



UCCS

RESEARCH REPORT

A User Experience Report for the Pikes
Peak Outdoor Recreation Alliance
(PPORA) Data Hub

Presented by: Tatiana Choate

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EXECUTIVE **SUMMARY**

This report details usability research for the Pikes Peak Outdoor Recreation Alliance (PPORA) data hub, known as Outdoor Pikes Peak Initiative (OPPI).

This research included a usability test, a journey map, and a user persona. Engaging with three users with diverse profiles in age, gender, and field of interest, I tested the OPPI data hub for usability and design.



INTRODUCTION

The purpose of this report is to present findings from user testing conducted on the PPORA Data Hub and to provide evidence-based recommendations for improving its usability, accessibility, and overall user experience. The report is intended for PPORA stakeholders involved in data management and platform development, offering insights grounded in persona analysis, journey mapping, and usability testing. By synthesizing these research methods, the report aims to identify key user needs, highlight areas of friction within the current interface, and propose actionable strategies to enhance the effectiveness and reach of the Data Hub.



RESEARCH OVERVIEW

This research investigated how intended user groups engage with the OPPI Data Hub to locate, interpret, and apply natural resource data. Drawing on persona development, journey mapping, and usability testing, findings indicate that while the Data Hub provides diverse datasets, users encounter barriers related to navigation, terminology, and data comprehension.

Across the journey map, persona, and three usability tests, common themes included difficulty locating material, uncertainty about terminology, and limited guidance for interpreting different visual layers in the maps and site layout. These patterns highlight opportunities to improve navigation, labeling consistency, and onboarding support.

USER PERSONA



Linnea Ceder

- 23
- She/Her
- Colorado Springs
- English
- Rockrimmon Apartments

Biography

A recent college graduate in English, who's currently exploring career opportunities in communications, nonprofit work, and education.

She has strong writing and research skills but limited experience with GIS or data hubs.

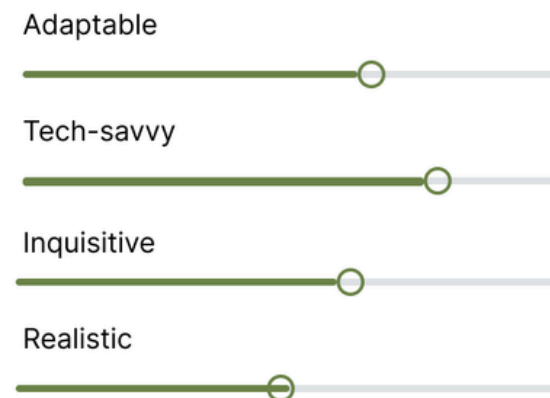
Goals

- Wants to stay engaged with her local community and outdoor opportunities in the Pikes Peak region.
- Interested in accessing reliable, easy-to-understand information about recreation, conservation, and local communities.
- Looks for statistics, maps, and summaries that don't require specialized knowledge.

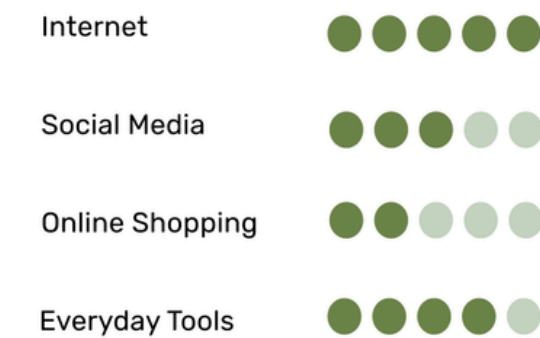
Frustrations

- Overly technical or jargon-heavy content.
- If navigation is unclear or pages take too many clicks to get useful info.
- Dense maps or data without context that feels overwhelming.

Personality



Technological Skills



Motivations



JOURNEY MAP



LINNEA CEDER

"I love exploring Colorado, but I'm looking for a site that lets me navigate its wonders easily!"

SCENARIO

Linnea visits the Data Hub to explore outdoor recreation opportunities and learn about how conservation affects her community.

EXPECTATIONS

- Navigation should be clear and intuitive.
- Maps and data should be accessible.
- She should leave with useful information.

