

Usability Report REI.COM

REI.COM: A USABILITY STUDY OF THE MULTI-PURPOSE RECREATIONAL EQUIPMENT WEBSITE

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P3 – Test Results
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Executive Summary

REI.com is a multifaceted website with options for recreational equipment retail, used gear purchasing, and recreational activity classes, events, and trips. A usability study was carried out in order to evaluate the user experience on each of these different functions of the website. Participants were selected as belonging to the primary target user group: active young working adults on a budget.

Testing was carried out over a period of ten days in November of 2022. Participants completed a pre-study questionnaire to gather demographic information, as well as information on their recreational activities and internet usage. They were then given four scenarios with associated tasks that covered Shop REI (the main retail website), REI Adventures (trips), Classes & Events, and Used Gear. Quantitative data was gathered on task success and time on task, while qualitative feedback was gathered from a “think aloud” protocol that provided insight into participants’ reactions and criticisms. Participants were also asked to select reaction terms after each scenario that represented their experience. After completion of all four scenarios, participants filled out a post-study SUS questionnaire and answered questions in a post-study interview.

Overall the REI.com retail site was received well by the study participants, but there was consistent “surprise effect” when digging deeper into the multi-purpose sub-sites promoting events/classes, trips/adventures, and used gear.

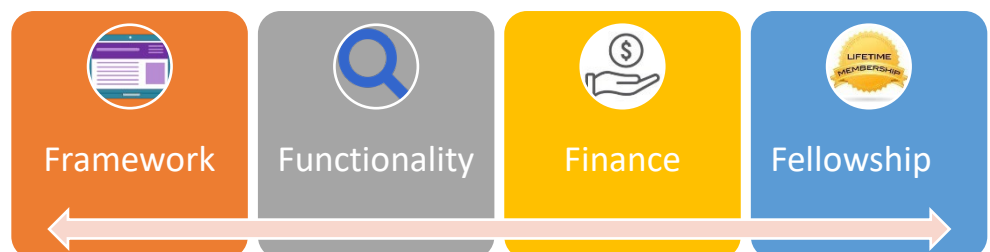
Most study participants were able to navigate through the existing search filters easily, and found that the existing site structure follows normalized expectations for contemporary retail websites. This study was completed ramping up to Black Friday and a busy retail season, and it’s apparent that current leadership focuses on consistent shift, as the landing page changed four times in this study period. There are consistent visual aspects that people tend to associate with REI; including outdoorsy images, scenery, as well as people enjoying outdoor activities. Frustrations and errors were mainly witnessed in difficulty navigating to and within the subsites outside of the main retail site, as well as unclear pricing between members and non-members and confusing wording of the satisfaction guarantee.

Our recommendations include raising the importance of the sub-sites -- which encourage camaraderie in the great outdoors and sharing this obsession with others with upgrade options, learning opportunities, and adventures. Since “Co-op” is part of our name, our site should reflect the collaborative, cooperative spirit. Our user participants were all surprised to notice that the REI site also promotes classes, adventures, and trade-in opportunities.

As “REI” humans, participation in outdoor activities and camaraderie are the expectation, and not an anomaly, so elevating the pathways to these sub-sites and highlighting connections between gear and offered activities should be a primary goal. On the REI site, we can encourage others to #OptOutside with new or used gear, with new outdoor skills and experiences, and with others who may share the passion of great trips and quality gear. Increasing search functionality should be the secondary goal, since even within this small-scale study, searches weren’t always successful; either because key search terms weren’t incorporated or the content on the subsites seems to be segregated within the retail site.

Fortunately, many of the obstacles we observed the study participants encountering may be easily addressed. In the report that follows, we describe our observations, the participants' successes, and their challenges specific to framework, functionality, finance, and fellowship.

[Skip to Recommendations](#)



Background and Objectives

- A study of the REI.com website was completed in November, 2022 for a graduate-level Usability course at Metropolitan State University.
- The primary goal of the study was to implement research-driven methods and gain an understanding of how to conduct research on a website with live subjects and review their interactions in an online environment.
- For the usability study, the objective was to evaluate the user experience as it relates to purchasing new and used clothing and equipment, as well as finding and signing up for events, classes, and adventures in the multi-faceted retail website.

Product

Recreational Equipment, Inc (REI) is a well-known American retailer that specializes in outdoor and recreational gear and clothing. REI.com is their retail website with that has a unique, multi-purpose approach: 

1. To serve as an online platform for their retail store
2. To serve as an online platform for used gear sales
3. To connect and educate outdoor recreation enthusiasts through classes and events, as well as trips
4. To provide expert advice on outdoor recreation activities and gear



Target Users and Participants

REI.com has a broad range of target users, including people of any background and age who participate in recreational activities. The age of subjects in images displayed on the website indicates they may primarily target a younger demographic, while their emphasis on sales and deals shows an acknowledgement of the financial constraints many young working adults experience. For the usability study, we focused on this primary target user group. Our target users and test participants were young, working professionals; adults who are physically active, don't yet have a large disposable income, and therefore need to make purchases with a budget in mind. Study participants were screened to include on those aged 24-40 who are currently employed (or spouse currently employed), are active in at least one of the recreational activities that REI specializes in, have made an online purchase in the last six months, and do not currently work for REI (Appendix A). Test participants' demographics are further outlined in the Pre-Study section of the Results.

REI.com subsites offering classes, events, and expert advice also indicate an effort to appeal to beginners in the recreational activities they cover. Newcomers to recreational activities can feel intimidated and overwhelmed, and the perception of "gatekeeping" can be a further deterrent to trying a new activity. If the company and its website can demonstrate a welcoming attitude and a judgement-free space for beginners to learn, they have the chance to create loyal customers who will continue their patronage while they gain experience in their recreational activities and upgrade their gear. While we did not specifically seek beginners to recreational activities as our test participants, we chose to include a range of activities in our test scenarios (winter sports, rock climbing, mountain biking, and camping). Test participants had varying levels of familiarity with each activity, which provided us feedback from a range of experience perspectives.

Persona

We developed a persona based on "Shawna", who is a working professional with various financial responsibilities; raising a young child, considering graduate school, purchasing a home, and upgrading a personal vehicle. She and her partner want to retain their active lifestyle, while investing in quality equipment and experiences for themselves and their young daughter.

Shawna (our fictional persona) was in her early thirties. She has a spouse and 5-year-old child. She works as a nurse, stays active and had friends and colleagues who enjoy outdoor activities. She appreciates the opportunities to shop online, but wants to be able to walk into a physical location to be able to see and compare items personally when the purchase is more substantial. Shawna strives to stay within a budget as she is considering a few major purchases, including a vehicle and graduate school. She would lean towards the Co-op Outlet and sales merchandise opportunities to meet this goal, but would consider investing towards experiences or a quality item that will last several years (If her new car goal is met, she would strongly consider a bike rack.)



User persona

Kolan & Karels | October 9, 2022



Persona name: Shawna

Age: 31

Occupation: Registered Nurse (5 years)

Education: Bachelor's degree in Nursing
(but considering grad school)

Motivation

Character Traits: Humorous, Caring,
Adventurous, Competitive, Active

Technology expertise level

Internet ● ● ● ● ●

Mobile apps ● ● ● ● ●

Software ● ● ● ● ●

Social media ● ● ● ● ●

Devices used



Favorite brands or apps



Goals

Shawna is married to Jerod, a software developer. She will be exploring activities for them as a couple and wants to spend time outdoors and active consistently. She wants to instill a love of nature in their five-year-old child. An active lifestyle and outdoor activities are techniques that she uses to create balance in her life. Some of her favorite activities include camping, mountain biking, and trail running. With their flexible work schedules, she tries to devote time and energy to herself and maintain relationships with others.

Shawna and Jerod are trying to live on a budget, as they are also purchasing a home and would like to buy a newer car soon.

Frustrations

Worrying that she isn't getting the best value
Lack of diversity in the outdoor recreation community
Concern that her family will "grow apart"
Her parents don't spend enough time with their grandchild
Her car needs an upgrade since mileage is close to 150K
She is trying to stay away from social media trends, but uses it to stay in touch with her friends and family.

Source:

https://lucid.app/lucidchart/694de604-1a25-4c66-a1e7-e132a22a9be6/edit?viewport_loc=-1149%2C-141%2C3727%2C1767%2C0_0&invitationId=inv_56f8ce3b-c92a-43f3-8d9f-60b9711f2616#

Test Participants and Persona

The testing participants recruited for the usability study fit the same criteria as our persona: active, young, working professionals. In this practice exercise, our subjects came from a homogeneous pool of friends, family, and neighbors – however all test subjects fit the criteria identified in alignment with our persona. If this were a larger study, we would have made intentional efforts to be more inclusive of participants from more diverse backgrounds; incorporating a range of cultural, racial, and gender identities – while still maintaining the age range and employment criteria.

Methods and Procedure

Preparatory phase

Prior to testing, several preparatory steps were carried out in order to research the website and its target users. The website was thoroughly explored by the test moderators to understand its basic functions and information architecture. Target user groups were developed based on knowledge of the website and the outdoor recreational activities it promotes. Six target users were surveyed regarding their experiences shopping for recreational equipment both at REI and other retailers (Figure 1,2). A persona representing the primary target user group was developed and used to perform a cognitive walkthrough of six different scenarios using REI.com. The scenarios were developed using insights gained from the survey results and research of the website.

FIGURE 1: USER EXPERIENCE SURVEY - PERSONA DEVELOPMENT

DEMOGRAPHICS (Name not required)

Household size If children, list ages

Age Gender Annual adjusted gross income \$

REI.com User Experience Survey

Thank you for helping us gain insight into the user experience of outdoor/ recreation enthusiasts, specifically to understand needs of those visiting the website/retailer: REI.com.

You do not need to have visited REI.com to fill out this survey.

For open-ended questions, you may be as brief or as detailed as you would like.

Survey questions:

Do you prefer to shop in store or online for outdoor/recreational gear? Why?

How many times in the last year have you purchased gear or clothing related to outdoor activities or recreation?

☐ Never ☐ 1-2 times, ☐ 3-5 times ☐ 6+times

What frustrations do you have with the experience of shopping for outdoor gear online (through any retailer)?

When purchasing new outdoor or recreational gear, how many reviews do you typically read?

When purchasing used gear or clothing, what information about the item do you expect to see? (on any site, including eBay, Poshmark, Facebook Marketplace, etc.)

What type of device(s) do you use when browsing or purchasing outdoor or recreational gear or clothing online?

