HCI 440 A6: Prototyping & Usability Evaluation	Your team number: 2
Product Name: CBG App	Submission date: 11/20/23

Prototype Link: https://uq6o7h.axshare.com/

Evaluation Planning

Subject Information

Subject 1:
Name: Yashi
Age: 33
Occupation: Business Analyst
Gender: Female
User type: Tourist Visitor
User-related logistics:

- Where was usability evaluation with this user performed: via Zoom.
- How many evaluators performed the evaluation: One (acting as facilitator + observer). The session was recorded.
- Did the subject use their own computer or that of the evaluator: The participant used their phone and shared the screen.

Other information:

- Botanical garden visiting experience:
  - Not a regular garden visitor.
  - Visited two different botanical gardens: Morton Arboretum and a Japanese garden.
  - She felt lost at times when she roamed around the garden.
  - When she wanted to know about a plant's classification, she had to reach out to a guide member or a staff of the Botanical Garden.
  - When she visited with a kid, she needed to Google the plant's information in order to answer the kid's questions.
- Have the participant visited Chicago Botanic Gardens: No.

Subject 2:
Name: Maggie
Age: 42
Occupation: Homemaker/Nanny
Gender: Female
User type: Local
User-related logistics:

- Where was usability evaluation with this user performed: via Zoom.
- How many evaluators performed the evaluation: One (acting as facilitator + observer). The session was recorded.
- Did the subject use their own computer or that of the evaluator: The participant used their phone and shared the screen.

Other information:

- Visits the CBG several times a year, holds a membership, and lives close by.

Subject 3:
Name: Gordon
Age: 27
Occupation: mechanic
Gender: male
User type: tourist visitor
User-related logistics:

- Where was the usability evaluation with this user performed: via Zoom.
- How many evaluators performed the evaluation: One (acting as facilitator + observer). The session was recorded.
- Did the subject use their own computer or that of the evaluator: The participant used their phone and shared the screen.

Other information:

- The participant has never visited any botanical garden in the U.S. He visited a botanical garden in New Zealand.
- The participant has never visited the Chicago Botanic Gardens.

Subject 4:
Name: Kenny
Age:33
Occupation:Software Engineer
Gender: Female
User type: Local Visitor
User-related logistics:

- Where was the usability evaluation with this user performed?via Zoom
- How many evaluators performed the evaluation? One (acting as facilitator + observer), two (separate facilitator and observer), or more (give details)?The session was recorded.
- Did the subject use their own computer or that of the evaluator?The participant used her phone and shared its screen

Other information:

- The participant visited Chicago botanical garden
- The participant could easily guess about icons and navigate in app

Subject 5:
Name: Sajjad
Age: 35
Occupation: Faculty
Gender: Male
User type: Tourist Visitor
User-related logistics:

- Where was the usability evaluation with this user performed? via Zoom
- How many evaluators performed the evaluation? One (acting as facilitator + observer), two (separate facilitator and observer), or more (give details)?The session was recorded.
- Did the subject use their own computer or that of the evaluator? Own computer

Other information:

- The participants visited several Botanical Gardens around the country. He suggested some comments on the map page. Menu in the map page confused him, the user wasn't sure what the different maps meant.

Subject 6:
Name: Bryan
Age: 29
Occupation: Unemployed
Gender: Male
User type: Local
User-related logistics:

- Where was usability evaluation with this user performed: via Zoom.
- How many evaluators performed the evaluation: One (acting as facilitator + observer). The session was recorded.
- Did the subject use their own computer or that of the evaluator: The participant used their phone and shared the screen.

Other information:
Lives close by the CBG, has biked there, and enjoys spending time outdoors.

Task Scenarios

Task Scenario 1:
Will has been walking in the garden for a while and notices a plant that he hasn't seen before. As he walks up to it, he spots a QR code on the plaque in front of it. Will takes out his phone and opens the CBG app. He scans the QR code via the CBG app's Scan page. Once the QR code is scanned, it brings Will to the Plant Information page for that particular plant. Will reads over the plant information and feels satisfied he can find the information about the plant easily. As Will is interested in starting a home garden and having more plants around his place, he is happy to learn that this plant is local to the area and relatively easy to take care of.