STAGES	STAGE 1 ▶	STAGE 2 ▶	STAGE 3 ▶	STAGE 4 ▶	STAGE 5
GOALS	Discover what the site offers and where to start.	Find specific recreation or community info.	Interacting with Map/Data	Pull clear, actionable info from the data hub.	Share findings with others and come back to explore later.
ACTIONS	<ol style="list-style-type: none"> 1. Opens Data Hub from OPPI website or search 2. Scans homepage text and menus 3. Clicks on the "Natural Resources" tab 	<ol style="list-style-type: none"> 1. Clicks into Natural Resources 2. Skims layout for key data and maps 3. Scrolls through the page, unsure of where to focus. 	<ol style="list-style-type: none"> 1. Zooms and pans on the map. 2. Attempts to click layers and toggles available. 3. Searches Colorado Springs. 	<ol style="list-style-type: none"> 1. Finds a relevant summary or visualization through scrolling. 2. Reads notes with data. 3. Takes screenshots to remember. 	<ol style="list-style-type: none"> 1. Shares map screenshot with friends and community groups. 2. Bookmarks the site for the future. 3. Considers returning for updates.
THOUGHTS	<ol style="list-style-type: none"> 1. This looks interesting, what should I click first? 2. Wow! That's a lot of scrolling. 	<ol style="list-style-type: none"> 1. This looks technical. 2. Do I need specific knowledge to use this? 	<ol style="list-style-type: none"> 1. Wow this is a big tutorial. 2. This map is pretty easy to use! 	<ol style="list-style-type: none"> 1. It look a long time to get here but I found it. 2. Now I can share this with my friends. 	<ol style="list-style-type: none"> 1. This is a neat tool once you figure it out. 2. I'll come back when I want to learn more.
PAIN POINTS	<ol style="list-style-type: none"> 1. Too much text, not enough guidance. 2. Jargon in headings is confusing. 	<ol style="list-style-type: none"> 1. Overwhelming amount of information. 2. Terminology isn't beginner friendly. 	<ol style="list-style-type: none"> 1. Data lacks context for non-specialists. 2. Too many layers, not enough guidance. 	<ol style="list-style-type: none"> 1. Not enough tabs or sections, too much scrolling. 2. Not sure which data is most relevant. 	<ol style="list-style-type: none"> 1. Might not return due to the technicalities. 2. Needs reminders as to why its valuable.
EMOTIONS	 Interested	 Annoyed	 Happy	 Mildly frustrated	 Happy
TOUCHPOINTS					
OPPORTUNITIES	<ol style="list-style-type: none"> 1. Simplify the landing page with clearer categories. 2. Add a intro video. 3. Use icons for quick recognition. 	<ol style="list-style-type: none"> 1. Include plain-language summaries or a terminology list. 2. Provide quick data at a glance sections. 3. Use collapsible sections to reduce clutter. 	<ol style="list-style-type: none"> 1. Simplify the walkthrough, or even make it a guided walkthrough. 2. Provide preset map views. 3. Pair highlighted zones with explanations when hovering. 	<ol style="list-style-type: none"> 1. Create more navigational tabs and sections. 2. Highlight key insights at the top of each page. 3. Add a "share this" button. 	<ol style="list-style-type: none"> 1. Add a newsletter email list option. 2. Improve general usability and update mobile usability for easier access. 3. Create a more interactive, user-friendly landing page.

TESTING PARTICIPANTS

Dakoda

Engineer

An engineer currently contracted by VESA. Dakota has experience with Data Hubs and is very familiar with outdoor recreational sites.

Ami

Food Service Worker

A food service worker with no prior experience using data hubs. Ami has some interest in outdoor recreation.

Victoria

UCCS Student

A student currently attending UCCS, Victoria has limited experience with data hubs but demonstrates curiosity them.



DAKODA

“It’d be great if there was a search bar.”

Dakoda completed all tasks in **5 minutes** and quickly identified major usability flaws. He found overlapping elements, excessive scrolling, and unclear organization, which made navigation difficult. He suggested adding a more noticeable search bar, separating content into individual pages, and improving the visual structure to make the site easier to explore and understand.