☐ desktop computer ☐ laptop ☐ tablet ☐ mobile phone

FIGURE 2 USER EXPERIENCE SURVEY - PERSONA DEVELOPMENT (CONTINUED)

The following questions are specific to the REI.com website

Are you an REI member? ☐ Yes ☐ No

If you have purchased from REI.com before, what categories have you made purchases from?
(choose all that apply)

- | | | |
|---|---|--|
| ☐ Camping/hiking | ☐ Fitness | ☐ Travel gear |
| ☐ Climbing | ☐ Kids' gear/clothing, | ☐ T-shirt, hat, etc |
| ☐ Clothing
(unrelated to a specific activity) | ☐ Running | ☐ Watersports |
| ☐ Cycling | ☐ Snowsports | ☐ Winter Clothing |
| ☐ other | <input type="text"/> | |

Have you ever participated in a class or event through REI? ☐ Yes ☐ No

How likely are you to participate in a class or event through REI in the future?

☐ unlikely ☐ somewhat likely ☐ very likely ☐ definitely

Why?

If you are an REI member, have you purchased from their used gear / member returns section?

☐ Yes ☐ No ☐ in store ☐ online

If yes, what was your experience?

If you are interested in learning a new outdoor activity, how likely are you to visit REI.com for expert advice (articles on learning new skills, choosing and maintaining gear, how to prep for trips, etc.)? Why?

Is there an outdoor recreation equipment retailer that you prefer to REI? If so, why?



Testing phase

Usability testing was carried out with seven participants that fit the primary target user group of active young working professionals. Each participant was screened to select only those aged 24-40, who are currently employed (or their spouse is employed), participate in recreational activities at least a couple times per year, have made an online purchase within the last six months, and do not currently work for REI. Four scenarios were taken from the six created during the preparatory phase to use for testing. The four scenarios were selected so that four different areas of the REI.com website would be represented. This included the main retail and REI Outlet website (Scenario 1), REI Adventures (Scenario 2), Classes/Events (Scenario 3), and Used Gear or Re/Supply (Scenario 4). {See p10 or Appendix C}

Testing took place in a home environment, using a laptop or a desktop computer. Distractions were minimized by using a closed room apart from children, pets, and other family members. Two moderators carried out testing separately, while recording the test sessions using Microsoft Teams with screen sharing. This gave both moderators access to test audio and screen activity, from which direct quotes and times could be gathered at a later point. The two moderators followed a script in order to standardize the information given to participants and minimize confounding factors in the test results. Before beginning testing, participants completed a questionnaire that was designed to gather demographic information, as well as information on their recreational activities and internet usage.

Participants were each given a sheet with the four scenarios and associated tasks listed in order. Each was encouraged to think aloud and was shown an example of thinking aloud by the moderator on another website. Participants were asked to read each scenario and task aloud and were given as much time as needed to ensure they understood each task before beginning. Once they were ready to begin, the moderator announced the task number and that they were starting for the recording. Participants were allowed to complete the task at their own pace and were asked to state aloud when they were finished, and state any information requested by the task. They would complete the main task, then move on to each subtask in order. During completion of the tasks, the moderators made note of participants' processes and reactions. If participants fell silent, the moderators would ask neutral, balanced questions in order to prompt them to think aloud.

After completion of each scenario, participants were shown a laminated sheet of 118 reaction terms {Appendix D} and asked to choose five terms that represented their experience during that scenario. Moderators recorded the terms chosen for each scenario. Upon completion of all four scenarios, participants were given an adapted version of the System Usability Scale. This includes ten statements with a five-point Likert scale response in order to quantify their overall experience using REI.com during the test {Appendix E}. Moderators calculated an SUS score from participants' responses using standard scoring rules for the SUS {Scoring details also in Appendix E}.

Finally, a post-study verbal interview of each participant was conducted in order to gain retrospective insight into their experience with the website overall. Participants were asked three standard questions:

- *What did you feel made the website easy or difficult to use?*
- *How did this experience compare to your experiences on other retail websites?*
- *Upon first visiting the website, did you notice that it is a multi-purpose website, with options to look at the main retail website and also used gear, classes/events, and adventures? Why or why not?*

Participants were then asked questions based on their selected reaction terms and specific comments made during the testing process. This gave moderators a chance to elicit more explanation from the participants without affecting time on task during testing. Participants were thanked for their feedback and given gift cards as compensation for their time.

After testing was completed, moderators revisited the recorded sessions in order to gather task success and time on task data, as well as direct quotes from the participants. The metrics of task success and time on task were chosen as the most important metrics relative to our objectives. We aimed to evaluate the user experience as it relates to purchasing new and used clothing and equipment, as well as finding and signing up for events, classes, and adventures in the multi-



faceted retail website. Obviously the most important outcome in each of these areas is whether or not the user is able to successfully complete the task. Any time a participant fails to successfully complete a task, it points to possible usability issues of the website. Likewise, a user taking an especially long time to complete a task relative to other users provides a valuable opportunity to explore the causes of their delay. Users expect to be able to complete tasks online quickly and if this is not the case, they may decide to give up or pursue alternative options on other websites.

The data from the pre-study questionnaire, post-task reaction terms, SUS scores, and performance metrics from testing were compiled in Excel in order to analyze trends and discrepancies. This information is laid out in depth in the section on Results. We were able to identify which participants had task failure or incomplete task success, or significantly longer time on task. Having recorded screen activity allowed us to follow that participant's unique route through the website for that task and identify where and why they encountered issues. These causes of task failure and delay were analyzed in order to develop recommendations for improvement of the website.

Test Scenarios

- 1) You are looking for a warm base layer to wear in the upcoming cold months so that you can continue to be active through the winter.

Task: Find a midweight wool base layer top in your size for under \$75.

- a. Determine the average customer rating.
 - b. Determine whether it is available at a store within 50 miles of your home.
- 2) You would like to take a trip somewhere to go mountain biking, and heard that REI offers trips that cater to specific outdoor activities.

Task: Find a trip that caters to mountain biking.

- a. Identify the location, dates, and cost estimate.
 - b. Identify what gear, if any, REI provides for the trip.
- 3) You enjoy rock climbing and want to get a 6 year-old child in your life (your own child, a niece/nephew, a grandchild, a godchild, etc.) involved in the sport.

Task: Find a kids' climbing class/event within 100 miles of St. Paul.

- a. Identify the date, time, cost, and location of the soonest class that is not full.
 - b. Determine whether this child is old enough for the class, and what they would need to bring.
- 4) You need a new tent for backpacking and camping trips, but you are on a budget. You've heard that REI sells used gear online and want to see if you can find a light tent that fits a minimum of two people.

Task: Find whether REI.com has a **used** tent in excellent condition for under \$200, that fits at least 2 people.

- a. Determine the packed weight of the tent.
- b. Find the description of the tent's condition.
- c. Determine shipping cost.
- d. Determine the return policy on used gear purchases.



Study Participants

Our study consisted of seven people tested over a period of ten days. There were five females and two males with no representation of LGBTQI or BIPOC groups.

Our participants' education was across the spectrum, with all having at least some post-secondary education. The most representation was from those who had started/completed graduate work.

Participants all had recent (within the past 6 months) experience in online purchasing. All participants were extremely active in recreational activities with engagement several times per week in running, cycling, and other activities. None of our participants are employed by REI, nor are the test moderators.

Our testing was conducted "in-person" with a screen recording completed in addition for reflection, as well as containing the capacity for timing each activity to identify the quantitative data. The recording allowed us to review all the sessions, as well as rewind and review to capture qualitative feedback.

Figure 3: Education level of Participants

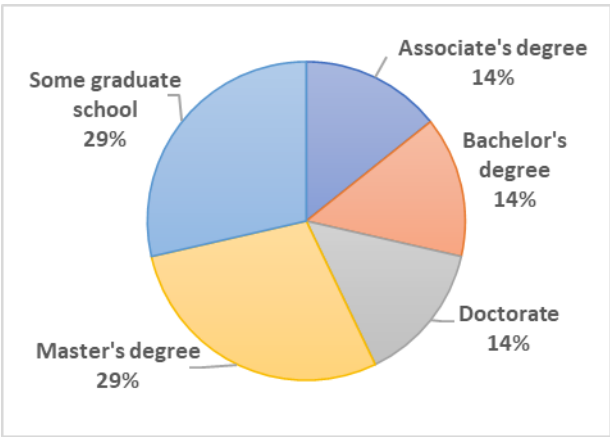


Table 1: Activity level & Interests by identified Gender

	Man	Woman	Grand Total
3-4 times per week	2	2	4
Cycling	2	1	3
Running, Water sports		1	1
Daily		3	3
Running		1	1
Running, Cycling		1	1
Watersports		1	1
Grand Total	2	5	7



Results

Screener and Pre-Study

Ensuring that the usability study focused on reactions within a target market, we developed screener questions to ensure that we excluded those outside the range of the target market, and we did a pre-study to lay-out the demographics and experiences of those who were included.

Screener Questions

Questions were developed to identify participants who were similar to the persona developed in Phase 1 of this study. We wanted to home in on purchasers who were between 24 and 40 years of age, those who were employed and had experience making online purchases. Our goal was to complete the interviews and usability study within a narrow period of time so that they were able to see similar items, as well as identify the same upcoming classes and adventures.

Screening Criteria (Appendix A)

- 24-40 years of age (young professionals user group)
- Currently employed (and/or spouse is currently employed)
- Active in at least one of the recreational activities that REI specializes in
- Have made an online purchase in the last 6 months
- Do not work for REI

Pre-Study

Pre-Study questions were developed to clarify the background of study participants, as well as their engagement with online purchasing and retail activities specific to their interest in and commitment to outdoor activities. Pre-Study questions are detailed in Appendix B. Pre-study responses for seven participants are noted below:



PreStudy Responses

PARTICI-PANT	Q1 AGE	Q2 EDUCATION	Q3 GENDER	Q4 RACE	Q5 FREQUENCY OF OUTDOOR REC	Q6 FAVORITE ACTIVITY	Q7 YEARS OF EXPERIENCE
1	24-30	Doctorate	Woman	White	3-4 times per week	Cycling	Less than one year
2	31-35	Master's degree	Woman	White	Daily	Watersports	More than 10 years
3	36-40	Bachelor's degree	Man	White	3-4 times per week	Cycling	More than 10 years
4	31-35	Associate degree	Woman	White	Daily	Running	More than 10 years
5	31-35	Some graduate school	Man	White	3-4 times per week	Cycling	More than 10 years
6	36-40	Master's degree	Woman	White	3-4 times per week	Running, Water sports	More than 10 years
7	24-30	Some graduate school	woman	White	Daily	Running, Cycling	More than 10 years

PARTICI-PANT	Q8 SPENDING ON ACTIVITY	Q9 ONLINE PURCHASE FREQUENCY	Q10 DEVICE PREFERENCE	Q11 WEEKLY INTERNET TIME
1	\$500-\$999	A couple times per month	Laptop computer	Over 40 hours
2	\$100-\$299	3-4 times per week	Mobile phone	10-20 hours
3	\$300-\$499	A couple times per month	Mobile phone	20-40 hours
4	\$100-\$299	A couple times per month	Laptop computer	Over 40 hours
5	\$500-\$999	1-2 Times per week	Mobile phone	10-20 hours
6	\$300-\$499	A couple times per month	Laptop computer	Over 40 hours
7	\$500-\$999	A couple times per month	Mobile phone	Over 40 hours



Four Scenarios in Usability Study

Scenario 1: Main Retail website (Shop REI and REI Outlet)

Scenario 1 introduced the participants to the main retail website (Shop REI) and, depending on items selected, their discounted retail website (REI Outlet). They were asked to find a midweight wool base layer top in their size for under \$75. This task was used to evaluate how easily the customer could navigate their retail site while searching for a product with several criteria. The specific criteria of material, material weight, size, and price were chosen in order to see how participants applied filters and searched for specific information on an item's page.

