CSCI 3002 | Fundamentals of HCI

Milestone 4 | Evaluation + Iteration

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Step 1 | Evaluation Script:

This is the general evaluation script we will use for the user testing, this script was developed during Milestone 3.

Some tasks need to be completed during this usability test, these tasks include:

- Viewing a map of your area and parking lots nearby
- Creating an account and logging in
- Scrolling through parking lots “near me”
- Selecting a parking lot and accessing its information
- Paying for parking in a selected parking lot

The goal is for these tasks to be carried out by the user without having to explain to them exactly what to do. If they fail to complete any of these tasks, we need to change up the prototype to make it better or more intuitive for users.

These are some of the questions that the users would be asked after performing the usability test:

- Were you able to complete all of the tasks?
- If not, which ones did you not complete?
- What was the easiest task to accomplish?
- What was the hardest task to accomplish?
- How would you rate the overall experience of using the prototype?
- In what ways could the experience be improved if any?

Step 3 | Document your findings:

1. Introduction

Perfect parking app is designed to make it easier for drivers to find and reserve available parking spots in their vicinity. The purpose of the application is to save time and reduce the frustration of searching for parking, especially in busy areas where parking can be scarce. The app provides real-time information on available parking spots, their locations, and pricing, allowing drivers to make informed decisions about where to park. Real-time data on available parking spots: This allows users to see the most up-to-date information on parking availability and pricing, reducing the likelihood of arriving at a full lot or paying more than necessary. Prototyping aspects such as Integration payment, user reviews, Integration Navigation were key features of our app.

For integration with payment systems, we allowed users to pay for parking through the app, saving time and reducing the need for physical payment methods. For user reviews and ratings, users can leave feedback on the parking spots they use, helping other drivers make informed decisions about where to park. Integration with navigation apps, the ability to easily navigate to reserved parking spots or search for parking near a desired location can enhance the user experience.

Additionally, we are testing a new feature that allows users to reserve parking spots for longer periods, such as a full day or even a week. This is intended to provide more flexibility for users who need long-term parking solutions, such as commuters or travelers. Additionally, we are testing the integration of AI-powered recommendations for nearby parking spots, based on user preferences and past behavior. This feature aims to improve the user experience by providing personalized suggestions and reducing the time spent searching for parking.

2. Design Rationale

Findings	Influence on Design
50% of students were seniors, 28.6% were juniors, 14.3% were sophomores, and 7.1% were freshmen	The design should cater to the needs of all student demographics, with particular emphasis on accommodating the needs of seniors, who make up the largest proportion of the surveyed population.
64.3% of surveyed students have a parking permit, while 35.7% do not	The app should differentiate between permit holders and non-permit holders to provide more relevant information to each user group.
28.6% of students found it very difficult to find parking, while 50% found it somewhat difficult	The app should provide real-time information on parking availability to reduce the time and effort required to find parking on campus.
64.3% of students believe that having an app that shows available parking spots would be useful	The app should include a feature that allows students to view parking availability in real-time.
50% of students were dissatisfied with CU Boulder parking services	The app should offer a better user experience than the existing parking services provided by the university, with a focus on addressing the pain points highlighted in the survey.
28.6% of students were very dissatisfied with CU Boulder parking services	The app should aim to significantly improve upon the existing parking services to provide a more satisfactory experience for all users.
64.3% of students believe that an app showing available parking spots would be useful	The app should prioritize the development of the real-time parking availability feature to address the primary pain point identified in the survey.

3. Overview of your study

The general script that was followed to conduct the interviews can be found above under “Step 1 | Evaluation Script”. In total we performed user tests with 4 different people. Out of these 4 people, 3 of them were college students while the other was a staff member (all at CU). What all of these people had in common is that they all drove a car and park on the university campus on most days of the week. There wasn’t anything unique we did for this study, the only requirement was that the people we were interviewing all had to drive a car and park on campus.

