

P3.3

a. User Feedback Plan

Objective:

The objective of our prototype is to demonstrate a scenario in which our design satisfies our attempt to improve campus navigation for students with mobile disabilities. The prototype will specifically spotlight some of the key features of the app including the updated map pinpointing all campus construction and highlighting current routes with ramps via crowdsourcing, and various accommodations that students with disabilities can utilize if they are met with navigation issues (i.e doctor's note system that sends directly to school in case of accidents like broken leg, sprained ankle, and/or stingerette service).

Plan for User Interaction:

Methodology/ Preliminary Schedule

Our users will interact with our prototype via the "Wizard of Oz" method, while a script will provide precise instruction for how user testing will be completed for each individual. We will be seeking feedback from students in class and, if the opportunity presents itself, from students with mobile disabilities (at the Office of Disability Services). More specifically:

1. A member of our design group will simply present the prototype to the user and explain its purpose. The user will then be asked to complete the task while thinking out loud.
2. The human "wizard", the same group member from step 1, will perform the actions of the user and thus simulating the style of the completed application. The user will be aware that the tasks are being performed manually by human instead of by program.
3. The following types of feedback will be recorded by two other members of the group while the user is interacting with the prototype:

Type of Design Feedback	How to Seek Type of Design Feedback
Feedback on design interaction	We will seek feedback on design interaction by watching what the user does and at what points they really have to think about what to do, not just whether the state of the system is what they expected. This feedback will occur throughout the duration of the user's prototype interaction.
Feedback on match between system and real world	Because our design includes commonly used existing interfaces (such as GPS and

	navigation, stingerette services), it is important we seek feedback on match between system and real world. We will do so by making note of the user's thoughts when viewing navigation. We will look for comments like <i>"This look familiar"</i> or maybe even <i>"This is similar to google maps."</i>
Feedback on flexibility and efficiency of use	Students with mobile disabilities are our target user group, so the design needs to very flexible to accommodate their disabilities. Family, friends and faculty who might know a student with mobile disabilities can also be considered to broaden the spectrum to gather more information in the design process. We will look for verbal cues that suggest inflexibility such as <i>"I wish I could have done it this way"</i> <i>"That will be hard to touch that button as that time in a wheelchair."</i>
Non-verbal feedback	We will seek non-verbal feedback through facial cues (excitement, confusions) and expressions and body language (shrug shoulders, head scratch, etc.) to pinpoint potential areas for redesign.

4. The prototyping will have no time limit, but ideally should not last more than 10 minutes. One of the two group member's that is taking notes will also record the total time for every user interaction.
5. Subjective satisfaction is important for our design, so we will conduct a brief interview upon completion of the user testing that will last no longer than 10 minutes. The interviews shall take place on campus at the Georgia Tech Clough Undergraduate Learning Commons, since this location is easily accessible with ramps, rails, and elevators for our target user group of students with mobile disabilities to arrive for interviews with limited obstacles. We would rather perform an interview instead of a survey because of the following:
 - We can provide a familiar setting for the user to feel comfortable and more incited to deliver open and honest responses to the questions.
 - Our design group can build rapport with the user through casual conversation rather than bombarding them with interview interrogative questions.
 - Although the user may not have much experience, we want to treat them as an expert to pick their brain and truly gain insight into their experience with our prototype.
 - We have the flexibility to change our line of questioning as the interview proceeds throughout by accessing the flow of conversation and behavior of the interviewee in real time.

- We can offer a wide range of probing questions that are straight forward such as “Yes” or “No” to open-ended questions such as “What” or “How”.
- Since the prototype is a new development, the user may lack knowledge of the prototype. However, when interviewing through questions we can use their inexperience to discover new ideas that we could consider to incorporate into the design.

Also, provide rationale for your choices of what to test and how (e.g., why did you choose the tasks that you chose). Tie these choices to your design criteria (restate your design criteria and explain how your tasks in the user test and/or interview questions address the criteria.

Rationale:

We chose to test the following based on our desire to provide up-to-date and complete information during navigation, limited to no use of hands during navigation, and on demand services. Exploring these elements through the design feedbacks listed above allows us to make the proper adjustments that are necessary to meet the needs of our users based on the feedback the we receive. Specifically, these feedback methods allow the user to provide their opinions on the level of efficiency at which the criteria is being met. For example, the feedback on flexibility and efficiency of use will allow the user to discuss possible improvements in potential increases in navigation techniques. Non-verbal cues can suggest whether or not no hands navigation is feasible. Therefore, we reason that overall, these feedback methods will allow for the opinions of the user to advance the overall prototype (and future application) we have designed. In all, we felt as though these feedback options can provide a holistic sense of advancement in the app, whether that be a small suggestion such as a facial cue, or a large suggestion, such as an in depth response to an interview question from a member of our user group who has dealt with navigation issues on campus for years.

b. User Testing Guides

Test Script & Interview Questions

Hello _____, thank you again for taking the time to participate in this interview. My name is _____ and I will be conducting this interview today. Before we start, I will give a brief overview of the purpose why we are gathered here today. My design group is prototyping a mobile crowdsourcing and navigation application that satisfies our attempt to improve campus navigation for students with mobile disabilities. We are undergoing several design processes

and have decided to analyze the testability of just one prototype with you taking the role of the user by performing a task. The reason you're here is that we want to assess how actual person uses the prototype of the mobile application and gain insights from your experience.