TABLE 2: FIND A MIDWEIGHT BASE LAYER TOP IN YOUR SIZE FOR <\$75

Task 1		
Participant	Task success	Time on task (sec)
1	75% Success	177
2	75% Success	140
3	75% Success	206
4	Success	113
5	75% Success	135
6	Success	188
7	Success	75
Average		147.714

Subtask 1A asked them to determine the average customer rating of the product they chose. Survey results from Phase 1 of this study showed that the majority of respondents read 5 or more reviews before buying gear online. Since many customers base purchase choices partly on reviews, we wanted to see how easily they would find this information.

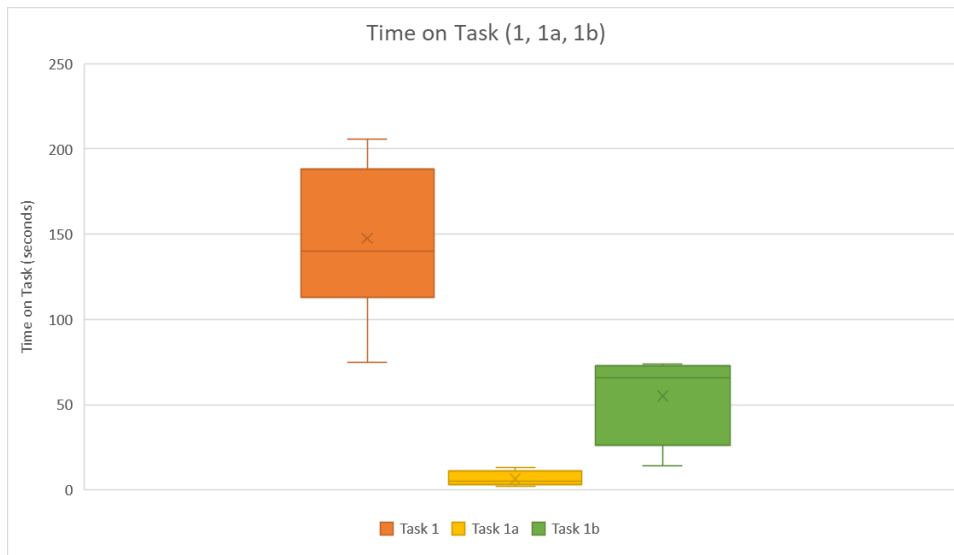
Subtask 1B asked them to determine whether the item is available at a store within 50 miles of their home. Phase 1 survey results showed that many people prefer to purchase outdoor gear and clothing in-person so that they can better evaluate its quality. This subtask was designed to evaluate how easily a customer could find whether an item was available somewhere they could see it in person. Unfortunately, a larger distance should have been chosen, because 3 participants chose not to attempt this subtask, as they knew there were no REI stores within 50 miles of their home. This however, does make the online purchasing experience more important to them, since travel to a store is extremely inconvenient.

TABLE 3: TASK 1A - FIND THE AVERAGE CUSTOMER RATING 1B DETERMINE IF IT IS AVAILABLE WITHIN 50 MILES OF HOME

1a			1b	
Participant	Task success	Time on task (sec)	Task success	Time on task (sec)
1	Success	2	Success	14
2	Success	3	Success	62
3	Success	11	Success	70
4	Success	4	Success	74
5	Success	5	NA	
6	Success	7	NA	
7	Success	13	NA	
Average		6.429		55



FIGURE 4: TIME ON TASK 1, 1A, 1B (FIVE-NUMBER SUMMARY)



Summary of Task Success and Time on Task

In Scenario 1, the main task of finding a midweight wool base layer top in their size took the longest time, with an average of 148 seconds. The range was fairly wide, from 75 to 206 seconds. Participants took a couple different approaches to finding this item. Some typed the entire item description, or just “base layers”, into the search bar, while some located base layers within the main dropdown menus, then applied a variety of filters. While more than half of the participants had only partial success, this was mostly due to missing one of the criteria from the task (wool, midweight, your size, under \$75). When it was brought to participants’ attention that they were missing a criterion, they revealed that it was due to missing or forgetting that aspect while reading the task, not due to the website.

All participants found the average product rating (Task 1a) quickly and easily, with an average of 6 seconds to find, read, and state the rating aloud. From the four participants that attempted to find whether the item was available in a store within 50 miles (Task 1b), the average was 55 seconds.

Top reaction terms:

Straightforward, easy to use, organized, usable

What participants liked:

- Availability of filters
- Layout
- Technical specs (but inconsistent categories/ layout)

What participants didn’t like:

- Appearance of front page during sale
- Lack of reviews
- Amount of text in dropdown menus

Causes of incomplete success / failure:

- Misreading the task
- Rushing to completion





“Visually, the information is easy to see and it’s well laid out.”

“The more reviews, the better”

“Everything is perfectly marked.”

“I see a lot of dropdown menus that are a little intimidating.”

“It looks kind of cheap, to be honest. It doesn’t look like REI.”

“Some information about how somebody is using this in the real world ... There isn’t really any of that information on this page.”

Scenario 2: REI Adventures

Scenario 2 introduced participants to their first subsite of REI.com: REI Adventures. Participants were tasked with finding a trip that caters to mountain biking. The main task was kept simple, as this would likely be their first time trying to locate a subsite within REI.com.

TABLE 4: TASK 2 – FIND A TRIP THAT CATERES TO MOUNTAIN BIKING

	Task 2	
Participant	Task Success	Time on task (sec)
1	Success	70
2	Success	64
3	Success	95
4	Success	89
5	Failure	73
6	Failure	99
7	Success	25
Average		73.571

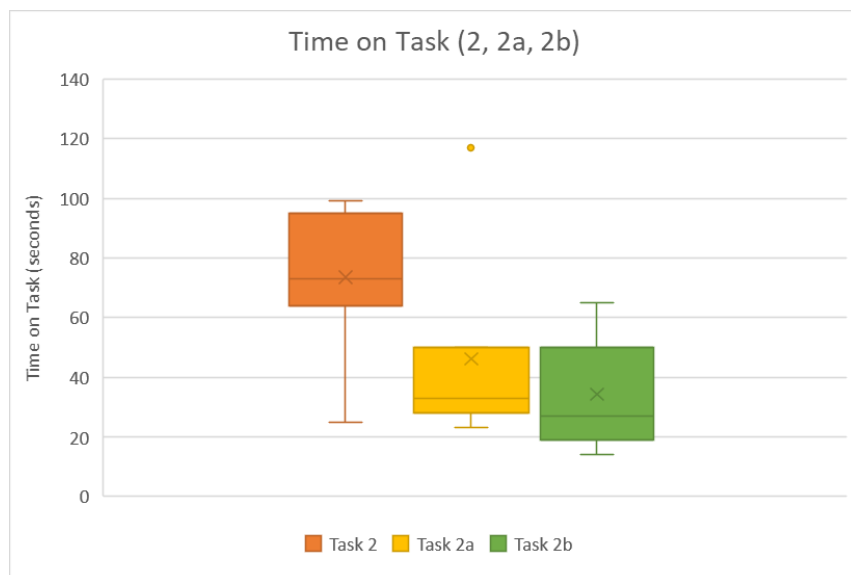
Subtask a asked them to find details about the trip, including location, dates, and cost estimate. The goal was to evaluate how clearly displayed essential details of the trip were. Subtask b asked participants to identify what gear, if any, REI provides for the trip. This subtask required slightly more navigation of the specific adventure’s page, and allowed us to see where participants expected to find secondary information about the trip.



TABLE 5: TASK 2A IDENTIFY THE LOCATION, DATES, & COST 2B IDENTIFY GEAR PROVIDED BY REI (IF ANY)

	2a		2b	
Participant	Task success	Time on task (sec)	Task success	Time on task (sec)
1	Success	43	Success	50
2	Success	117	Success	65
3	Success	33	Success	19
4	Success	28	Success	24
5	Success	23	Success	27
6	75% Success	50	Success	14
7	Success	29	Success	41
Average		46.143	34.286	

FIGURE 5: TASK 2, 2A, 2B : TIME ON TASK (FIVE-NUMBER SUMMARY)



Summary of Task Success and Time on Task

In Scenario 2, the main task of finding a trip that caters to mountain biking took an average of 74 seconds. Two out of the seven participants failed to complete the task. Participant 5 believed he had completed the task, but had actually found a class from the Classes & Events site. Of note, this participant had typed “trip” into the search bar, which failed to bring up REI Adventures. However, typing “trips” into the search bar would have brought him to REI Adventures. Participant 6 found a link to “New REI Adventures Trips” under the Travel dropdown menu on the main page. She believed there were no mountain biking trips available because she could only see the “new” trips, and Mountain Biking was not listed as an activity for any of the new trips.

It took participants an average of 46 seconds to locate the location, dates, and cost estimate (Task 2a). Participant 6 failed to notice that the larger displayed cost estimate was only for members, and the cost for non-members was listed in smaller print below. Participant 2 was an outlier in this task, taking 117 seconds to complete it. This participant had wanted to find the location in terms of where she would have to fly into, and how far from the airport it was. Naturally, this additional information took longer to find, but the participant was able to locate the information to her satisfaction on the trip’s page. It took participants an average of 34 seconds to locate Gear List and read the items that REI provides for the trip (Task 2b).