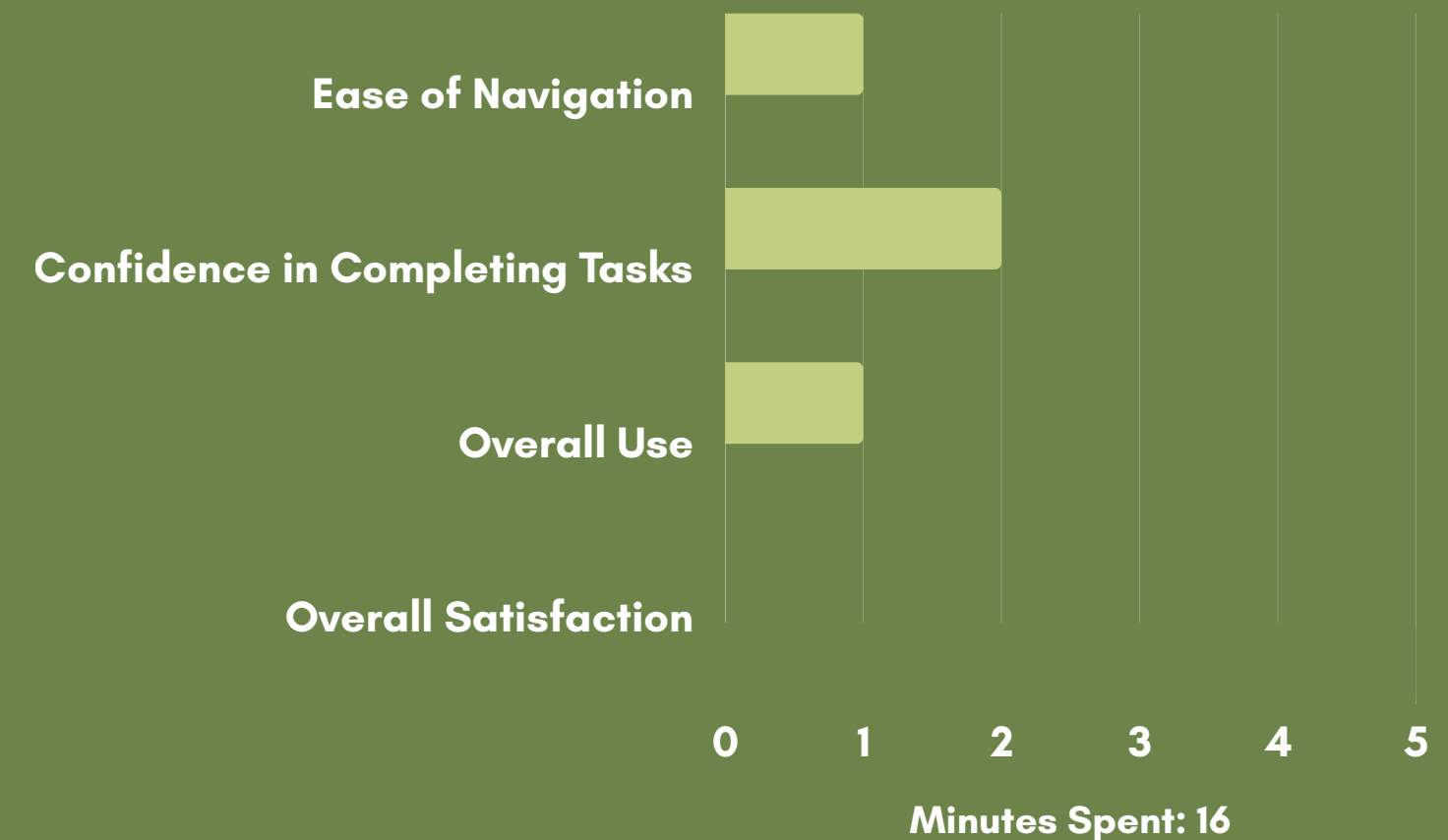
FINDINGS

Dakoda recommended addressing layout issues that cause visual overlap and emphasized the importance of clear navigation. He also suggested separating content across multiple pages to reduce scrolling fatigue and adding a search function to help users locate specific information more efficiently.

KEY INSIGHTS

- Clear navigation and visual hierarchy is essential for usability.
- Overlapping elements and excessive scrolling disrupts task completion.
- Hidden links, features, and a lack of explanation can create user frustration.
- A lack of a noticeable search bar can frustrate some users.

Closing Survey Rating Usability





AMI

“I honestly didn’t even know this link was here.”

Ami spent **20 minutes** on the site and found the layout disjointed and confusing. She appreciated the information provided but criticized the small scrollable boxes, poor use of space, and lack of clear explanations for links and maps. She recommended expanding the layout, increasing readability, and providing context for visual elements to improve overall usability.

