Team One
HCDE 318

P7: Experience Evaluation

Part 1: Basic Evaluation Plan

Task 1: Complete the initial set up process for pairing the bike lock with the smartphone app

Scenario: User has recently purchased the smart bike lock system to protect their bike. They have just opened the lock and the lock app for the first time.

Start location: Permissions screen

Completion criteria: Reach the “Registration Complete” page on the prototype

Task 2: Add new bike lock location

Scenario: User finds a bike stop at a park that they want to add to the map to share with others

Start location: Home lock page

Completion criteria: New bike lock location profile successfully created

Task 3: Navigating toward selected bike lock location.

Scenario: User wants to find and navigate to the closest bike rack to the convention center that is covered because it is raining.

Start location: Home lock page

Completion criteria: This task is completed once the Finished Navigation screen is displayed to the user.

Participant Profiles

Participant 1: Our first participant is a medical student who has recently moved to Seattle and is interested in biking for commuting purposes. The participant uses technology regularly but does not consider themselves “tech-savvy”. Their main concerns in regards to biking in Seattle are finding a place to park their bike and safety.

Participant 2: Our second participant is a senior studying speech and hearing sciences at the University of Washington. The participant uses their phone and laptop daily but rarely for biking. They used to bike when they were younger but hasn’t biked in years, especially around UW.

Participant 3: Our third participant is a sophomore studying molecular biology at the University of Washington. This participant uses their phone and laptop daily and is well versed at using them. Currently bikes fairly rarely, but had biked frequently in the past.

Participant 4: Is a unit assistant at Virginia Mason and a University of Washington public health major. She frequently uses google maps, her phone, and computers, she is familiar with windows and IOS. She doesn’t do any app development or design but does frequently play games. She only occasionally rides her bike but never uses it to commute to work or school.

Methods

Our testing consisted of three components:

1. Pre-Observation Questions

We asked the participants 3 questions :

a. How often do you bike?
b. What is a concern regarding biking that you have?
c. How often do you use technology? In the context of biking?

2. Task Completion and Observations

In this phase, we asked the participants to complete three different tasks using our paper prototypes. The goal was for us to offer them minimal help and for the participants to successfully complete each task. We told them to say what they were thinking out loud, and that we weren't supposed to help them accomplish tasks so they should keep trying if they get stuck. We started the task 2 and three in another branch so that we could see if the navigation between branches was intuitive. When they reached the completion stage we said good job and asked if they had additional thoughts about that task.

3. Post-Observation Questions

These questions were used to identify the strengths and weaknesses of our system and elicit feedback from our target users.

a. What do you think worked well?
b. What were some restrictions you encountered?
c. What suggestions do you have that might improve this process?

Part 2: Evaluation

Finding 1 [P2]: Participant was confused by the map drop pin function

During their task to add a new bike lock location, the participant was confused by the drop pin function on the map. They weren't sure whether or not they were supposed to type in the address in the Address box or just use the map and the drop pin. The participant also said that they tend to feel overwhelmed around maps and would not feel comfortable with pin dropping on a map in an area that they are not really familiar with.

Suggestion 1: Provide one option upfront and add a button that allows the user to choose the other option.

The task will be more easily completed and understood if there is only one function option. By only providing the Address Input box, it could simplify the process for the user. If the user is familiar with the location/ feels comfortable with using the pin drop option on the map, the user can click a sub button that will expand the map and allow the user to input the location that way.

Finding 2 [P3]: Participant had difficulty bringing up the list of nearby bike rack locations.

During their task to find nearby bikes, they spent a lot of time, in the beginning, trying to bring up the actual list from the map screen. After trial and error of different actions, they were finally able to press and hold the map to bring it up. This brought up the idea that even when someone is technologically savvy, some actions just are not as common as others and would then be overlooked. The participant mentioned that the action of pressing and holding a screen is cumbersome and that there could be other options for bringing up a list.

Suggestion 2: Add a button to display nearby bike rack locations instead of an action.

With the finding that some actions were not as clear cut and obvious, the participant suggested the addition of a button on the screen which explicitly denotes the bringing up of a list of nearby bike racks. Furthermore, a back button on some of the screens would have helped the user to navigate more effectively.

Finding 3 [P1]: Participant was unsure about why a back-up PIN code was needed

During the final part of the setup process, the participant did not understand why a back-up PIN code was necessary for the system. There was also no way for them to get this information within the app.

Suggestion 3: Add clarifying information on the back-up PIN code page

There should be text explaining the need for a backup PIN code as well as a graphic showing where it can be entered on the back side of the lock for further clarification

Finding 4 [P4]: Participant found terminology about bike stops wasn't clear or consistent.

The participant thought that bike stop could mean both a place to lock up her bike or a place to stop for the view or for a view. A bike station sounds like someplace to get a bike repaired. The language describing all of the stations was vague too, what does camera mean? What about rack type. She didn't understand what they were referring to and it caused her problems when trying to complete her tasks

Suggestion 4: Clarify names and add helper button

In every place of the app we should call the bike racks one name. The participant suggested either *Fixed Bike Rack* or *Bike Rack Station.* We can make the final decision while we are building our hifi, some may make more sense in different situations. All of the one word names for features of bike racks should be replaced with longer definitions. Change *covered* to *rain cover*, *distance to distance from you or distance*

from pin, spots to spots available or spots nearby, camera to security camera filming stop, and pump to public bike tire pump

Finding 5 [P4]: Lack of information on the map

When the participant first opened the map they didn't know what they were looking at. The spots on the map aren't labeled as fixed bike racks or anything and aren't different from each other. The users doesn't know how far away they are from any of the stops or how far the stops are from each other. The information found by clicking on them is was useful to the user completing task 3, but she had to click on each one individually.

Suggestion 5: Include legend and distance scale

The participant thought that it would be helpful to have a legend that says that the points are stops and the maybe they could be broken down by other features like if covered or type of rack. To show how far things are apart it would be nice to have a distance scale that shows how far a mile is on the map.

Overall Strengths

One thing to note that was mentioned is the interface of the screens were mostly clean and clear, leaving a lot of the tasks easy to navigate through.

The participant was happy with the quantity of information that the app provided. She thought that it was enough the use that app for.

The participant thought the setup process was fairly straightforward and easy to complete.