Top reaction terms:

Organized, convenient, clear, attractive, exciting

What participants liked:

- Visuals
- Layout
- Abundant details/information about trip
- Reviews (but wish they were less hidden)

What participants didn't like:

- Difficulty finding "trips" from home page
- Hidden reviews

Causes of incomplete success / failure:

- Unable to find REI Adventures
- Found REI Adventures through "new trips" link, unable to see other available trips
- Missed pricing for non-members



"Everything that I would hope would be there was there, down to even the page looked like how I hoped it would look like."

"I feel like all of the graphics are very empowering ... all of the visuals are high energy"

"It's not something that I expect from a retail site - Like an event, but it makes sense"

"I think it's really nice how it had everything on there for you. It had your itinerary, it had your Supply list - what they do, what they encourage you to bring."

"I was getting excited about going on trips."

"I care a lot more about what people have to say about it than what gear I need to bring."

"I knew they [REI Adventures] were there, but I'd never actually looked for them."



Scenario 3: Classes & Events

Scenario 3 involved finding and navigating REI's "Classes & Events" subsite. The participant was tasked with finding a kids' climbing class within 100 miles of St. Paul for a 6 year-old child. As the participant is learning the website, their navigation to subsites may become considerably faster. Nearly every route to REI Adventures could be followed similarly to Classes & Events.

TABLE 6: TASK 3 FIND A KIDS' CLIMBING CLASS/EVENT WITHIN 100 MILES OF ST. PAUL, MN

	Task 3	
Participant	Task Success	Time on task (sec)
1	Success	57
2	Success	106
3	Success	129
4	Success	35
5	Success	50
6	Success	58
7	Success	60
Average		70.714

Subtask a asked participants to identify the date, time, cost, and location of the soonest class with available spots. As these are some of the most important details about a class, we wanted to observe how easily they would be found. Subtask b asked participants to determine whether the child is old enough for the class, and what they would need to bring.

TABLE 7:

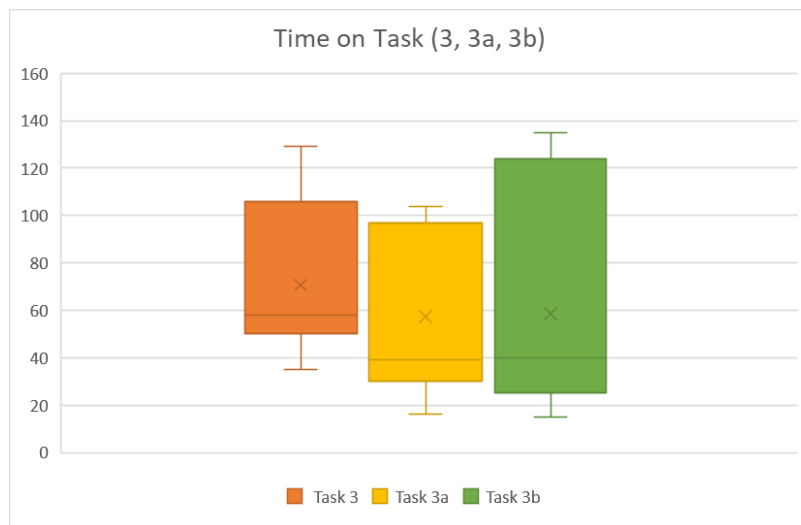
TASK 3A IDENTIFY THE DATE, TIME, COST, AND LOCATION OF THE SOONEST CLASS THAT IS NOT FULL

TASK 3B DETERMINE WHETHER THIS CHILD IS OLD ENOUGH FOR THE CLASS AND WHAT THEY NEED TO BRING

	3a		3b	
Participant	Task success	Time on task (sec)	Task success	Time on task (sec)
1	Success	97	Success	40
2	Success	104	Success	124
3	Success	81	Success	135
4	Success	39	Success	44
5	75% Success	30	50% Success	27
6	75% Success	34	Success	25
7	Success	16	50% Success	15
Average		57.286		58.571



FIGURE 6: TASK 3, 3A, 3B : TIME ON TASK (FIVE-NUMBER SUMMARY)



Summary of Task Success and Time on Task

In Scenario 3, the main task of finding a kids' climbing class within 100 miles of St. Paul took participants an average of 71 seconds. All participants were successful. The time on task had a fairly large range, from 35 seconds to 129 seconds. Participant 2 took 106 seconds, mostly due to confusion over the "kids only" description of the class. She had expected to attend with the child, so she wasn't sure this was the correct class and tried multiple searches. Participant 3 took 129 seconds to complete the task. He had similarly tried to find a class for "families," rather than "kids only". He also became distracted by trying to figure out the functionality of the homing symbol next to the location field of the class search function.

Finding an available class's date, time, cost, and location (Task 3a) took an average of 57 seconds. There was a wide range of times for this task, from 16 to 104 seconds. Participant 1 took 97 seconds to find the information. She had chosen a class that said it still had limited availability, then after she found all the information on its page, she noticed it was full. Upon exiting back to the available dates, this class still showed as having limited availability. The participant was very frustrated and felt that she had to check several times to make sure the class she chose was not full. Participant 2 took 104 seconds to complete the task, after becoming confused over there being "1 spot left". This participant wasn't sure if she had to register for her own spot with the child (since it said children must have an accompanying adult) and spent additional time reviewing the class page to see if she could find an answer. In the end, she said she assumed she only had to register the child, but she was still apprehensive. Two participants in this task had only partial success: Participants 5 and 6. Participant 5 simply missed that he had to state the time of the class. Participant 6 missed the "from" next to the cost and didn't realize that as a non-member, the class would have a higher cost for her.

Subtask 3b, determining whether the child is old enough for the class and what they need to bring, took an average of 56 seconds. This task also had a wide range of times, from 15 seconds to 135 seconds. The first part of the task, determining if the child was old enough for the class, was completed almost immediately by all participants. The difference in times is due to the second part of the task. The two participants that took the longest amount of time, Participants 2 and 3, were both confused by the gear list. The gear list included items like sun protection and weather-appropriate clothing, and both participants were confused because the class was indoors. Both re-read the class description to try to determine if part or all of the class would be outdoors. Two participants had only partial success: Participants 5 and 7. Participant 5 misunderstood the gear list and thought the items listed to bring to class were items provided by REI. Participant 7 didn't realize that she would have to click "details and sign up" on a specific class to access the gear list. However, this participant was familiar with REI classes and felt confident that she would not need to bring "anything else", and she knew that REI provided the climbing shoes, harness, and helmet.

Top reaction terms:

Easy to use, clear, inconsistent

What participants liked:

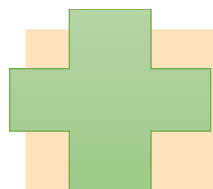
- Inclusivity of lower skill levels
- Filters
- Easy Navigation
- Number of class sessions available (though soonest were full)

What participants didn't like:

- Misleading pricing, using "from \$49"
- Feeling like they're being penalized for not being members
- Lack of photos of location / actual classes
- Layout of session availability
- Potentially confusing gear list
- Full sessions showing as "limited availability"
- No clear information about family involvement

Causes of incomplete success / failure:

- Misreading task
- Missing "from" on price, not seeing price for non-members
- Misreading gear list (what REI provides vs what you bring)



"They make it sound like, hey, anybody can do this! So that is cool."

"Even though I've never looked for an event before, it wasn't that hard to find something that was going to fit my criteria ... and I didn't have to click too much to find something that would work."

"It's pretty easy navigation with the filters there!"

"It says 'from \$49' so I don't know if it's \$49, so I don't trust it."

"That's a little frustrating, because it was advertised as \$49, and I get that they want to incentivize people, but that seems a little misleading."

"It would be cool if they had a video or something. Or if they could say 'this is the location, this is what you should be ready for.'"

"My eyes aren't drawn anywhere immediately ... they're kind of going in circles." [Looking for available dates]

"I don't like that they're even showing me ones that are sold out, it kind of is just frustrating."



Scenario 4: Used Gear

Scenario 4 prompts the participant to explore the Used Gear subsite of REI.com. They are tasked with finding a used tent in excellent condition for under \$200 that fits at least 2 people. Survey results from Phase 1 of this study showed that item condition and description of damage/wear were commonly reported as information that respondents expected to see when purchasing used gear.

TABLE 8 TASK 4--FIND WHETHER REI.COM HAS A USED TENT IN EXCELLENT CONDITION FOR UNDER \$200 THAT FITS AT LEAST 2 PEOPLE

Task 4		
Participant	Task success	Time on task (sec)
1	Success	255
2	Success	203
3	Success	212
4	Success	70
5	Success	105
6	Success	97
7	Success	40
Average		140.286

Subtask a asks participants to find the packed weight of the tent, in order to see how easily participants can scan for specific information on the item's page. Subtask b asks them to find the description of the tent's condition, since this is expected information reported by survey respondents.

Subtask c asks the participant to determine shipping cost.

Subtask d asks them determine the return policy on used gear items. Similar to the "find in store" subtask from Scenario 1, this subtask is based on the survey responses that listed inability to handle the gear as a frustration when shopping for outdoor gear online. If the participant can confidently locate the return policy, they might be more likely to purchase gear online. Knowing that they can handle it, test it out, and still return it within the return period gives the user an alternative to in-store shopping without sacrificing hands-on evaluation.