This session is very simple as I will be giving you a task to complete and asking probing questions as we go along. It is important to remember that we are not assessing you, only the mobile application. We want to hear your thoughts, so please be honest in your feedback as this will help us make significant changes to the prototype before launching.

As you are using the prototype please feel comfortable to *think aloud*, as your unfiltered thoughts are more likely to tell us your real-time experience with the mobile application.

This interview will be video-recorded, we will record the prototype that the mobile application prototype display and we will record you as you use the prototype. This recording will *only* be accessible to the design group for the sole purpose to improve the prototype. If you consent to proceed with the interview, we have a written form readily available for you to sign.

If at any point during your exposure to the prototype you have a questions, comments, or concerns please stop me so that we can address them promptly. In addition, we do not expect that we will get to cover all questions on our list, but enough to gain enough substantial feedback.

Waits for user permission

Thank you for your cooperation. Any questions before we get started?

Answers any initial questions the user may have

Awesome, let us begin. I would like to break the ice here by asking some contextual background questions to get to know you and make this interview a little more personable and comfortable for you.

Background Information Questions

- What is your name and have you previously been a participant in user testing?
- Have you been diagnosed with a mobile disability? If so, how is your day to day life experience with your mobile disability?
- What challenges you do face travelling around campus?
- How would you say that you use technology on a daily basis around campus?
- Do you believe the use of assistive technologies would be helpful in your travel experience around campus?

Answers any questions the user may have

Great! Thanks for telling me a little bit about yourself.

Next I have a few questions lined up for you that are focused on the topic at hand about getting around campus.

Shall we begin?

Waits for user approval

Topic Specific Questions

- What's your usual route to classes?
- What modes of transportation do you use around campus?
- Tell me about the last time you called a stingerette?
- Did you know about alternative solutions to your previous modes of transportation?
- What other products or tools have you used to assist you to maneuver around campus?
- Have you paid for any of these tools or were they provided to you for free?
- How did you hear about these tools?

Ask additional follow-up questions based on the responses of the user

Thank you for those thoughtful answers, I really appreciate the information you are providing. Now are going to transition into the next phase of this session.

So now we will give you a situation and how you use the prototype to address the situation is fully open-ended for you. Now, imagine you are leaving Clough Undergraduate Learning Commons at 1:15 PM to head to your next 1:30 PM class at the Instructional Center. This is a very high foot-traffic area across Skiles Walkway/Tech Green and through the Student Center, this path can be difficult for a student with mobile disabilities to maneuver through the crowds of hundreds to thousands of students. Your task is to use the mobile application prototype to attempt to find the fastest route to make it to your destination punctually. Friendly reminder to please think aloud as you use the prototype as this will facilitate better note-taking and your authenticity will allow us to understand your experience better!

Brings the prototype to the interview table

So this is the welcome screen where there are many functionalities you may choose from. Now I will allow you to explore the mobile application prototype freely for yourself to solve the aforementioned task.

User interacts with the prototype

Let the user narrate, listen to what they have to say, and take notes

Product Opportunity Questions

- Were you able to find the buttons and tabs necessary to move forward thus far?
- Are the displays of the time and crowdedness levels visible enough?
- Are the alternate navigation routes clear in direction and reasonable to your needs?
- Does the estimated travel and arrival time seem accurate?
- Could you see yourself using this product? Or anyone you may know?
- How do you think this product will help you and can you trust it?

Well I truly hope you enjoyed using our prototype to help you fulfill your task to the best of your abilities. Now I would like to ask some questions that will give some reflection on your experience.

Product Reaction Questions

- What was most appealing aspect of the prototype and why did you like those specific features?
- Are there any recommendations you would propose to improve the prototype?
- Is this product aimed at the right target user group?
- Could you see yourself using this product? Or anyone you may know?
- Did the prototype meet your expectations to solve the task at hand?
- What's the most difficult aspect of using the prototype?
- Was there something misleading that you expected to happen but didn't happen?
- Would you keep using this prototype after using it today?

Listen to their feedback and take notes

Well we don't want to keep you for too long, so this concludes the interview. Thank you for volunteering your time to participate in this user testing and interview! We know your contributions to this mobile application development will help positively impact the lives of many students. We will keep in touch. Before you leave here is a gift card for your unselfish participation.