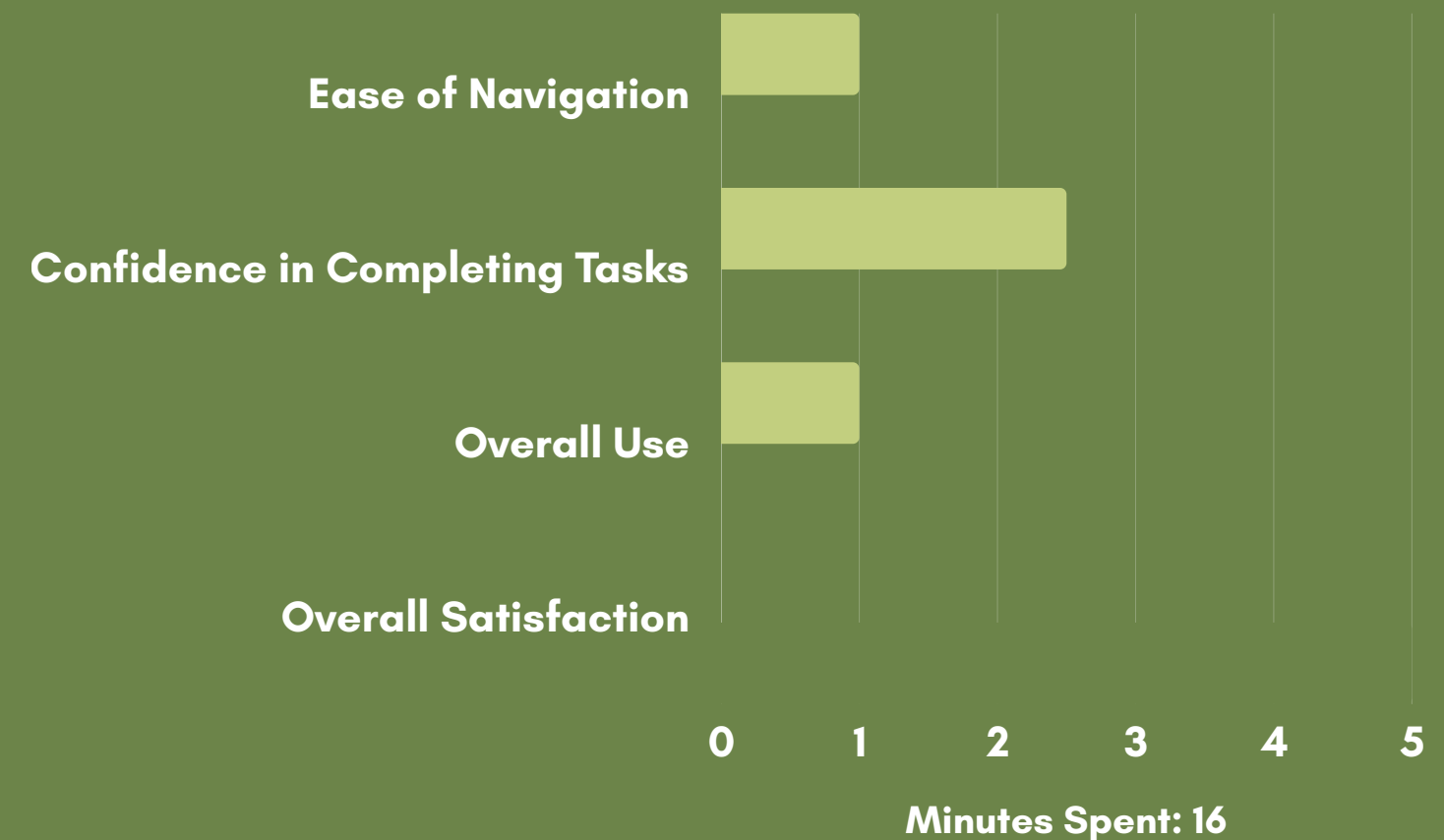
FINDINGS

Ami addressed the overall visual hierarchy of the site, the lack of cohesion, and the presence of random links. She recommended adding headers, summary text, revising the layout to reduce scrolling, enlarging the font sizes, and shortening lengthy text blocks to improve user comprehension.

KEY INSIGHTS

- Users need clearer structure and visual hierarchy.
- Excessive scrolling and small fonts hinder usability.
- Larger fonts and summarized material help improve engagement.
- Visual clutter and a lack of cohesion creates confusion and frustration.

Closing Survey Rating Usability





VICTORIA

“This site has a lot of scrolling, and I didn’t even see these tabs.”

Victoria completed all five tasks in **16 minutes** but expressed strong frustration with the site’s confusing design and poor organization. She struggled to find key information, such as the definition of “fireshed,” and felt the interface was cluttered, overly technical, and visually unappealing. She recommended simplifying the layout, reducing text length, clarifying terminology, and improving navigation for a more user-friendly experience.

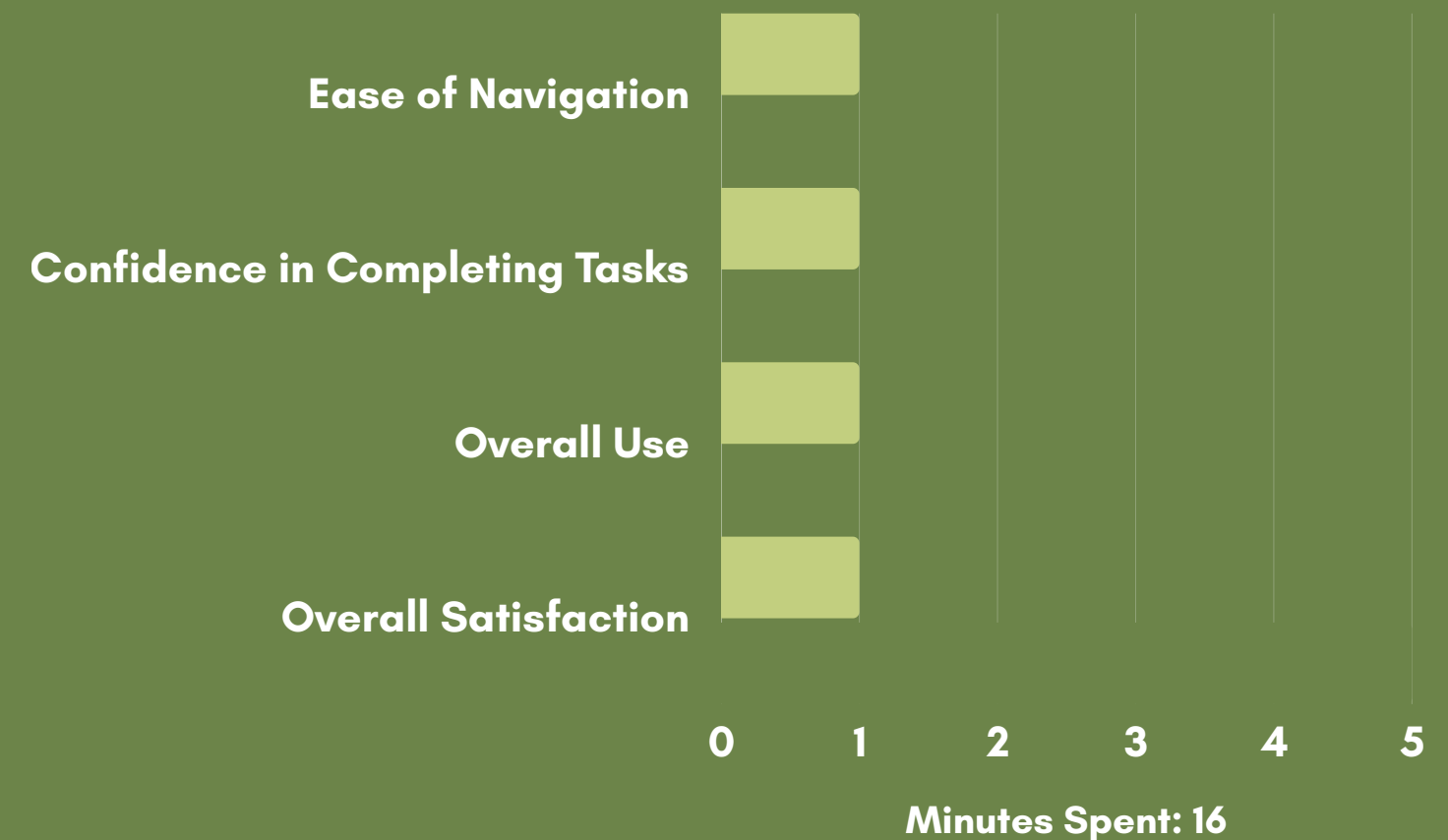
FINDINGS

Victoria recommended simplifying the interface by organizing content into clearer sections, reducing text length, and avoiding technical jargon. She also suggested adding definitions for unfamiliar terms (such as “fireshed”) and improving the overall visual structure of the site to guide users more effectively.

KEY INSIGHTS

- Users can be frustrated by cluttered layouts and excessive text.
- Confusing terminology and poor organization reduces engagement.
- Too much scrolling, too many images, and a lack of white spaces induces confusion and frustration.

Closing Survey Rating Usability



RECOMMENDATIONS OVERVIEW

The usability tests revealed that users struggled most with navigation, terminology, and layout clarity. These recommendations aim to make the Data Hub more intuitive, visually organized, and accessible to a wider range of users.



Improve
Navigational
Structure



Clarify Technical
Language and
Jargon



Enhance Visual
Hierarchy and
Remove Clutter



Add A Search
Option or Filters
to Access Data



Reformat Content,
Add Headings,
and Shorten Text



Separate Content
into Pages and
Remove Scrolling

RECOMMENDATIONS

Based on findings from three usability tests, users encountered significant challenges with navigation, readability, and overall cohesion. The following recommendations aim to improve usability, clarity, and visual flow to better support both new and returning users.

- 1 Improve Navigation Structure**

Reorganize the website into clear, distinct sections with consistent labeling and a simplified navigation bar. This will help users locate information quickly and reduce frustration caused by overlapping items and excessive scrolling.
- 2 Enhance Readability and Visual Hierarchy**

Apply a stronger visual hierarchy through larger, legible fonts, concise paragraphs, and clear headers and subheaders. This will make information easier to scan and improve overall comprehension.
- 3 Clarify Data and Terminology**

Add short definitions and context next to or underneath specialized terms (such as “fireshed” and “elk severe winter range”) to ensure that all users can interpret data accurately without prior domain knowledge.
- 4 Refine Visual Layout**

Reduce visual clutter and excessive white space by improving alignment, grouping related elements, and removing unnecessary graphics. A balanced layout will make the interface more intuitive and visually cohesive.
- 5 Add Contextual Guidance**


Integrate tooltips, short summaries, or hover text to explain the function or purpose of each data section or map. This will help users understand how to navigate the hub effectively and make better use of its resources.



CONCLUSION

This research identified key usability barriers within the OPPI Data Hub, including unclear navigation, inconsistent visual hierarchy, technical jargon, and overwhelming text density. While users valued the availability of natural resource data, they struggled to locate, interpret, and apply it effectively. Addressing these challenges through clearer organization, improved readability, and simplified terminology will significantly enhance the platform's usability and accessibility.

To move forward, the next phase should prioritize refining navigation, simplifying the layout, improving visual hierarchy, and reducing overly technical language, drawing directly from the usability findings (see Appendices). Following these revisions, a second round of testing with a larger and more diverse user group is recommended to evaluate progress and find future enhancements to be made in the OPPI Data Hub.





THANK YOU

If you have any questions about this usability report, you can reach me below.



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APPENDICES

APPENDIX A: USABILITY TESTING PROTOCOL



Usability Testing Protocol

Project: [OPPI Data Hub](#)

Date: 10/13/2025

Version: 1

Prepared by: Tatiana Choate

1. Test Summary

- **Product:** OPPI GIS Lab — Natural Resources Section
- **Purpose:** Evaluate usability, discover navigation issues, and assess ease of data retrieval or discovery.
- **Stakeholders:** UX team, project managers, GIS researchers, general public.

2. Personnel Roles

Facilitating, note-taking, and observing will be managed by Tatiana Choate.

3. Greeting Script

Hello, thank you for participating. We're testing the *Natural Resources* section of OPPI's GIS platform. There are no right or wrong answers, and this session will take roughly 10 to 20 minutes. Please try to think aloud as you complete the given tasks, as your feedback will help us improve the site. Your responses will remain confidential as we're testing the site, not you. Additionally, you're welcome to stop at any time.

4. Pre-Test Demographics

- **Age:**
- **Gender:**
- **Education:**
- **Occupation:**
- **Familiarity with GIS:** (1–5)
- **Frequency of using online natural resource data:** (Never, Rarely, Sometimes, Often)
- **Previous experience with OPPI GIS Lab?:** (Yes/No)



5. Test Scenario and Tasks

Scenario

Please complete the following tasks as if you were a resident of Colorado Springs looking through the Natural Resources tab for information regarding Firesheds, Wildlife Exposure, Wildlife Risk, Natural Resource Data, and Data Documentation.