Task Scenario 2:
Will is on the Plant Information page. After he has read the plant's info, he realizes he might want to access this information again later. Will bookmarks this plant's info page by clicking the bookmark icon. He is undecided if he wants to save it, so he clicks the bookmark icon again to test how to clear the bookmark. He finally decides to save it anyway. Will finds a Bookmark page and notices the plant he just saved is there. He is happy the plant information is saved in a place he can easily access to. He leaves the app and continues to enjoy the garden.

Measurements

The number and type of errors committed per task
- Number of attempts it takes users to click correct navigation
- How many times and where users were unable to navigate functions (ie find bookmark icon)

The number of users completing the task successfully
- Number of users who successfully completed task 1
- Numbers of users who successful completed task 2

Aggregate
- Success to Failure Ratio

Logistics

Axure was used to both create and host the prototype.

Yashi: Mobile - Zoom meeting, mobile browser screen share, one person (observer/moderator)

Maggie: Mobile - Zoom meeting, mobile browser screen share, one person (observer/moderator)

Gordon: Mobile - Zoom meeting, mobile browser screen share, one person (observer/moderator)

Kenny: Mobile - Zoom meeting, mobile browser screen share, one person (observer/moderator)

Sajjad: Desktop - Zoom meeting, desktop browser, one person (observer/moderator)

Bryan: Mobile - Zoom meeting, mobile browser screen share, one person (observer/moderator)

Evaluation Results

Data Evaluation

[Evaluate the data gathered from your usability tests. Consider the data's ecological validity and any potential biases and how these might have affected your results.

- Evaluation conditions that might have compromised ecological validity:
    - Because it was performed over Zoom, there was potential for technological difficulties and inability to control the environment that they were in.
    - Participants used their phone and had to share their screen and have cameras on which could have made participants nervous. Especially those who aren't technologically savvy.
- Evaluation conditions that might have biased the results:
    - There were some differentiations about what tasks the participants performed. Some participants performed more tasks than others resulting in test fatigue.
    - Participants might have known a little bit about what would be shown to them and therefore had certain expectations going into it.
    - We did not do a practice run-through of our interview test so everyone's interviewing skills might be varied

Data Analysis and Presentation

6 out of 6 users found the homepage to be straightforward and they know what the website is about.

6 out of 6 users knew what the Home Icon represented.

6 out of 6 users knew what the Map Icon represented.

4 out of 6 users knew what the Scan Icon represented.

4 out of 6 users knew what the Bookmark Icon represented.

6 out of 6 users knew what the Search Icon represented.

4 out of 6 users knew to click the scan button for the plant information.

6 out of 6 users were able to successfully bookmark the plant's information page.

4 out of 6 users knew to click the scan button for the plant information.

6 out of 6 users knew how to clear the bookmark for the plant information page.

6 out of 6 users knew where to find their saved bookmarks.

6 out of 6 users knew to click the scan button for the plant information.

One user commented if there was a possible way to order your own plant on the plant

information page.

One user commented that it might be nice to have a sliding gallery of flowers/events, as well as plant fun facts.

One user had a question about the format of the icons at the bottom of the page. They found it was not convenient from an iPhone perspective.

Interpretation

- The labeling beneath the icons played a big (positive) role in what the users interpreted the icon to do.
- Having the icons at the bottom of the page was bothersome to some participants using iPhones.
- The appearance of the icons proved to be successful in the identification process for participants. They were fairly representative of their functions.
- The bookmark icon confused 2 participants, we might could label it as “saved”.

Design Changes

- Alternative navigation placement might have been more successful/less bothersome.
- The use of a dropdown menu could have helped with the organization of the content.
- The design of the task should have flowed better between bookmarking and un-bookmarking and then moving to the bookmarks tab.
- Make sure we include all sizes for the adaptive view of the prototype.
- One user commented that it might be nice to have a sliding gallery of flowers/events, as well as plant fun facts.

A6 Process Retrospective

What went right in prototyping and evaluation process

- Once the prototype was created, it was easy for the whole team to test it and pass it to participants in the test sessions.
- The pilot in class helped us to narrow down to two specific tasks to test.

What went wrong in prototyping and evaluation process

- We should have been more aligned on how we performed the tests to ensure the moderation was more controlled and consistent.
- In addition to the point above, we should have done a pilot test together so that our moderation was more controlled and consistent.
- We should have given them a “free pass” when they scanned the QR code. Some participants struggled with that and it hindered the testing. The QR code

scanner is a design of ios/Android and not our app.
- Prototype 2 bookmark pages, one where they didn't bookmark the plant and one where they did.