TABLE 9:

TASK 4A: DETERMINE THE PACKED WEIGHT OF THE TENT

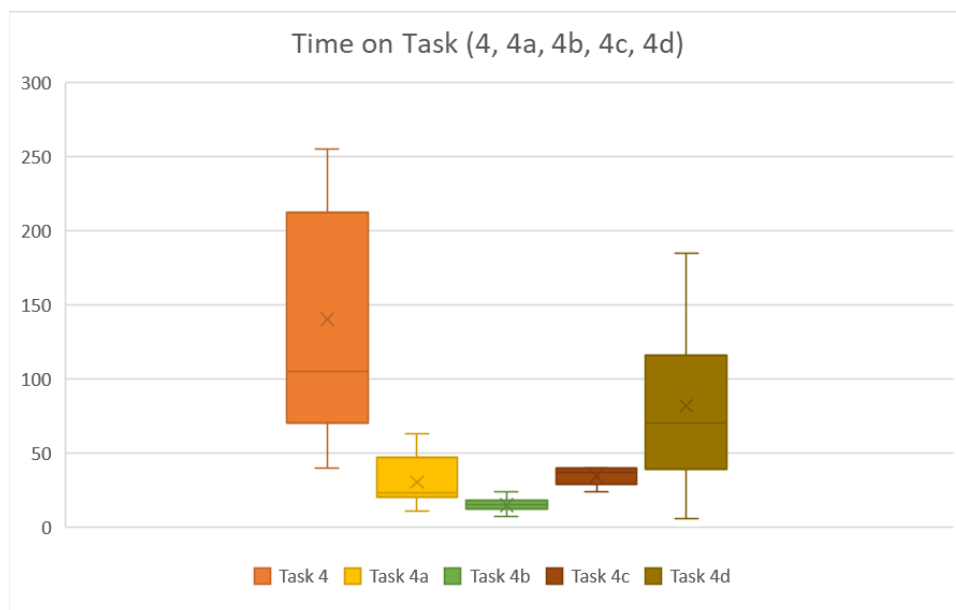
4B: FIND THE DESCRIPTION OF THE TENT'S CONDITION

4C: DETERMINE THE SHIPPING COST

4D: DETERMINE THE RETURN POLICY ON USED GEAR PURCHASES

4a			4b		4c		4d	
Participant	Task success	Time on task (sec)	Task success	Time on task (sec)	Task success	Time on task (sec)	Task success	Time on task (sec)
1	Success	63	Success	15	Success	39	50% Success	101
2	Success	11	Success	15	Success	24	Success	116
3	Success	20	Success	18	Success	37	Success	70
4	Success	20	Success	14	Success	40	Success	56
5	Success	23	Success	24	Success	31	Success	185
6	Success	47	50% Success	12	Success	29	Success	39
7	Success	30	Success	7	Success	40	Success	6
Average		30.571		15		34.286		81.857

FIGURE 7 TASK 4, 4A, 4B : TIME ON TASK (FIVE-NUMBER SUMMARY)



Summary of Task Success and Time on Task

In Scenario 4, the main task asked participants to find a used tent on REI.com in excellent condition for under \$200, that fits at least 2 people. Though this scenario resulted in the highest number of negative reactions, all seven participants were successful at completing the main task. Times ranged from 40 seconds to 255 seconds, with an average of 140 seconds. Factors that contributed to higher time on task included difficulty finding the Used Gear subsite, ineffectiveness of applied filters, inability to filter by specific criteria (specific price, size/capacity of tent), and inability to quickly locate size details on an item's page.

Task 4a asked participants to determine the packed weight of the tent. The average time spent on this task was 31 seconds, and all seven participants were successful. Of note, the packed weight was in different areas of the Technical Specs between different items. Participant 7 noted that there were three different weights provided between the item's listed Technical Specs and Features. Task 4b asked participants to find the specific description of the tent's condition, which is displayed in small print below the "Excellent Condition" descriptor of the item's front page. Only one participant had incomplete success- Participant 6 found the site's description of "Excellent Condition" but did not notice the specific description of the tent's condition below it. This task took an average of 15 seconds.

Task 4c asked participants to determine the shipping cost of the item. Though some got free shipping and some had a \$5 shipping surcharge, all participants were able to successfully determine their shipping cost with an average of 34 seconds. In Task 4d, participants had to determine the return policy on Used Gear items. This task took an average of 82 seconds, with a wide range of only 6 seconds to 185 seconds. Most of the longer times were due to confusion over the wording of the return policy as a "satisfaction guarantee" and needing to read through large amounts of text. Participant 5 even used Ctrl+F to search for "return policy" within the text about the satisfaction guarantee. Participant 1 was only partially successful because, even though she had found the correct information she wasn't confident that it applied to the item she was buying. She stated that she would have had to call someone to confirm it, and she hates speaking on the phone. Of note, this participant remarked that she is an attorney and even she felt that the text regarding the return policy was dense and confusing. **Yikes!**

Top reaction terms:

Easy to use, annoying, familiar, frustrating

What participants liked:

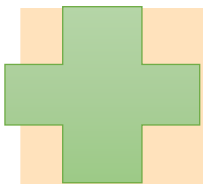
- The concept of selling used gear
- Information provided about how purchasing used gear produces lower carbon emissions
- Pictures of the product (though wish there were pics of actual used product)

What participants didn't like:

- Lack of filters compared to main retail site
- Poor filtering (items "got through" that shouldn't have)
- Page moving back to top each time a filter is applied
- Inconsistent list of technical specifications
- Multiple names for site – Used Gear, Re/Supply (confusing)
- Unclear wording of return policy
- Unclear that you need to be a member to purchase Used Gear until checkout

Causes of incomplete success / failure:

- Lack of confidence in return policy
- Missing the specific description of condition/wear below "Excellent Condition"



"I appreciate their commitment to sustainability."

"They sell new gear, so it is inspiring that they are promoting used gear too."

"I know if I click around enough, I can find the stuff, I know it's there."

"Some of these other offerings and their used gear program are definitely something that I would consider."



"That's frustrating, because I specifically clicked tents and I'm scrolling and I don't see any tents."

"At least right away, I wouldn't even see that they had "used gear" as an option. There it is! Under 'more'"

"I just don't feel great about this experience, even though I love used gear. I'm happy that they are promoting this, that it is something they are facilitating, but it just isn't working for me."

"I don't know what Re/Supply is ... I don't know if that means that it's used, so I'm ignoring it"

"That's really inconvenient, every time you select one [filter] it brings you back to the top."

"How much are you able to try it out before you return it? ... It just says within 30 days, it doesn't say 30 days without use or anything like that. So, it's not clear."

"I don't know why they can't call it 'Return Policy' instead of Satisfaction Guarantee. I don't think your average customer is thinking 'I wonder what their satisfaction guarantee is,' they're probably thinking 'I wonder what their return policy is.'"



Post-Task feedback using compiled data from Reaction Terms

After each of the four tasks and sub-tasks, participants were provided a list of Product Reaction Cards. These cards contain terminology that span a range; broken down on a positivity scale, with 60% positive and 40% negative/neutral words. The results gave a deeper insight into perception of the site; whether users are focused on various aspects of site use including: ease of use, appearance, time on site, or their feelings while navigating.

In each of the task sections above, the “top” reaction terms were listed. In this section, we compiled them into a comprehensive listing. It was curious that several terms were selected multiple times.

Terms selected over 4 times include:

- Straightforward
- Easy to use
- Organized
- Convenient
- Predictable
- Clear
- Attractive
- Frustrating
- Annoying

It’s curious that many of the terms selected referred to layout and navigation. We did an inventory of the terms that were used. It would be interesting to analyze the terms that were not selected by any participants to determine if there are desirable traits that we are missing out on (such as secure, empowering, personal, relevant).

Reflecting on the personality traits of an outdoorsy, active person; many of the terms were inspirational:

- Exciting
- Fast
- Engaging
- Motivating
- Energetic
- Inspiring
- Stimulating
- Effortless
- Entertaining
- Inviting

The summative reactions leaned to the positive side; however, when reviewing terminology, we found that the participants’ reactions varied by the moderator. Moderator 1 tested with participants 1-3, who more often selected negative reaction terms than participants 4-7, who were tested by Moderator 2. The two moderators brainstormed things that could impact the perceptions and came up with a short list of potential variables: regional differences (metro versus rural), level of familiarity with moderator (friends/family versus neighbors/acquaintances), or even personality of moderator influencing outcomes.

Since moderation was largely standardized by using a script, the difference was most likely due to regional differences or level of familiarity with the moderator. For regional differences, participants 1-3 live in the metro area, while participants 4-7 live in the outstate area. It’s possible that the more “Minnesota nice” culture of outstate Minnesota led to those participants being less likely to experience or voice frustrations and complaints. For level of familiarity, Moderator 1 tested only participants with whom she had a close personal relationship, while Moderator 2 tested more



participants with whom she had less of a close relationship. It's possible that participants who were very familiar with their moderator felt more comfortable voicing criticisms and complaints. It could be more uncomfortable to appear negative and critical with someone you consider an acquaintance, than with someone you consider a close friend or relative.

If the source of the difference was regionality, then it was beneficial to get feedback from users in different areas. REI serves active people in both metropolitan and rural areas and it's important that users from both types of regions be represented in usability testing. If the source of the difference was the level of familiarity with the moderator, it's more difficult to say how this affected test results. Since traditional usability testing usually involves participants that have no prior relationship to the moderator, it's possible that Moderator 2's results are more reflective of what a traditional usability test would yield. However, we should not discount Moderator 1's results. Participants 1-3 potentially gave more insight than what a usability test with unfamiliar participants would yield, if their level of comfort with the moderator was the source of the difference in reaction terms. While moderation was mostly scripted, it's still possible that moderator personality was a source of differing feedback. If the resources were available, this could be remedied by having both moderators present during testing or having one moderator perform all the test sessions. The difference in participant feedback is further explored in the section on the post-study SUS. Altogether, we felt that using the reaction terms was a good activity and appreciated when a term was matched to a task or characteristic of the website experience.

FIGURE: 8 REACTION TERMS (POST-TASK REACTIONS USING PRODUCT REACTION CARDS – DEVELOPED BY MICROSOFT

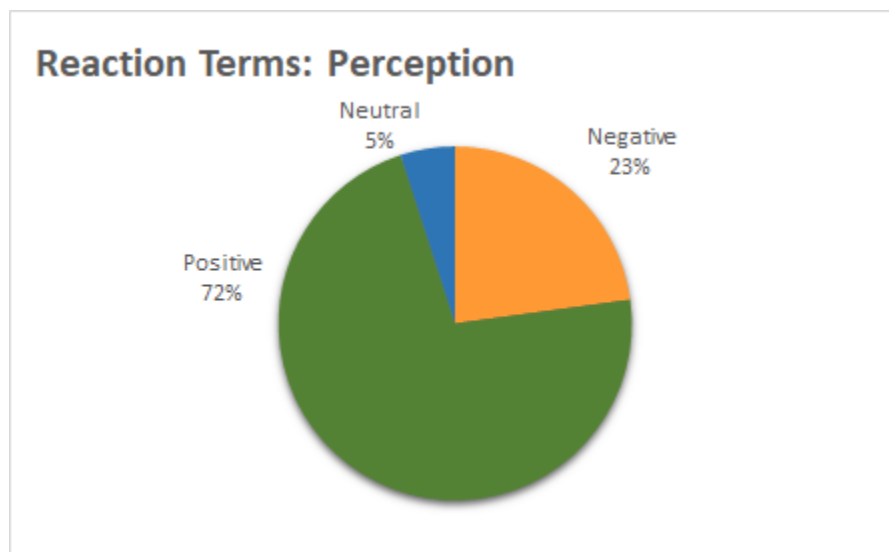


FIGURE 9: REACTION TERMS -- NEGATIVE AND NEUTRAL (LEGEND ON POSITIVE TERMS)

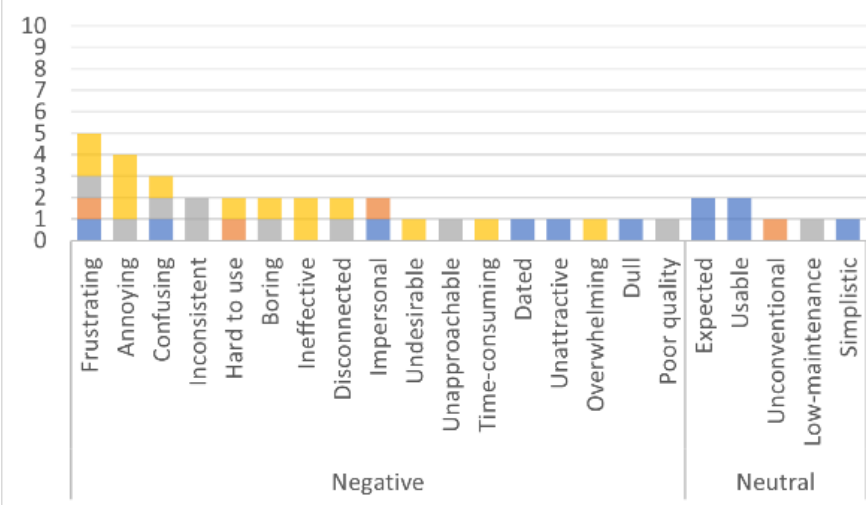
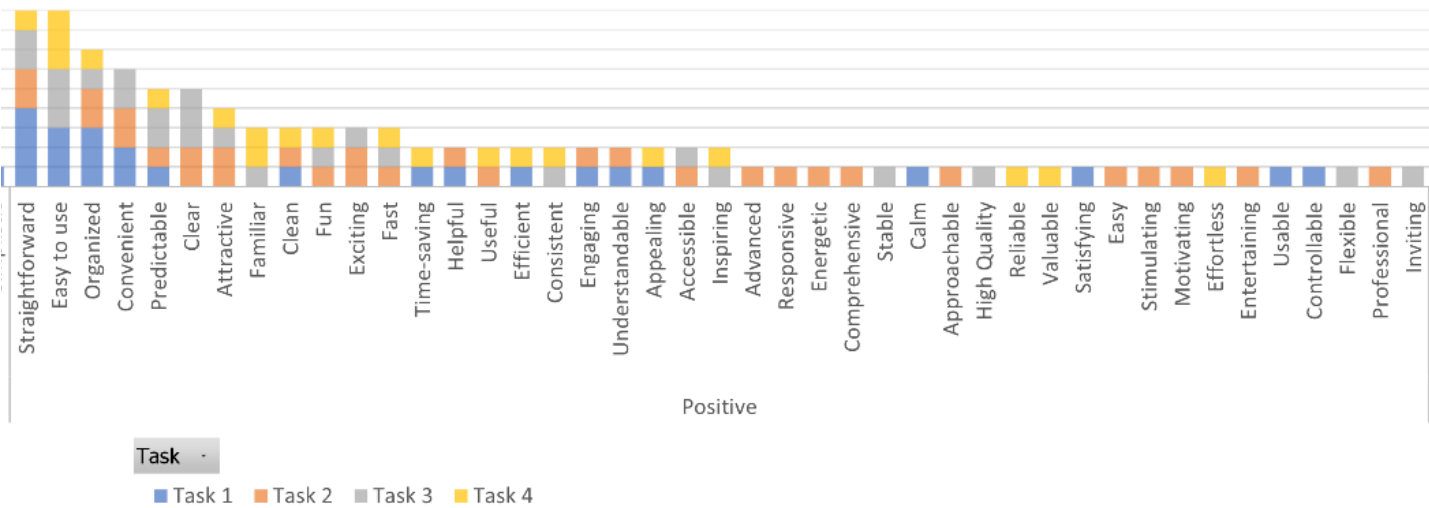


FIGURE 10: REACTION TERMS -- POSITIVE



Post Study

System Usability Scale (SUS)

After participants completed the four tasks and related sub-tasks, as well as identified separate reaction terms for each task, we planned a standard post-test questionnaire. We chose the System Usability Scale (More commonly referred to as SUS) – 10 Likert-type statements with responses based on a 5-point scale. ^[1] According to Usability.gov, a SUS score above a 68 would be considered above average and anything below 68 is below average. Though the scores are 0-100, these are not percentages and should be considered only in terms of their percentile ranking. ^[2]

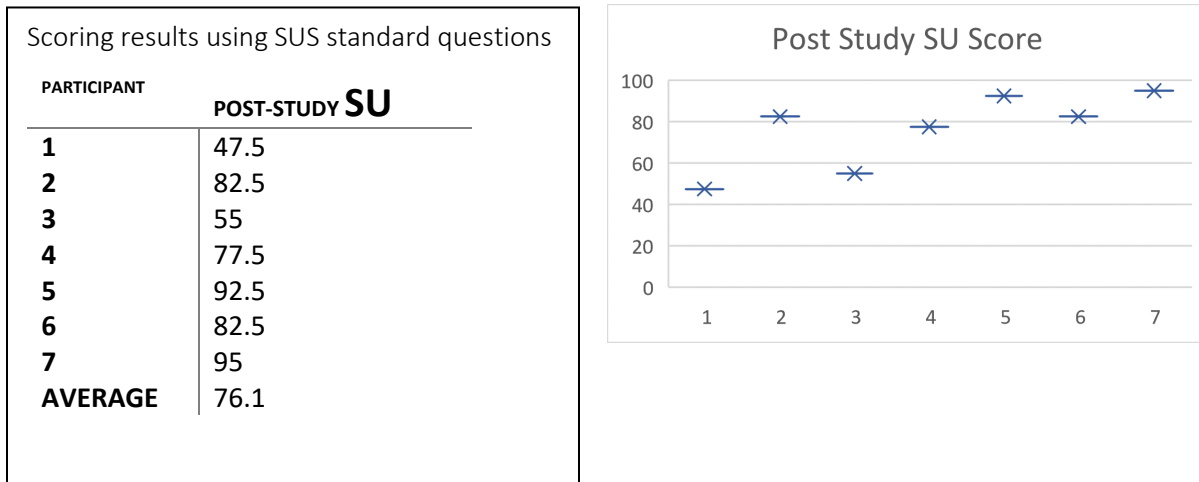
SUS – System Usability Scale Questions

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I think that I would like to use REI.com frequently.					
I found the website unnecessarily complex.					
I thought the website was easy to use.					
I think that I would need the support of a technical person to be able to use this website.					
I found the various functions on REI.com were well integrated.					
I thought there was too much inconsistency on REI.com.					
I would imagine that most people would learn to use this website very quickly.					
I found REI.com very cumbersome to use.					
I felt very confident navigating REI.com.					
I needed to learn a lot of things before I felt confident navigation the website.					

^[1] Barnum “Usability Testing Essentials” 181.

^[2] “System Usability Scale (SUS)” U.S. General Services Administration (GSA) Technology Transformation Service November 26, 2022 <https://www.usability.gov/how-to-and-tools/methods/system-usability-scale.html>

FIGURE 11 POST-STUDY SUS SCORING RANGE



Only two of our seven participants gave an SUS of below average (below 68, as defined by Usability.gov). The majority of SU scores were above average, with one participant even giving a score of 95.

After noticing the difference in reaction terms selected by participants between the two moderators, we decided to explore this by comparing SUS scores. Moderator 1 tested participants 1-3, while Moderator 2 tested participants 4-7. Participants 1-3 were noted to have selected more negative reaction terms than participants 4-7. The average SUS score of participants 1-3 was 61.7 (below average) and the average SUS score of participants 4-7 was 86.9 (above average). We sought to determine whether a statistically significant difference exists between the average SUS scores of participants under the different moderators. An independent-samples t-test comparing means was performed with $H_0: \mu_1 = \mu_2$ and $H_a: \mu_1 < \mu_2$ and a significance level of $\alpha = 0.05$. Here, μ_1 refers to the mean of SUS scores under Moderator 1 (participants 1-3) and μ_2 refers to the mean of SUS scores under Moderator 2 (participants 4-7). It was found that $t = 2.2088$ and the $p\text{-value} = 0.06378$. Since our $p\text{-value}$ was greater than 0.05, we fail to reject H_0 and conclude that there is insufficient evidence to support that the mean of SUS scores under Moderator 1 is less than that under Moderator 2. However, it should be noted that the $p\text{-value}$ was only slightly higher than our significance level of 0.05, and would have been found statistically significant with a higher significance level of $\alpha = 0.1$. Our sample sizes were very small, so if we truly wanted to determine whether a significant difference in mean SUS scores exists between the two moderators, we would have to test more participants. **Yes**

Scoring of Post Study Questions:

The System Usability Scale for each participant will be scored following the standard scoring rules for the SUS. The process we will follow is described in the excerpt below, from John Brooke.

"SUS yields a single number representing a composite measure of the overall usability of the system being studied. Note that scores for individual items are not meaningful on their own. To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1,3,5,7, and 9 the score contribution is the scale position minus 1. For items 2,4,6,8 and 10, the contribution is 5 minus the scale position. Multiply the sum of the scores by 2.5 to obtain the overall value of SU. SUS scores have a range of 0 to 100." (Brooke, 1996)

Verbal feedback on the Multi-purpose Website



Participants were asked if they had initially realized that REI.com was a multi-purpose website beyond the main retail website, with options including Classes & Events, REI Adventures, and Used Gear. They were also asked why they thought they had or had not known about these additional options. Here are some quotes from their responses.

- “I had no idea they offered all that.”
- “Even though I’ve shopped on REI.com, I’ve never really noticed a lot of these things like the used gear, the adventures, the classes or events, maybe because I haven’t been looking for them.”
- “I like that REI handles more than just clothing. And I really like that they have an outlet and used gear, as well as ways to get involved in the community and advice to be out on the trail, and expert advice.”
- “It is kind of hidden. I mean, when you’re looking for it, it’s obvious. But it isn’t something that’s super promoted.”
- “Normally when I go to a website ... I see the brand and then everything below the brand and to the right is actually the usable stuff.” [referring to top banner navigation to subsites]
- “I think these ones are easily missed just because they're not as bold and big. I would have maybe never known that stuff, [for] which I'm glad I had those tasks.”

Recommendations

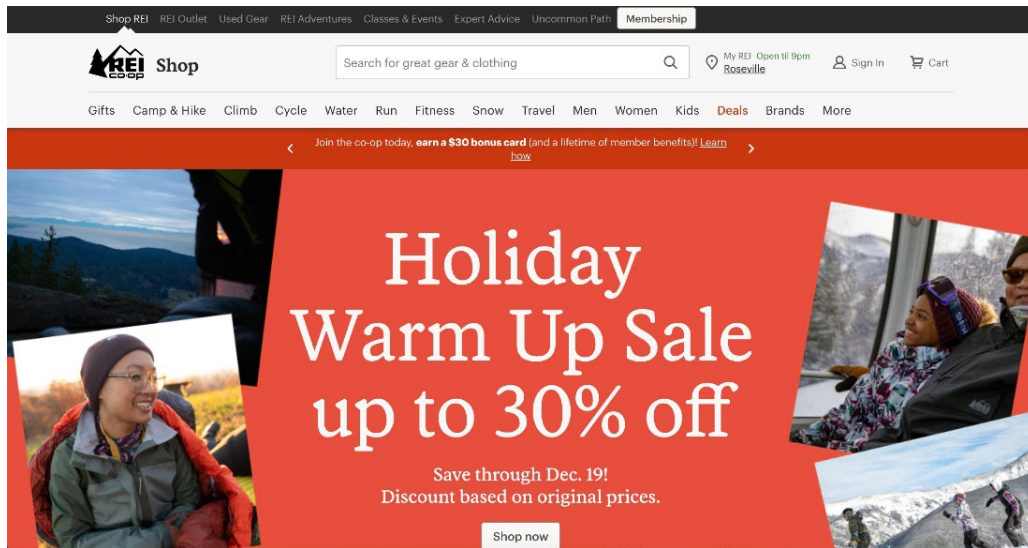
Top priorities: Fixing issues that led to task failure or significant frustration

1. Make multifaceted website offerings more visible.

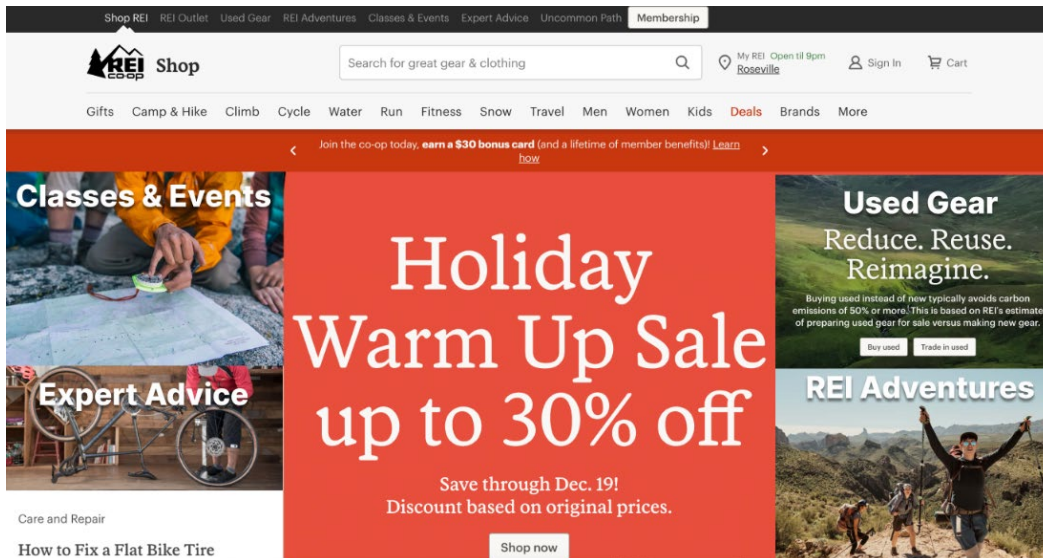
The usability testing results indicated that users may have difficulty noticing and seeing the top navigation to REI subsites. This was reinforced by the responses we received to the question of whether participants noticed that it was a multi-purpose website with options to purchase used gear, sign up for classes and events, and register for trips with REI Adventures: *“It is kind of hidden. I mean, when you’re looking for it, it’s obvious. But it isn’t something that’s super promoted.”* Participants were excited about what REI offered outside of retail, but they wouldn’t have known about it if it weren’t for the scenarios they were given in the study. Making these options more visible will increase awareness of the multifaceted nature of the website and further differentiate REI from other online recreational equipment retailers. Some participants in the usability test completely missed the top navigation option and instead found routes to the REI subsites using the search bar or dropdown menus. These routes can only be used if the user already knows about the existence of the subsites like Used Gear or REI Adventures. In order to introduce these offerings to users that aren’t already aware of them, there must be clearly visible links on the main landing page that don’t require action by the user, such as clicking or hovering. We have two possible solutions to this issue.

- a. Keep the top navigation as the primary path to the multifaceted landing pages within the website. Ensure that this section is more easily viewed with strong color contrast without distracting from the retail site. Below is an of this redesign approach.

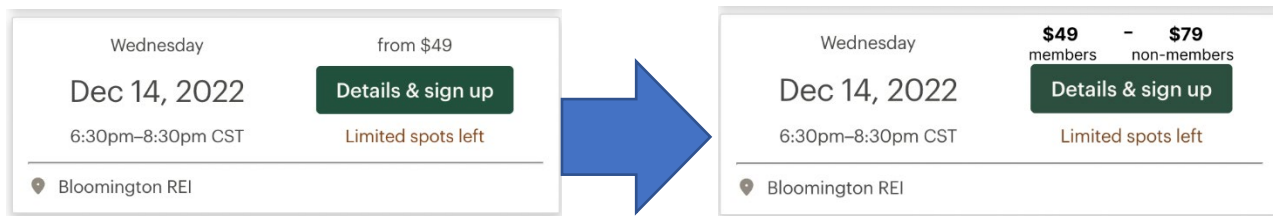




- b. Perform A/B testing between the more visible top navigation and another option that displays the subsites on another part of the landing page. A/B testing with other formats will help determine whether the top navigation provides the best user experience and awareness of the multi-purpose offerings. An example of an alternative format is shown below.



2. Ensure that search features and filters are consistently labeled and functional throughout the website.
 - a. Filters that are available on the main retail site were appreciated by test participants. These same filters should be applied to the Used Gear site. Test participants encountered several issues with the filters on the Used Gear site. Some were able to filter by tent capacity, while some were not, depending on how they navigated to used tents. Nearly all the participants expressed frustration with the fact that the page would scroll back to the top after each filter was applied, as they needed to apply several filters. Furthermore, some filters were ineffective. Selecting “Tents” under Categories allowed several tent accessories or tent parts to be displayed. *“That’s frustrating, because I specifically clicked tents and I’m scrolling and I don’t see any tents.”* The filters on the main retail site did not result in these same issues, so the same formatting and options of filters should be applied to the Used Gear site to provide similarly positive user experience.
 - b. Search functions in the REI Adventures site can be improved. Filters and advanced search options are not displayed until the user has chosen a category of trip. We recommend that a general search option be allowed, so that users may see options for multiple categories of trips that are available within their available dates or desired locations. REI is targeting active young people as users, and many of these users have interests in multiple recreational activities. Furthermore, since several test participants’ first instinct was to use the search bar to find trips, options that will navigate to REI Adventures should be expanded. For example, typing in “trips” will direct the user to the REI Adventures landing page, but one user tried searching “trip” and was not brought to the REI Adventures page. This participant ended up failing that task because he was unable to find REI Adventures and instead found an event from the Classes & Events subsite.
3. Make pricing and returns information more transparent to users.
 - a. Usability testing revealed that some of REI.com’s current pricing labels were misleading and frustrating to participants. Some participants missed that classes or trips labeled as “from \$X” were displaying only the price for REI members. Others caught the pricing difference, but were frustrated by the lack of transparency in using the “from \$X” labeling. *“That’s a little frustrating, because it was advertised at \$49, and I get that they want to incentivize people [to become members], but that seems a little misleading.”* Our price labeling recommendation is shown below.



- b. Several users had difficulty finding the return policy when given that task on the Used Gear subsite. They felt they had to read through dense text, and were confused by the wording. *"I don't know why they can't call it 'Return Policy' instead of 'Satisfaction Guarantee.'"* We recommend that there be a clear, concise policy labeled as "Return Policy" that the user can quickly scan to get the necessary information. The thorough description of the Satisfaction Guarantee does not need to be removed, as there may be legal reasons for it, but there should be a quick, short summary offered that doesn't require the user to invest as much time and effort into reading. It may also be beneficial to use one name for the Used Gear site, as using both that and Re/Supply can be confusing, especially in the satisfaction guarantee. *"I don't know what Re/Supply is ... I don't know if that means that it's used, so I'm ignoring it."*

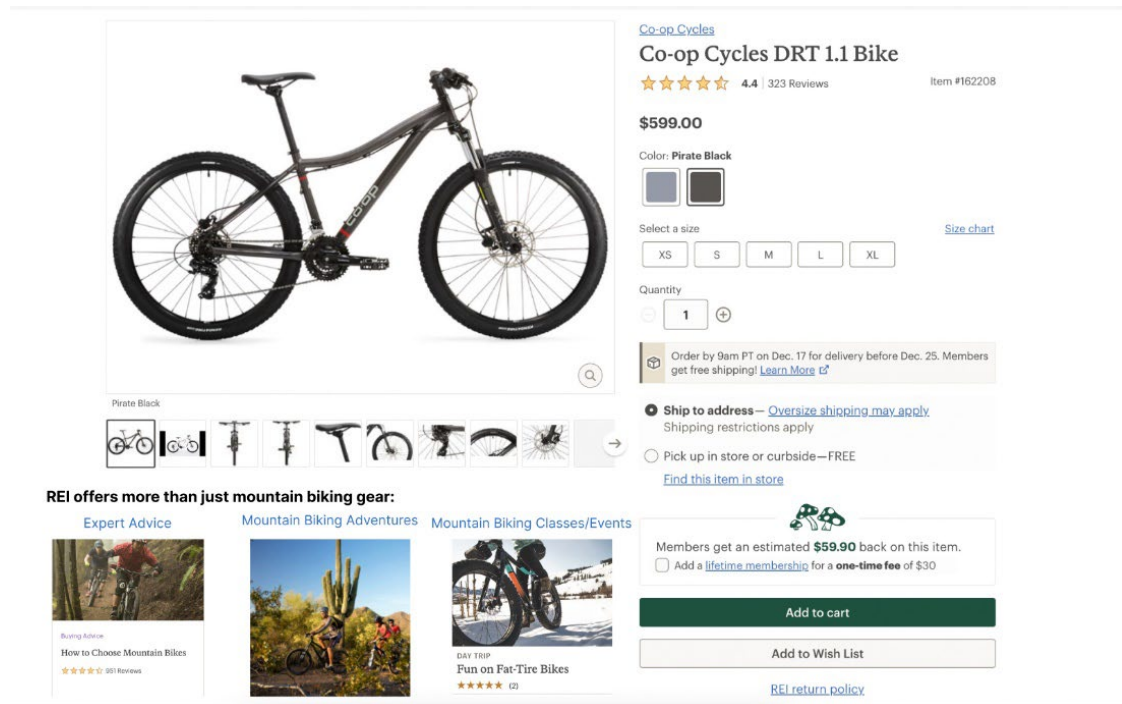
Lower Priorities: Enhancing user experience

1. Apply consistent graphic standards.

Participants expressed much higher interest in visuals of the REI Adventures subsite than the main retail site. *"I feel like all of the graphics are very empowering ... all of the visuals are high energy."* Showcasing the Great Outdoors by applying similar visuals throughout the website could engage users more, and showing the gear and clothing "in action" may inspire users to consider purchasing for their own adventures.