Tasks

1. You're interested in finding the most recent data available about Firesheds, please explore the site to see what you can learn.
2. Take some time to explore information about the risks and rewards of firesheds, what stands out to you?
3. As you review the material, consider how wildlife may be impacted by fireshed risks. What did you notice?
4. See if you can find the Natural Resource Data Hub. What information does it provide?
5. Explore the Fireshed Land Ownership map. What insights do you gain from it?

6. Feedback Methods

- **Concurrent:** Think-aloud during task completion.
- **Retrospective:** Post-task interview questions to clarify any difficulties.
- **Observation:** Record actions, errors, hesitations, and frustrations.

7. Post-Test Questions

Open-Ended:

- What did you find most confusing or difficult?
- What did you like most about the website?
- Any suggestions to improve usability?

Closed-Ended (1–5):

- Ease of navigation:
- Confidence in completing tasks:
- Overall use:
- Overall satisfaction:
- Completion time (minutes):

APPENDICES

APPENDIX B: USABILITY TESTING FINDINGS



Appendix A: Dakota, Ami, Victoria

Pre-Test Demographics

- Age: 24, 22, 19
- Gender: Male, Female, Female
- Education: High School Diploma, High School Diploma, College Student
- Occupation: Engineer, Food Service Worker, Student
- Familiarity with GIS: 1, 1, 2
- Frequency of using online natural resource data: Never, Rarely, Rarely
- Previous experience with OPPI GIS Lab?: No, No, No

Test Scenario and Tasks

Scenario

Please complete the following tasks as if you were a resident of Colorado Springs looking through the Natural Resources tab for information regarding Firesheds, Wildlife Exposure, Wildlife Risk, Natural Resource Data, and Data Documentation.

Tasks

6. You're interested in finding the most recent data available about Firesheds, please explore the site to see what you can learn.
7. Take some time to explore information about the risks and rewards of firesheds, what stands out to you?
8. As you review the material, consider how wildlife may be impacted by fireshed risks. What did you notice?
9. See if you can find the Natural Resource Data Hub. What information does it provide?
10. Explore the Fireshed Land Ownership map. What insights do you gain from it?

6. Feedback Methods

- Concurrent: Think-aloud during task completion.
- Retrospective: Post-task interview questions to clarify any difficulties.
- Observation: Record actions, errors, hesitations, and frustrations.

7. Post-Test Questions

Open-Ended:

- What did you find most confusing or difficult?



- I had a difficult time finding anything related to the tasks, such as Firesheds, the Natural Resource Data Hub, and Wildlife Resources.
- The landscape of the page and scrolling-tab was confusing to navigate, and there was little cohesion or correlation between tabs or pages. Additionally, the link on the page to the OPPI Master Map was confusing and difficult to find—I didn't even realize it was a link, and scrolled past it multiple times. I was also confused about the random pictures on the site, as there was no explanation as to why they were there. Finally, I didn't like that the fireshed information tabs were so small and took up so little space, as I didn't realize they were there until farther into my test.
- It was confusing to find any information regarding firesheds—I also noticed that there wasn't a straight-forward explanation as to what a fireshed is. Additionally, I was confused by the map, and couldn't figure out how to select a fireshed or use the feature.
- What did you like most about the website?
 - Unfortunately, I didn't like anything about this site.
 - I appreciate the information provided on the site, but the layout makes it hard to use the page effectively.
 - Honestly, I didn't like the site.
- Any suggestions to improve usability?
 - I believe that the site would be more usable if items, pages, and text didn't overlap. It'd also be more readable if there was individual pages with clear headers and summaries, as I found the site unusable due to the scrolling feature.
 - I'd recommend that the designers use the entire page for the information provided rather than stuff it into a small, scrolling text box. By using the whole page, it'd make the content easier to read and follow along. I'd also suggest removing the random picture of the site's tab, and make the fonts bigger. Finally, information seems brief and in snapshots, I'd personally like more explanations and a description as to why certain maps are more helpful than others.
 - The interface was messy and unorganized, and there were a lot of PNGs and links that felt out-of-place. There wasn't enough information on a vast majority of topics, and the information given felt vague, repetitive, and used terms I wasn't familiar with. It took more time to find material and decipher the meaning behind them than to actually absorb the information provided. Honestly, the site was overwhelming, as it felt as though too much

APPENDICES

APPENDIX B: USABILITY TESTING FINDINGS CONTINUED



information was presented on each tab, with very little visual-guidance (such as headers), and the paragraphs were far too long. Additionally, the navigational hub was small and hard to find; and I personally didn't like the large amount of white space, as it made me think information below the scrolling text box was a footer.

Closed-Ended (1-5):

- o Ease of navigation: 1, 1, 1
- o Confidence in completing tasks: 2, 1, 2.5
- o Overall use: 1, 1, 1
- o Overall satisfaction: 0, 1, 0
- o Completion time (minutes): 5, 20, 16



8. Notes

Observations

- o **Dakoda** moved quickly through the site, completing all five tasks but missing several steps. He became frustrated with overlapping items and had difficulty distinguishing between interactive and static content.
- o **Ami** explored the homepage and attempted to follow the "Fireshed Registry" and "OPPI Master Map" links but expressed confusion about the page structure and scrolling behavior; having scrolled right past them multiple times. She frequently paused to read large text blocks, seemed frustrated by the lack of visual hierarchy, and frequently clicked the "Natural Resources" tab in hopes it would hover with more options.
- o **Victoria** carefully followed each task and engaged deeply with the content but frequently expressed frustration and critiques. She found the interface confusing, disliked the design, and criticized the excessive text and lack of organization.

Time-Stamps

- o **Dakoda**
 - o 2:40 — Scrolled back and forth looking for a navigation bar.
 - o 4:12 — Completed the final task but said "That was rough."
- o **Ami**
 - o 2:15 — Paused on homepage, said "I don't really know where to start."
 - o 8:42 — Clicked on the wrong tab twice.
 - o 14:10 — Expressed frustration with scrolling within a small window.
 - o 18:33 — Found desired information but said she "wouldn't use this site again."
 - o 19:03 — Asked "Why didn't they add a description below this one? I have no idea what a 'Elk Severe Winter Range' is. Half the information I have to look up."
- o **Victoria**
 - o 2:05 — Asked, "What even is a Fireshed? There's no explanation as to what it is."
 - o 3:10 — Asked, "Where even is the hub supposed to be?"
 - o 7:32 — Stopped reading midway through a section, saying, "There's too much text."
 - o 12:04 — Found the map confusing and the text too small.

APPENDICES

APPENDIX B: USABILITY TESTING FINDINGS CONTINUED



Errors and Hesitations

- **Dakoda**
 - Skipped important steps due to unclear visual hierarchy.
 - Overlapped pop-up content obscured part of the page.
 - Failed to locate wildlife data despite multiple attempts.
- **Ami**
 - Misclicked on the "Master Map" link expecting a description rather than being redirected.
 - Scrolled past important information due to small text box containers.
 - Confused by the random screenshot of the search bar under the "Master Map" section.
- **Victoria**
 - Struggled to identify navigation elements and skipped key sections.
 - Misinterpreted fireshed data due to unclear labeling.
 - Attempted to use visual elements as links that weren't interactive.
 - Grew frustrated with the excessive scrolling and skipped a task.
 - Found the OPPI Data Hub after verbal frustration and was overwhelmed with the layout.

Quotes

- **Dakoda**
 - "There's just too much going on."
 - "The layout overlaps and looks broken."
 - "A search bar would help."
- **Ami**
 - "The layout doesn't make sense... it feels like everything is floating."
 - "Why is this picture here? There's no explanation."
 - "It's hard to know what's clickable or where the information actually is."
 - "It'd be helpful if they let you hide some of these giant colored circles on the map, so I could choose what animal migration patterns I want to see."
 - "If I was color-blind, I wouldn't be able to distinguish anything on this Fireshed Map at all."
- **Victoria**
 - "They literally don't tell me what a fireshed is once... I'm looking it up!"
 - "See? This would be so helpful if they had this in the fireshed section. This site makes some sense now."
 - "It's so unorganized and it makes me not want to keep looking."



- "The white space and long paragraphs are really bad."
- "I really don't like that there's no headers and that I have no idea what's going on."
- "I literally thought this was the footer, I didn't even realize it was more content I was supposed to look at."
- "OMG. Those were tabs?! I didn't even realize."