What changes our team would make if we were to do the process again

- Would have been good to use the adaptive view option in Axure
- More qualitative questions during the test would have provided more in-depth data
- We would use Figma instead of Axure. While learning Axure wasn't an issue, the lack of real-time collaboration was VERY detrimental to our process.
- Creating a task that would ask the user to test the hamburger menu would have been useful to test the validity of that navigation design choice. It's possible that it is not necessary

Project Retrospective

Contextual Inquiry

This was a valuable part of this project as a whole because it provided great insight into the needs and wants the users had for their botanical experience. We really enjoyed getting to know each person's intentions for visiting the Botanical garden and it proved to be a great first step into figuring out what we would like our prototype to provide and look like for users. From our insight clusters, we found participants come to the botanical garden to learn, explore nature, and have an interactive experience. Therefore, in our final prototype, we focused on being able to provide plant information in real-time and being able to bookmark events/plants for easy access.

Models & Requirements

Without interviewing potential users, we would have had no way of knowing what users actually wanted out of their visits to a botanical garden and what requirements they would need in a companion application for their experience. We were able to develop a clear idea of how our users would interact with our product by thinking about the specific tasks they would be doing while in the garden. Though they weren't perfect, creating personas in the phase was also invaluable to the rest of the project as we were able to think deeply about particular user groups and how they both have different needs and expectations. In hindsight, we should have focused on making target personas before jumping into the journey map, but the map did lay the foundation moving forward.

Focus scenarios, site map/information architecture, wireframes

Our A5 project allowed us to hone in on the parts of the prototype we wanted to focus on for our final project. Creating user scenarios and combining all the information from the conceptual inquiry and Requirements was the gateway to us being able to design some of the key features of the prototype. We certainly could have benefited from a good plan out of the information architecture of the mobile app before each of us went ahead in creating our own. Once we created a cohesive design we found that wireframing allowed us to bring alive our vision for this prototype and see how it would implement all the tasks we created for our users to be able to enjoy things in the Chicago Botanical Gardens.

Conclusion

Our final product is the result of a long process of trials and errors, conceptual brainstorming, combining different perspectives, and technological design skills to create this finalized project. Each part of the process was essential and a building block to the next part. We couldn't have done this without looking back on the other parts of this project and that proves how essential each step was in creating this product. We noticed that the main problems users experienced were wanting to know more about the plants and looking for events to attend. We made these our focus for the two main tasks in this assignment so that our users will be able to benefit from our product. Now, our users can easily scan QR codes which will direct them to the plant information page, as well as,

bookmark desired events and plants.

Team Member Contributions

Team Member Name	Email Address	Specific Contributions
Parisa Arbab	parbab@depaul.edu	Prototyping application pages(Axure file), evaluation report and usability test with 2 participants, documented interviews transcript in Figjam, data analysis and evaluation part, writing task scenarios,
Jackelyn Castaneda	jcasta33@depaul.edu	Usability tested two participants (local visitors), prototyped the plant information page and bookmarks page, summarized project retrospectives for A3,A5, and Conclusion. Contributed to the Data evaluation, Data analysis and interpretation, and design changes. Documented all notes from interviews on Figjam.
Alexander Dinh	adinh2@depaul.edu	Prototyping tasks/general functionality, assembling and aligning components in Axure, developed Axure work-flow and collaboration process, wireframe home page, helped edit wireframes of all other pages. project writeup, analyzing and categorizing test data, writing key data measurements, project retrospective A5, proof-reading.
Qianhui Hub	qtian3@depaul.edu	Wrote and revised evaluation script. Wrote task scenarios. Recruited 2 participants, moderated 2 usability test sessions, and documented observations in Figjam. Set up Figjam for affinity mapping. Joined the discussion on evaluation results. Organized Evaluation Script and Informed Consent in the appendix.
Alfred Langen	alangen3@depaul.edu	Prototyping tasks/general functionality, contributed to project writeup, analyzing test data, project retrospective A4, logistics, formatting/proofreading

Appendix

Evaluation Script

Introduction

Hello, nice to meet you! Thank you for joining me today, I'm looking forward to learning about you and your experiences!

My name is ___. My team and I are working on creating an app for botanical garden visitors.

The purpose of our call today is to go through an early prototype of our app. We'd like to test two features that we created.

Before we finalize it, we want to get feedback on areas that need improvement, so please be transparent and critical with your feedback, and don't worry about hurting our feelings. There are no right or wrong answers.

Everything will remain confidential, we won't be referring to your data by name, and the recordings will only be shared with my internal team.

[If participant's camera is off] We'd prefer if your camera is on as it helps us to observe your reactions as you move through the prototype.

If you have any questions or concerns during our session today, please let me know and I will rephrase or move on. I want to make sure you're comfortable in answering our questions.

Do you have any questions before we begin?

Before we proceed, I'd like to confirm if you are okay with me recording this session.

[Start Recording!!!]

Warm-up/Demographic info

I'd love to start by learning about you! Can you tell me a little bit about yourself?

- Name/pseudonym
- Age
- Occupation
- Gender
- Your experience with botanical gardens.
- Have you visited CBG?

Usability Test

Next, we're going to be looking at the prototype. I'll share the link with you in a moment, but first I wanted to explain that this is not a fully functioning app. Some features may not be clickable.

We'll be looking at the part of the pages where garden visitors can **obtain detailed information on a certain plant** and **save the information for future use**.

As you go through the pages, I'll be asking you to think aloud and share what is going through your mind as you are browsing and going through the steps.

Here is the link to the prototype: https://uq6o7h.axshare.com/

Once you have it up on your screen, please share your screen with us so we can see where you are in the prototype.

[Make sure the give the participant access to share the screen - make them a co-host]

Task 1: Scan a QR code

1. Now you are on the homepage, what's your first impression of this page?
   [Please spend a minute or two reviewing the screen without clicking on any buttons yet. Please remember to think out loud about what you see.]
   - What do you think the icons are?
   - Where do you think they'll take you?

2. Now imagine the scenario, You've been walking in the garden for a while and notice a plant that you haven't seen before. As you walk up to it, you spot a QR code on the plaque in front of it. What would you do next?

- You completed the task by landing on the plant information page. (optional: what is your impression of the plant information page?)

Task 2: Bookmark a plant

3. Now imagine you have read the plant's info page. You realize you might want to access this information again later. What would you do to have easy access to this page/plant again?

4. What if you didn't want that page saved? How would you clear the bookmark?

5. Where would you go to see that page again?

- You completed the task by landing on the bookmark page.

Conclusion

Those are all the questions I have for you today.

1. Is there any other comment or thoughts you have on our prototype?
2. Do you have any questions for me?

Thank you so much for your time. We really appreciate learning from you and understanding your experience in using our prototype. Your feedback helps us to create the app for visitors.

Informed Consent

Product Name: Chicago Botanic Garden App

Evaluation Team: Alexander Dinh, Jackelyn Castaneda, Alfred Langen, Qianhui Hub, and Parisa Arbab.

As part of the coursework requirements for HCI 440, Introduction to User-Centered Design, our team has created prototypes to evaluate our product idea, Chicago Botanic Garden App. This is only a product idea, not a real product.

1. This coursework involves gathering data from this product evaluation to help us understand and improve our product design.
2. The results of this evaluation will help us understand more about this product and how to further develop it.
3. Your help during this test will aid us in making the product easier and more pleasant to use.
4. Your time commitment for the evaluation should be no more than 30 minutes.
5. The facilitator will ask you to perform a series of tasks with the product and think out loud while performing the tasks. The facilitator may ask what is going through your mind, and ask you questions. This will help us understand how easy it is to use this product
6. The facilitator conducting this evaluation knows of no risks associated with taking part in this evaluation.
7. Your data will only be used within the context of this course. Your data will be seen only by members of the evaluation team and the course instructor, and will otherwise be kept confidential.
8. You will receive no compensation for participating in this evaluation.
9. If you have any questions or concerns you may contact the course instructor, Danyell Jones at djones3@cdm.depaul.edu, or any of the evaluation team members: Alexander Dinh adinh2@depaul.edu, Jackelyn Castaneda jcasta33@depaul.edu, Alfred Langen alangen3@depaul.edu, Qianhui Hub qtian3@depaul.edu, and Parisa Arbab parbab@depaul.edu.
11. You may withdraw from the evaluation at any time without penalty.

I have received a copy of this consent form.
I agree to participate.

Participant's Signature:

_____

Facilitator's Signature:

_____

Date: _____