4. Results and implications

Overall, most of the feedback was good. All but one of the tasks that the user was asked to perform were achievable and easy to accomplish. Overall, it felt like all of the users thought that the tasks were intuitive and it was very clear on how to complete them. The one task in our list from the evaluation script that could not be performed was to create an account, basically all of the people that were part of the test said that this was a feature that needed to be added. Also, not everybody but some users said it could be confusing to get back to the homepage after going deep into a parking lot, so adding a functional “home” button at the bottom of the page. A good suggestion that one of our users made which is also mentioned in the introduction is the ability to book a spot for more than one day, so for example somebody could have a parking spot for two days or for a whole week. All the users were asked to rate the app out of 10, we got 7/10, two 8/10, and 9/10. So overall the reviews we got from the users were quite positive. They all liked the fact that the parkings could both be accessed in a list and on the map itself. The map gives a good sense of where the parking lots are and makes it easier to find the most optimal parking for them. Also, they liked the fact that on the parking list one can see whether the parking requires a permit or not. They said this makes it much easier to rule out the parking lots that they would not be able to park in.

5. Reflections on the process

Overall, the user testing process went smoothly and quite well. It surprised us that not a single one of the users had to ask for help while trying to access a specific feature, especially since only a certain amount of buttons work on our prototype. We suppose this is because people are so used to working with technology that they are used to seeing these patterns in other apps and are able to figure things out quite quickly. We also learned that it is definitely crucial to receive feedback from multiple users because some of them find issues that others would never have thought of.

Step 4 | Analyze results:

Our users came up with three different changes that we could make to our app in order to make it better. We will focus on two of these to improve our app. As mentioned in step 3, these changes include a profile feature and a button that takes the user back to the menu. The most important change that we should make is adding a functional menu option, if users get lost within the app and aren't sure how to get back they can just press the menu option. This will help with the usability of the app, it will make it easier to get to the main page and also it will give users a "way out" if they feel lost at any point while they are using the app. Another feature that is critical that we will add is the profile page. This feature is essential for users so that they can pay and keep track of their parking. Users will be able to click the profile button on the bottom of the page and input a username, email, and password for their account. After this, users will receive an email in order to verify their identity. After they are verified they will be able to add vehicles and payment methods into their account.

Step 5 | Design iteration:

Figma links:

Old Version:

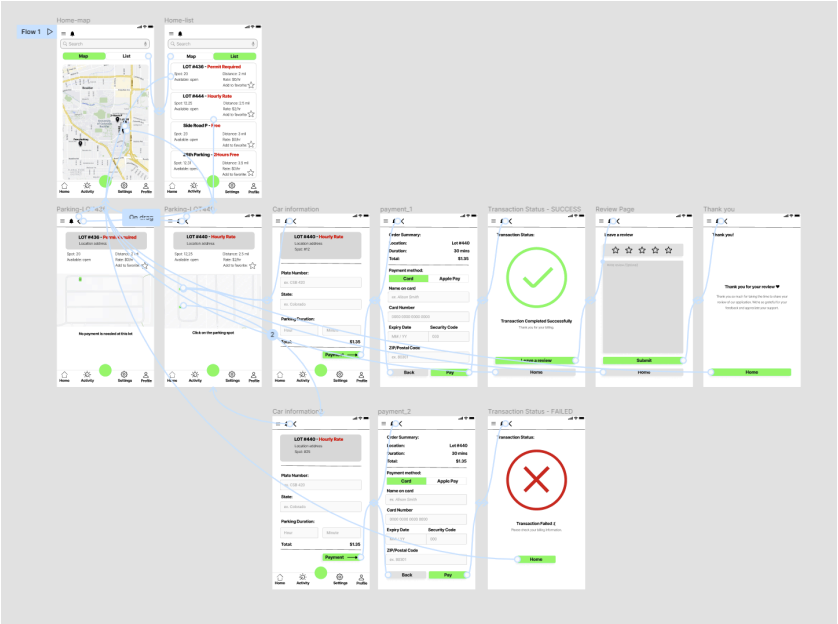
https://www.figma.com/file/vfhGdFQ68q6RuFT11vOcJp/Perfect-Parking?node-id=11%3A2&t=xLLixeValA5dFH7h-1

New Version:

https://www.figma.com/file/vfhGdFQ68q6RuFT11vOcJp/Perfect-Parking?node-id=99%3A420&t=xLLixeValA5dFH7h-1

UI Screenshots:

Previous



New Screenshots: