AllTrails Usability Study

Version 2

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Contents

Introduction

Understanding usability and user experience is an important aspect of developing and improving applications and products. This usability study aims to understand and evaluate the users' processes of the app AllTrails. The purpose of this document is to report on and evaluate users' actions while completing a series of predefined tasks within the AllTrails app.

AllTrails is a platform designed to help hikers, bikers, and runners navigate to nearby trails, read detailed reviews from past hikers, connect with other hikers, and plan their outdoor adventures. The app advertises over 450,000 worldwide trails, with the ability to build custom routes, should users desire to create their own experience. The filter mechanism allows users to narrow down trails by scenic features such as tree coverage, rivers, lakes, beaches, and by practical considerations like dog- or kid-friendliness. These options, along with the option to filter by activity type, difficulty level, trail length, elevation, and rating, help users easily find trails that match their preferences.

AllTrails' intended user group is beginner, intermediate, and expert-level outdoor enthusiasts. Those that are looking to expand their trail library, connect with other trailsmen, or are just looking for a weekend activity will find this app to be a great addition to their outdoor toolkit. While the plethora of trail options give users endless possibilities to choose from, the "Community" section of the app provides trail-goers a space to share experiences, reviews, and photos with their fellow adventurers. By swiping between the "Local" to "Following" tabs of the app, users can choose to read the reviews of hikers close to them, and engage by leaving a like or comment. The "Following" tab allows users to scroll through the experiences of friends they follow, displaying information that summarizes their trail experience, such as trail length, elevation gain, the amount of time they spent on the path, and their official rating. AllTrails advertises these collaborative features as the perfect way to grow your outdoor community.

This study intended to assess the successful completion of tasks by users to evaluate the functionality and effectiveness of AllTrails. Four tasks were given to participants to walk through themselves, and if they were unable to complete the tasks the moderators could guide them to completion. The given tasks were: 1) Find a dog friendly trail and check the conditions; 2) Locate Sleepy Hollow and see if a pass or fee is required, without using the search function; 3) Mark a nearby trail as complete and leave a review; 4) Create a new trail list and add an out of state trail.

Purpose & Goals

This usability study will focus on the ease of use, learnability and intuitiveness of the AllTrails app from the perspective of a user that is unfamiliar with the system. The study's main focus is to uncover how easily users are able to complete common tasks related to trail discovery, information gathering, and engagement with community features within the app. These areas were selected because they reflect the app's core functions and are essential to AllTrails user satisfaction and continued engagement.

The primary goals we have for this study are as follows:

Goal 1: Establish how intuitive the filtering functionalities are for users seeking specific trail types

Goal 2: Assess how easily users can access important trail information

Goal 3: Evaluate the usability of the app's social features

Goal 4: Analyze the clarity and efficiency of the app's organizational features

These goals were chosen because they encapsulate the app's core uses. Upon opening the app and assessing the marketing tactics it displays in the Apple App Store, it is clear that its most prevalent features include the ability to filter trails, efficiently gather information about trails, share experiences with the community, and planning for future expeditions. By analyzing user behavior and feedback through tasks that reflect these goals, we can assess the overall usability of the app.

Following the retrieval of the user experience data, we plan to use our educated understanding of a user's journey through the AllTrails app to provide actionable insights in the form of an official user report. We plan to share our findings in a way that could help AllTrails improve their interface design, enhance feature usability, and advance their copywriting effectiveness.

Method

In order to effectively evaluate the usability of the AllTrails application, we conducted a moderated usability study with the focus of uncovering pain points potential users may find when using filter functions, accessing trail information, and using the app's social and organizational features. During each study, participants were given four tasks to complete within the AllTrails app, each task chosen to simulate realistic user goals and test promoted features of the app. As stated before, the tasks given to the participants were as follows: 1) Find a dog friendly trail and check the conditions; 2) Locate Sleepy Hollow and see if a pass or fee is required, without using the search function; 3) Mark a nearby trail as complete and leave a review; 4) Create a new trail list and add an out of state trail.

Each study session was conducted either in-person or over Zoom, with a moderator present to facilitate the study and answer questions, and a note-taker present to observe and record the actions, behaviors and responses of each participant, taking note of moments where they seemed hesitant or confused. Sessions lasted from approximately 6 minutes to 20 minutes, with varying levels of confusion; usually based on their familiarity with mobile apps and general navigation. The goal of the study was to assess the efficacy and functionality of AllTrails through studying the thoughts, behaviors, and responses of participants paired with how efficiently each task was performed. Then, through comparing and understanding the data collected, recommendations could be made to improve the usability and user experience of the app.

Participants

Participants for this study were recruited using a convenience sampling method. This is a non-probability sampling technique used to gather participants based on ease of accessibility to the researchers conducting the study. The users of AllTrails app are likely new or experienced hikers or nature-enjoyers seeking a platform to connect with new locations and/or like-minded individuals. Due to the time-constraints, participants for this study were chosen based on how easily they could be accessed for in-person studies, ease of scheduling, and similarity to AllTrails users. All participants chosen for this study were young-adults who are currently attending Michigan State University or have in the past. These participants were between the ages 20-25, and had experience with nature trails and using mobile apps.

Six participants were chosen for this study. There was no screening process, as each participant was known by at least one of the researchers conducting this study. Each study was conducted with one moderator and one notetaker present with the participant. The researcher that recruited the participant was the designated moderator for that session, and one of the other researchers available to meet at the same time would sit in on the study to take notes. The moderator would introduce the study, give their phone to the participant to use, and guide the participant through the study. The notetaker then took notes on the actions, behaviors and responses of the participant, and recorded the session using their own audio recording device; ex: phone app, laptop notes. A consent form was signed before the study officially began recording, and at the conclusion the participants were thanked for their time but were not given incentive.

Findings

A few key issues were identified during the study. One issue was that the same information was not located on each trail page. "Passes and Fees," for example, was a section only included at the bottom of certain trails, which makes the app inconsistent. Another issue identified was the inability to access key features of the app without going to a distinct, separate page. For example, adding trails to savable playlists is an important feature advertised for AllTrails. However, it can only be accessed through a button in the bottom navigation bar. An important feature like this should be accessible from all related pages.Overall, it seems there is a lack of consistency in the apps navigation. The order of arrangement in the main trail and park lists were inconsistent, and two users remarked that the order made little sense. All users were able to easily and quickly navigate the trail-type tabs and find key *features* of the parks and trails; ex. Waterfalls or dog friendly. One user was unable to navigate and locate the "Passes and Fees" section without help, which indicated to the researchers that there were inconsistencies in how information is presented across the trails. The other users, however, located the information in varying amounts of time, but were able to locate it without assistance. Marking a trail as complete was a particularly successful task amongst participants. This function was easily accessible on the trails and correctly and clearly displayed on the top of each page. Leaving a review was also successful amongst all of the participants, but some of the participants found it unclear if their reviews were successfully published. The indicator that a review was successfully submitted is not long enough for all users to see. Participants were least successful in adding trails to a trail playlist due to inconsistencies in layout and access to features. The list page is easily accessible, but it doesn't give clear enough indication what it is for, and there is no other way to access this feature, therefore making it hard to interact with.

Recommendations

There are a few recommendations that will mitigate these issues in the future. One recommendation is to make sure each page has the same layout, formatting, and headings; even if there isn't sufficient information. For example, one user had an issue locating the "Passes and Fees" information, and the others located the information in different ways. While it's important to have this information in multiple locations, some trails didn't have it in the same spots. Some had this information in the "details" section, and others had it in a separate section at the bottom of the trail page; some trails didn't have this section at all. Even if that information is not available for a trail, the "Passes and Fees" heading should still be located at the bottom, and a body of text below it indicating if there is information available or not. Similarly, the next recommendation is to make the interface consistent across the different page types. For example, parks and trails should not have different button options. Another recommendation is to have all key features be available on all pages the feature is related to. One issue users ran into consistently was the inability to add trails to their trail saved trails or trail playlists from the actual trail's page. This is a key feature of the app, and it's recommended a button gets added to the main interface so users can access this function from each page without navigating to a completely separate location in the app. A "save" button should be added to each trail and park

page. Adding an "End Session" button is another important recommendation. After starting a hike in the app, there is no clear way to end it, leaving the app running in the background constantly. Another issue encountered was a lack of industry standards for consistent and easy use. There should always be clear navigational buttons and easy, clear ways to back out of a feature if it's not what the user wanted to access. Also, order, operations and organization should be made more clear. For instance, the trail and park list orders were unclear, and multiple users remarked they made little sense. A filter should be added or the information that the lists and parks are organized by should be bolded at the bottom of each list item. The final recommendation is to make sure that all interfaces related to user completion or error are more clear. When users complete reviews, the pop-up that indicates it was successfully uploaded should remain up for a longer amount of time. Similarly, the app should have more clear loading signs when moving pages, and if something errors out, then pop-ups should be added to indicate how users may fix the issue.

Appendix A

Consent Form

The purpose of this study is for us to better understand the user experience of the AllTrails app. While this study is being conducted in an academic setting, it's important to inform you of the purpose of the research and your rights as a participant. Your participation is important for us to improve our understanding of user experience and product design. During the study there will be two others in the room; a notetaker and a moderator. The moderator will guide you through the study while the notetaker records information. This study does not and will not include incentive, so thank you for your time and participation to better our understanding.

Data Collection

During the study we will ask you to complete a series of tasks in the app. There will be a moderator to conduct the study and a notetaker to record your actions. The study will be recorded using an external audio device, but no personal or confidential information will be shared outside of this study. Anything recorded during the session will remain confidential and will only be used internally to improve the product and user experience. We may also pair your data with others to share the results externally, but all shared data will remain anonymous.

Participant Rights

As a voluntary participant you have rights to protect your engagement in this study. You have the ability to withdraw at any time and you do not have to disclose any reason to do so. You may ask questions or voice concerns, which will be addressed as effectively as possible without misguiding the purposes of the research.

Agreement

I understand and consent to the use and release of the recording used for this study. I understand that the information gathered will only be used for research purposes and that my name and image will not be used for any purpose. I relinquish any rights to the recording and understand that the recording may be copied and used without any further permissions.

I understand that participation is completely voluntary and that I should immediately raise any concerns that I may have.

Please sign and date below to acknowledge that you have read and understand the information in this form and that any questions you have about the session have been answered.

Date:_____   Moderator Signature: _____

Please print your name:_____

Please sign your name:_____

Appendix B

Script

Thank you for helping us conduct this study today. For the following usability study, you will be completing a series of tasks designed to evaluate AllTrails, which is an app designed to help hikers find local trails. It's important for you to know your rights as a user, though. If at any point you feel as if you need a break, please let us know. You have the ability to step away at any point, and if for some reason you need to end the study, you have the ability to do so. You do not need to let us know the reason, you can just let us know you need to end the study where it's at. We apologize for not being able to give you an incentive for participating, but your participation will help us better understand user experience.

This study will be recorded using an audio recorder, and our notetaker (note taker's name) will be taking notes on your actions and behaviors. We need your explicit permission to use this data in our study. All data will remain anonymous and your information is completely confidential. To ensure you are aware of and okay with all of this information, we will have you complete this consent form before we begin. If you have any questions, comments, or concerns, please feel free to voice them at any time.

- Give them the consent form to sign.

Thank you for signing. Now that this is complete, we can begin the study. During this session I want you to talk out loud and walk me through your thought process as you complete the tasks.

- Explain thinking aloud
- Show an example of thinking aloud

This ensures that we gather the necessary information. This study is not based on correctness, and I do not want you to feel that you are being tested. I will be walking you through the study, while the other group members take notes and moderate the session. However, I cannot tell you how to complete the tasks, I can only guide you. We are looking for places where AllTrails can be improved, so be sure to express any difficulties you may experience. Do not feel bad if you experience any difficulties with the platform, as that is exactly the sort of information we are looking for.

- Introduce task 1
- Once completed, go through the next task
- Repeat for task 2, 3, and 4.

The study is now complete. Thank you for participating, your experience is invaluable. You are now free to go if you have no remaining questions, comments, or concerns.

Appendix C

Task Descriptions

1. Find a dog-friendly hike and check the conditions of the trail.

2. Locate Sleepy Hollow State Park without using the search bar. Once you have found it, check to see if there is a pass or fee required for entry.

3. Mark a nearby trail as completed, then leave a review.

4. Create a new trail list, and then add an out-of-state trail to the newly made list.

Appendix D

Data Collection Forms

Participant 1:

Task 1
- User scrolled home filter tabs
- Found dog-friendly button and clicked on it
- Scrolling through the trail
- Confused about definition of "trail conditions"
- Continued scrolling and found trail conditions

Task 2
- Scrolled home page until found Sleepy Hollow
- Clicked on map information
- Skimmed trail synopsis
- Found not required to have Michigan passport
- Scrolled all the way down Sleepy Hollow page and back up
- Scrolled back to bottom, read through the comments left on the trail
- Scrolled back up
- Received a hint from moderator - Above the reviews
- Accidentally clicked "review trail"
- Task Fail - button didn't exist on user's system

Task 3
- Clicked first trail from home screen
- Clicked check mark to complete
- Confused if check mark completed trail
- Successfully opened review page
- Did not complete review because in order to not get user's hopes up

Task 4
- Scrolled through home page
- Downloaded trail
- Scrolled profile
- Clicked community page
- Confused about how to create list
- Hint from moderator - found create list button
- Scrolled through menu tabs
- Scrolled through home page - all trails in Michigan
- Used filter to extend search
- Hint from moderator - choose a state
- Used search filter to search "Indiana"
- Found Indiana trail
- Clicked Download
- Clicked Share
- Clicked trail title a few times
- Scrolled through park page
- Clicked on Alerts
- Could not add trail from home page
- Hint from moderator - try going back to list
- Participant could not get back to list

- Scrolled through/clicked around map
- Located list from Saved button
- Added popular trails to list, but not intended trail
- Task fail - button was not found on trail page

Participant 2:
Task 1
- · The user clicked on a filter, then exited out
- · Found the dog friendly button
- · Clicked on a random trail that showed up, scrolled down and found the conditions easily

Task 2

- · Couldn't figure out how to unselect dog friendly
- · Scrolled down the main explore page to find the correct option
- · Scrolled down to the bottom of the page, and found the correct fees option
- · Clicked on fees and saw that there was a pass needed for this trail

Task 3

- · Scrolled and picked a page
- · Clicked the check mark in the top corner
- · Rated the trail, and left test review easily
- · Got the confirmation of thanks for sharing

Task 4

- · Seemed confused at first
- · Clicked on profile, was not correct
- · Went back to the explore page
- · Clicked on the map, so she got more confused
- · Started an activity, and then got confused about how to exit the menu for the map
- · Clicked on custom map out of confusion it appears
- · Could not figure out the correct page to go to without help, somehow made it to the page after clicking random buttons
- · Made the list pretty easily once she got to the correct page
- · Clicked on download then share, having a hard time adding the park
- · Clicked "show all"
- · Eventually found the correct button and added it to the list that she made.

We did not know how to stop an activity after she had started it, this is a problem outside of the tasks

Participant 3:
Task 1)
- ● Scrolling top tabs
- ● Saw kid friendly, associated with dog friendly and scrolled
- ● Found dog friendly trail
- ● Clicked first, scrolled photos which she likes esp bc the pic of the dog
- ● Looking at all the details, likes the details
- ● Found the conditions after scrolling back and forth for a minute
- ● Completed task

Task 2)
- Started using search, seemed unsure to find
- Scrolled back to main page, found quickly
- Scrolled and found information in the details section
- Completed task

Task 3)
- Found random trail on main page again
- Left review on one she's been to, left notes
- It says thank you so she knows its complete
- She missed the part where it says to complete it

Task 4)
- Went immediately to saved tab
- Located plus symbol in upper right immediately
- Chose a place she's going soon and found a loop to add
- Found save button in top right and saved

Participant 4:

Task 1
- Finds dog friendly through top bar
- Is confused about how results are organized
- Likes that you can preview trail
- Is confused about where to find trail conditions
- Scrolls down eventually to find trail conditions

Task 2
- Navigates to Sleepy Hollow trail
- Finds fee information with no trouble

Task 3
- Finds trail review option
- Rates trail 5 stars
- Has trouble finding where to mark trail as "complete"
- Finds "complete trail" option out of order before finding review option

Task 4
- Finds create list option on the bottom bar
- Scrolls through parks and does not find out of state parks
- Searches for Washington in search bar
- Finds Washington State and clicks on a trail using the map
- Saves trail to list

Participant 5:

Task 1)
- Sees the categories, scrolled and found dog friendly
- Clicked on the first trail and scrolled, confused why the farthest is listed first
- Scrolled and located the conditions in details

Task 2)
- Searched sleepy hollow
- Clicked read more, kept scrolling

Found passes and fees *section*

This section says something different than the read more section

Task 3)
- Went back to main page
- Located nearby trail
- Immediately located the completion button

- Did the review very quickly

Task 4)
- Immediately found the "save" section
- Created new list and went to the search bar for this page
- Found out of state trail by looking up "Yosemite"
- Clicked "share" button thinking it was the "add" button
- Scrolled and found list of trails below the park
- Finally saw the save button on the side and saved it successfully, thought the button's function was unclear

Participant 6:

Task 1
- Participant finds Dog friendly filter at the top menu
- Selects first park

Task 2
- Finds Sleepy Hollow State Park using search bar
- Is confused about fee at first but finds it soon after
- Was confused why price was not given in description

Task 3
- Finds mark as complete at top
- Finds review with no problem
- Complains about complete button being too small

Task 4
- Has trouble finding list feature
- Creates list
- Is confused about how to add the trail to list at first
- Finds the save function soon after then adds trail to list

Appendix E

Usability Aspect Reports

ID: CI #1, Participant 1, Task 2

Name: "Passes & Fees" section not present on AllTrails app

Explanation:

The participant scrolled throughout all of the trail information provided by AllTrails, and the Passes & Fees section we originally selected as the task goal was not on the page. The participant was able to find the section on another trail page, but not on the page we asked the participant to use.

Severity:

Although the participant was able to find the "Passes and Fees" section on another trail page, and our other participants were able to successfully navigate to the section and complete the task, it is important that the system is able to consistently present important information to its users. Should this instance occur when a user is trying to get confirmation regarding the required documentation when visiting a desired trail, this problem would be fairly severe. A user may think that the absence of the section means that there is no pass or fee required, and then show up to the trail unprepared or receive a ticket, which would reflect poorly on the app.

Solution:

Conduct a system test to check for bugs, with the goal of ensuring that whenever a user is seeking information regarding the required passes or fees of a trail, they will always be able to find it.

Evidence:

05:06 Moderator: Can you tell us what you're clicking on as you go through it?

05:10 P1: What… the… what is it… the synopsis?

05:15 Moderator: Oh, just the synopsis of the trail?

05:17 P1: Yeah.

05:24 P1: There. Not required to have Michigan…passport

05:30 Moderator: Wait, not required what?

05:30 P1: Passport?

05:32 Moderator: No. No, if you need a pass or a fee, like a trail pass or if you have to pay a fee for entry.

05:40 P1: Hmmm… reading… reading…scrolling…scrolling…ummm

06:03 Moderator: Now she scrolled back up to the top, so she scrolled down, almost to the bottom and then she scrolled all the way back up.

06:50 Moderator: Maybe try above the reviews.

07:05 P1: Oh…no. Not that.

07:10 Moderator: She clicked review trail, that's not we wanted.

07:15 Moderator: Just keep looking

07:22 Moderator: Try above…yup

07:43 Moderator: That was a task fail.

07:46 P1: It seems to have disappeared

07:49 Moderator: The initial time we looked at it, there was a button at the bottom…

08:00 P1:Maybe it only shows it if the trail actually requires a pass.

08:08 Moderator:Wow. Actually, it disappeared.

Interpretation:

The participant initially found a section that detailed the passport requirements, and clicked on a link to a website, thinking it would display more information about the passes and fees the trail may require, however the website only displayed passport information in Michigan. After further explanation of our task, the participant scrolled throughout Sleepy Hollow's page, and we ultimately found that the button for "Passes & Fees" did not exist.

ID: CI #2, Participant 1, Task 4

Name: "Add trail" button not available on trail page

Explanation:

The participant found a trail in Indiana they wanted to add to a trail list, but upon scrolling through the trail's page, found that the trail did not offer an "add" button. When scrolling through the trail, the participant was able to see other trails with a quick-add feature attached to them, as added those trails to the list, but still could not find an available method to add the Indiana trail to the list.

Severity:

As the list feature is one of AllTrails main features that it advertises, the fact that this feature was not available to our participant is pretty severe. It is important that all users are able to locate and complete their desired tasks to use the application in the way they want. As the feature is promoted by the app, it should be able to work without complication.

Solution:

Include the "save a trail" or "favorite" button to the top of every trail, not just select trails.

Evidence:

14:35 P1: The popular trails are added to the list but I'm not sure how to add this one because I don't know where the thingy is for this one.

14:39 Moderator: The button?

14:40 P1: Yeah like that one. The one you click on.

14:44 Moderator :There's not a save button?

14:49 P1: Mmm. Once I click on it, there's not one, but like I added these ones because they're popular.

14:50 Moderator: So you did add an out of state trail, but she wasn't able to add the one that she wanted because when you find the trail from the list and you click on it, there's no "add" button.

There was no way to add the trail the participant wanted to add from the trail page. The participant knew what button to look for, but upon scrolling throughout the whole page, and even leaving and coming back to the page through a different method, the button was not available, although the participant was able to add other out-of-state trails.

ID: CI #3, Participant 2, Task #4

Name: Unable to end custom hike

Explanation:

In an attempt to find where to create a new list, the user selected the "Navigate" button, which took them to a map that is used for navigation and custom hikes. The user then selected the "Start" button, where a custom hike was started, but they did not intend to do this. They got confused about how to exit the map, but they finally clicked on the "Explore" page to exit. Once they exited the map then there was not anything updating the user on the custom hike or giving them an option to end the hike.

Severity:

While the system has ways to end the hike, keep track of time, distance, elevation gain, and other metrics of the custom hike, this is only available in the "Navigation" menu. Once the user exits the menu, then there is nothing allowing them to end the hike. Because there is still a way of ending the hike, and most users would only begin a hike intentionally then this is only a mild usability issue.

Solution:

Once the user starts a custom hike from the "Navigation" menu, there could be a small widget that appears on the screen updating the user with the different metrics while also allowing for them to pause or end the hike. This would allow the user to scroll through the app while going on a hike without having to switch between menus. It would also prevent users from accidentally starting a custom hike and not being able to end it once they have left the "Navigation" menu.

Evidence:

06:29 Participant 2: "Not under the little map, no? Maybe? Start activity? Nope, that was not it, back to explore. How do I go back to the…"

06:42 Moderator: "It seems as if she is now stuck on the map"

06:44 P2: "I am stuck, I'm stuck on the map. But it's okay. How do I get off the custom map now? Back to explore."

Interpretation:

The participant initially tried to complete the task of adding an out-of-state map to a list by looking at the "Navigation" menu, which brought them to the custom map page. Once on the page they tried clicking "Start activity" but were unable to complete the task in doing this. Because they did not complete the task, they needed to exit the custom map page. Initially they had issues with exiting the map, but could see that there was a custom hike ongoing. Once they exited the map, they did not mention or remember anything about the custom hike, and the app did not give any indication that the custom hike was still happening.

ID: CI #4, Participant 2, Task #4

Name: No "List" page

Explanation:

The participant tried to create a list, but was unable to. First they checked under the "Profile" page, but did not see the option, and then they checked under "Navigation." The only way that the user was able to find the correct page was through getting stuck in the "Navigation" page and spamming buttons to find a way out.

Severity:

While the system has a "Saved" page, as well as a bookmark button on the individual pages for trails, it is not necessarily intuitive that this would be how you create a list. Because the name of the page is "Saved" it can be confusing as the user may not understand that they can save new things in this page too. Not a very severe issue, as there are a couple routes to creating a list.

Solution:

Instead of having the page be titled "Saved," it can be called "Lists." This would make it so that the user has no confusion with how to go about making lists. This would especially make sense because the main thing on this page is the "Lists" tab, and the "Parks" and "Downloads" tabs can both be sorted as lists anyways.

Evidence:

06:50 Participant 2: "Back to explore."

06:53 Moderator: "She just found it, she left pretty quickly, what did you click to get there?"

06:56 P2: "Custom map? Under this? To get where? This page? Well… navigate? I don't know."

07:15 Moderator: "Well you were just on a page. The last page you were on, what did you click?"

07:34 P2: "Custom? Maybe saved? Oh okay, that's what [it was] okay."

Interpretation:

The participant started by trying to exit the custom map page, then started clicking on random buttons to try and exit. They then made it to the correct page on accident, but backed out quickly. This prompted the moderator to step in to help. Once the participant was asked how they got to this page, they were unable to find it and so they began clicking through the different menu options. Once they clicked on the "Saved" menu, they were finally able to see where the task of creating a list was meant to be done. This was not necessarily done intentionally, but rather through trying different options after being told that they had already visited the correct page.

ID: CI #5, Participant #3, Task #1

Name: Intuitive Filter Placement

Explanation:

The participant immediately recognized that the buttons located at the top of the app's home screen were filtering options. They used their context clues to figure out that if they were to continue scrolling through the filters, they would likely find the one they were looking for. We take this to mean that the placement of the filters are helpful for app visitors because

Severity:

Because the ability to find your perfect trail from the over 450,000 trails that AllTrails offers is one of their promotion tactics, it is important that users can filter through various trails, and it is imperative that this process is easy for the user to complete. This critical incident is pretty severe due to the importance of the feature.

Solution:

Because the user was able to seamlessly complete the given task, an alternate solution is not necessary. The placement and design of the home page filter mechanism seems to be working as intended, creating an experience that is efficient for the user.

Evidence:

03:51 Participant 3: Okay, so I noticed at the top there's a button to filter for kid-friendly, so I was like scrolling across and then I was able to find dog-friendly, cause I thought there might be one like that.

Interpretation:

The participant is explaining their thought process for how they were able to quickly find the dog-friendly park filter option. They recognized that the buttons at the top were to be used for filtering immediately. From initially seeing the "kid-friendly" filter, they knew that if they scrolled a bit more through the filters, they would eventually find one that was for dog-friendly trails.

ID: CI #6, Participant #3, Task #3

Name: Review Section Feedback

Explanation:

The participant knows that when the app shows a "Thank You" message, it has received their review. This tells the user that they have completed the task successfully. This shows us that the feedback provided by the system aids the user in their navigation process, and is a beneficial addition to the app's design.

Severity:

This critical incident is moderately severe. While a feedback system is important for the user to know they've completed the task they were working toward, it would not be the most severe issue if this mechanism didn't exist.

Solution:

Because the user was able to seamlessly complete the given task, an alternate solution is not necessary. The positive feedback message tells the user that they have finished leaving a review, and they can navigate elsewhere on the app.

Evidence:

06:57 Participant 3: Okay, I scrolled all the way down and I found the review section, so then I'm gonna hit "review trail"... I'll give five stars…great views, I loved it."

07:10 Participant 3: That's where I can add my personal notes, and then hit done and then it says "Thank you." Cool.

The participant is talking through what they are seeing as they navigate through the "leave a review" section of the app. They talk through their navigation of the app, and once they receive the "Thank You" message, they seem to know they have finished the review process, and await further instruction.

ID: CI #7, Participant 4, Task #1

Name: Trail Results Organization Confusion

Explanation:

The participant searched for a dog friendly trail, and successfully located one, but in the process of scrolling through the results, was confused about how the results were organized.

Severity:

While the participant was successfully able to locate a dog-friendly trail, the participant was confused as to whether the results were displayed in order of easiest first, or closest first, and this could potentially be a severe issue if users are unsure as to how the results are being displayed and what they mean.

Solution:

App does not specify if results are being displayed by relevance, difficulty, or proximity, and choosing one metric and telling the user how the results are being organized would help significantly.

Evidence:

   3:24 Participant 4: "I like that there were easy ones first and then moderate. But then I got confused that there was another easy at the bottom. So I don't know if it's based on how far away it is from you or how long it is or the star rating system."

Interpretation:

   The participant scrolled through the results, thinking that they were organized by difficulty, with the first results displayed being the easiest ones. However, after more scrolling, the participant became confused as the difficulties and proximities of the trails displayed seemed to not to be in any specific order.

ID: CI #8, Participant 4, Task #3

Name: Reviewed but not Complete

Explanation:

The participant was tasked with marking a trail as complete, and leaving a review, but managed to leave a review without marking the trail as complete, and marked the trail as complete afterwards.

Severity:

Marking a trail as completed automatically prompts the user to leave a review, and it does not make much sense to be able to leave a review without automatically marking the trail as completed afterwards. Potentially severe issue, as the button to leave a review can be found easily simply by scrolling down on the trail page, and marking the trail as complete is a small button at the top that is not

labeled, and could be harder to find. Inconsistency with the platform.

Solution:

It would not make sense to be able to leave a review without completing the trail first, so leaving a review should also mark a trail as complete to avoid confusion.

Evidence:

9:37 Participant 4: "And then I'm pressing done. And it says thanks for sharing."

Moderator: "And that's how you know it's completed?"

Participant 4: "Yes. So now it's completed."

Moderator: "Awesome. So you completed the review, but can you find how to mark the actual trail complete?"

Participant 4: "I'm wondering with the save button…this little bookmark button"

Moderator: "Feel free to explore whatever you think is correct."

Participant 4: "So that puts it on the list and then there's a check mark next to it. Okay, so that marks it as complete and then the review pops up."

Interpretation:

The participant left a review, which did not mark the trail as completed, and in the process of trying to find the "mark as completed" button, saved the trail to a list instead, and then located the "mark as completed" button after some confusion.

ID: CI #9, Participant 5, Task #1

Name: Trail Results Organization Confusion

Explanation:

While the participant did not experience trouble completing the task, the participant expressed confusion about the organization of the displayed results.

Severity:

There is no indication to the user as to how the results are organized, which could potentially be a severe issue, as it makes it difficult to find what the user is looking for.

Solution:

Indicating to the user how the results are being organized, such as by relevance or proximity would help to avoid any confusion when scrolling through the displayed results.

Evidence:

02:05 Participant 5: "Yeah, so I'm seeing you know, the distances and stuff. Although actually kind of looks like it's inverted, like the furthest away is the first that appears.

Interpretation:

The participant scrolls through the results, and is confused as to how the results are being organized, because further trails show up before closer ones.

<u>ID</u>: CI #10, Participant 5, Task #4

<u>Name</u>: Download and Save Confusion

<u>Explanation</u>:

The participant thought the "Download" button would save a trail to a newly created list, but this was a premium feature and confused the participant.

<u>Severity</u>:

The download button is large and easy to navigate to, but the save button is small and unlabeled, and if the user is clicking the download button thinking that this will save the trail to the list, this could potentially be a severe issue. It is unclear that the download button is for downloading the map of the trail, and not downloading the trail itself.

<u>Solution</u>:

The "save" button is not labeled with any text, but the "download" button is labeled with large text that says "download," and labeling the save button with proper text could make it easier to find, and make it less likely that the user would confuse the two buttons. Also labeling the download button as "Download Map" could help to avoid this confusion.

<u>Evidence</u>:

5:30 Moderator: "Did you think it was pretty intuitive?"

Participant 5: "Yeah, it was pretty intuitive. I think the only thing…the little download guy. It looked like… I thought the little download button was gonna be like save - like save to your 'oh I completed this' or save to a list, but it was like - download and then it brought up the whole perk, the premium version of this."

<u>Interpretation</u>:

The participant thought the app was generally intuitive, but experienced some confusion when trying to save a trail to a list, thinking the download button would save the trail, but it pulled up a premium feature instead.

<u>Solution</u>:

<u>ID</u>: CI #11, Participant 6, Task #2

<u>Name</u>: Issue Locating Fee Information

<u>Explanation</u>:

The participant tried to locate fee information for Sleepy Hollow State Park, but experienced some confusion before locating the fee information.

<u>Severity</u>:

Not severe, the user simply experienced some difficulties finding the fee information, but the information was in the description.

<u>Solution</u>:

Does not require immediate attention, but fee information could be included in a designated section on the trail page.

<u>Evidence</u>:

4:42 Participant 6: "Okay I looked it up cuz I thought it would be easier to find."

Moderator: "Oh and then see if a pass or fee is required."

Participant 6: "Okay uh pass and fee not required. Oh wait no - Get details. I'm not sure. it doesn't really say. Oh - fee required. Oops. It does say that. It just doesn't say how much, which would be nice if it did."

<u>Interpretation</u>:

The participant initially thought there was no fee, but then located the fee information after some mild confusion.

ID: CI #12, Participant 6, Task #4

Name: Trouble Locating List

Explanation:

The participant navigated to the profile tab in search of the new list feature, but was unable to locate the feature at first.

Severity:

The tab where the list feature is located is labeled as "Saved" which could potentially be confusing to some users when attempting to locate the list feature, but is not that severe of an issue.

Solution:

If the tab was labeled as "Lists" instead of "Saved" this could be more helpful for finding Lists, and would not be worse than labeling it as "Saved." They would serve virtually the same function.

Evidence:

6:22 Participant 6: "A listing, right?"

Moderator: "Yeah"

Participant 6: "I don't even know where that is."

Interpretation:

The participant initially thought to navigate to the profile tab to locate the lists feature, which is understandable, as this feature could be viewed by some as a social feature. The participant then navigated to settings, and did not find the list feature there either. The participant then went over to the "Saved" tab, where the lists feature is, but misclicked, and opened up the "Maps" feature instead, expressing confusion, but was able to locate the lists feature right after closing out of the map.

Appendix F

Summary Table for Success/Failure of Tasks

Participant	Task 1 Success (Y/N)	Task 2 Success (Y/N)	Task 3 Success (Y/N)	Task 4 Success (Y/N)	Critical Incident 1	Critical Incident 2
P1	Y	N	Y	N	Passes & Fees section not present on app	"Add trail" button not available on trail pages
P2	Y	Y	Y	N	Unable to end custom hike	No "List" page
P3	Y	Y	Y	Y	Intuitive Filter Placement	Review Section Feedback
P4	Y	Y	Y	Y	Trail Results Organization Confusion	Reviewed but not complete
P5	Y	Y	Y	Y	Trail Results Organization Confusion	Download and save confusion
P6	Y	Y	Y	N	Issue Locating Fee	Trouble Locating List

In the table above, each participant was evaluated on a success/failure basis. A success is defined as completing the given task without requiring assistance, and a failure is defined as requiring additional help from the moderator in order to complete the given task. We chose to collect this data because it will help us to evaluate what can be improved about the given technology. To compile the data, notes and transcripts were analyzed to determine successes and failures for each task, for each participant.