Task 5

- Clicks on resources
- Looks through FAQ
- Tries to find a question about what to do for fun
- Notes she Found some fun things to do around cornell after finding question
- Had to scroll down to see the answer to the last FAQ after clicking drop down
 - Farmers market

- Plans to Book an Uber to go commons

Task 6

- Selects schedule tab
- Notes that she Has networking
- Selects Resources
- Clicks on Announcements
- Notes that the Sun and sat march dates (31st) are contradicting between schedule and announcements
- Finds announcement that Talks about the snow
- Notes that it says it should clear up around midday
- Looks through other announcement
- note: Second announcement should be 12pm not 12am