2. Integrate the multifaceted aspects of the website into the main retail website

Including links to relevant Classes & Events, REI Adventures, and Expert Advice on product pages for gear will increase awareness of these offerings. An example is shown below.



3. Standardize Technical Specification charts and offer opportunities to learn about them.

- Throughout usability testing, it was noted that the technical specification charts differed between products in the same category. This sometimes meant that one tent had "Packaged Weight" or "Packed Weight" in **lbs** in the Technical Specs, while another had "Weight" in grams. One participant noted that the order of the technical specifications weren't consistent, as she found "Packaged Weight" at the top of the list on one item, and the bottom of the list on another. We recommend that the Technical Specifications chart be standardized between products of the same category. The items in the chart could be listed alphabetically, in a predetermined order that groups similar items together (such as size, weight, material, etc.), or a card sorting study could be performed in order to identify the information architecture users would expect for this type of chart.
- Introduce a hovering function that educates users on the various technical specifications. The information provided in the technical specs can be overwhelming, even to experienced recreational equipment users. To a beginner, it can feel like "gatekeeping." REI.com can use this as an opportunity to educate users and develop a relationship with beginners. It can also serve to further integrate Expert Advice into the main retail website, as discussed in #2 of Lower Priorities. An example of this shown below.



Features

- 2 doors provide separate and easy access; 2 vestibules offer occupants plenty of sheltered space to stash gear outside the tent
- Bathtub floor construction keeps the water out during wet weather; floor features fully taped seams
- UV-resistant polyester rainfly doesn't stretch or expand when wet, ensuring a consistently taut pitch
- Fly roof vent keeps rain out while allowing hot air to vent, and no-see-um mesh panels in tent body offer excellent airflow to prevent condensation inside the tent
- Interior mesh storage pockets keep small items organized and easy to find
- Speed clip-to-pole attachment, grommet pole attachment and color-coded buckle attachments allow easy setup
- Aluminum poles are strong and durable, while the pole clips make setup fast
- Includes aluminum J-stakes, reflective guylines, guyout points and storage bag
- Closeout

Imported.

[View all Mountainsmith Camping Tents](#)

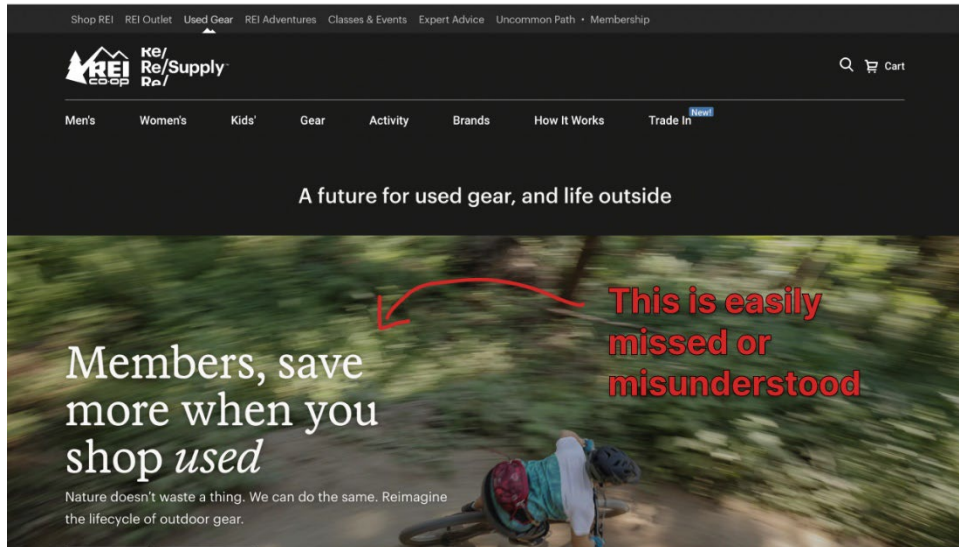
Technical Specs

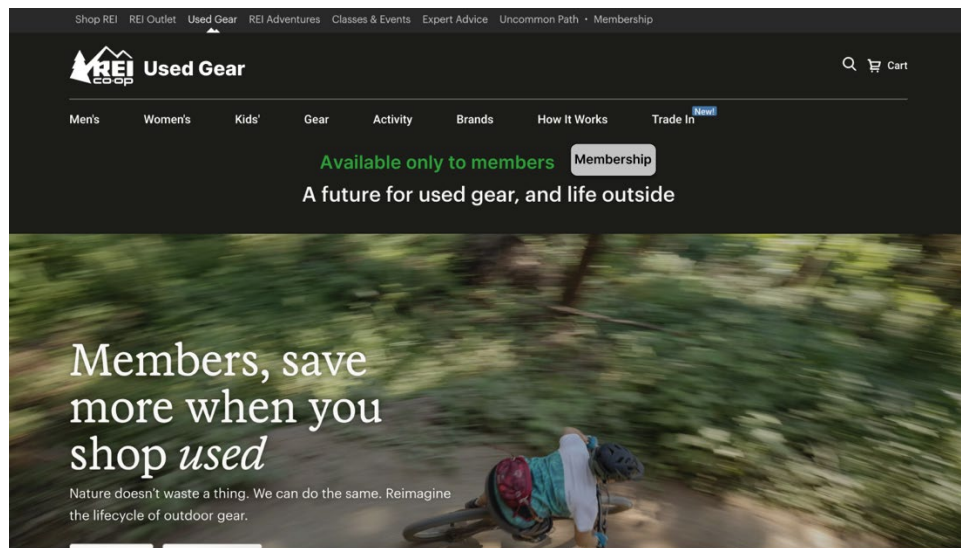
Best Use	Camping
Seasons	3-season
Sleeping Capacity	2-person
Packaged Weight	5 lbs. 3 oz.
Packed Size	7.5 x 18 inches
Floor Dimensions	92 x 56 inches
Floor Area	35 square feet
Vestibule Area	8.5 x 8.5 square feet
Peak Height	43 inches
Number of Doors	2 doors
Number of Poles	2
Pole Material	Aluminum
Pole Diameter	9 millimeters
Canopy Fabric	Ripstop polyester/polyester mesh
Floor Fabric	Polyester
Rainfly Fabric	Polyester
Footprint Included	No
Design Type	Freestanding

Packaged weight:
This is the weight of all the components you get with purchase: body, rainfly, poles, stakes, stuff sack, pole sack, instructions, and more. The weight you'll carry on the trail will be somewhere between this and the minimum trail weight.

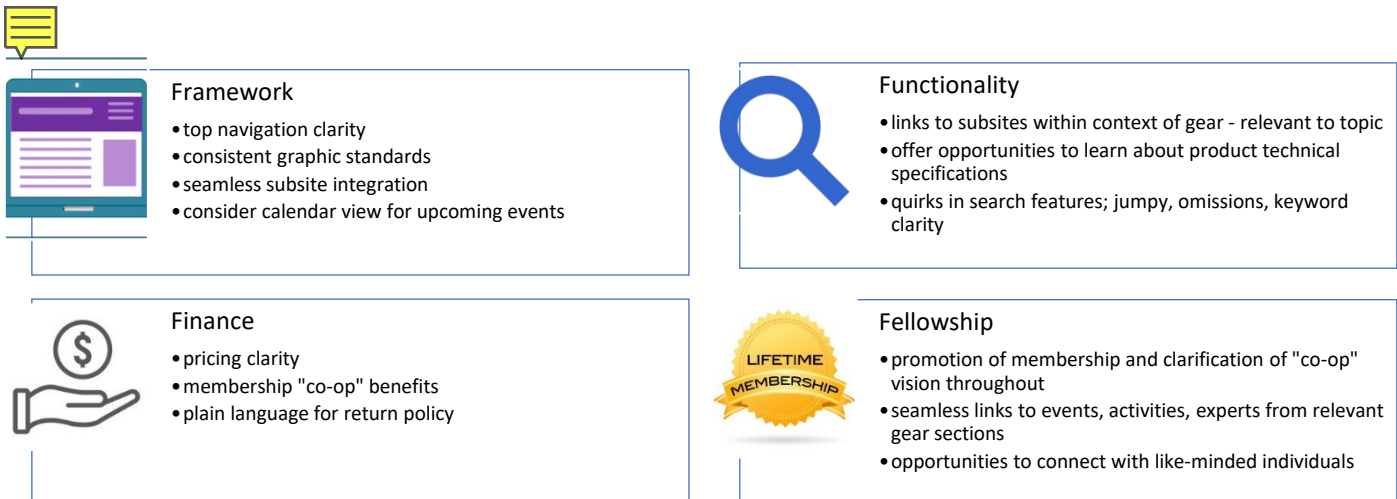
Read our Expert Advice article on how to choose a backpacking tent [here](#).

4. Promote REI Membership and clearly label what is reserved for members.
 - a. Promote membership with an icon/link to the membership benefits page anytime the word “member” shows on the page.
 - b. Clearly label what is a membership benefit and what is reserved for members. This is partly addressed by #3 of Top Priorities, which recommends that member and non-member pricing is clearly displayed on classes, events, and trips. This should also be implemented on the Used Gear site, which is entirely for members only. During usability testing, some participants failed to notice that the used gear was only for members until they got to the checkout. An example of more obvious labeling on the Used Gear site is shown below.





The above recommendations can be summarized using the categories of Framework, Functionality, Finance, and Fellowship.



Love the 4 Fs

Conclusion

This usability test was conducted in order to gain insight into the user experience on REI.com, including the main retail website (Shop REI) and the subsites of REI Adventures, Classes & Events, and Used Gear. Our recommendations follow our results: expand what participants liked, including the strong search function and filters of Shop REI, the empowering visuals of REI Adventures, and awareness of the subsites. The few areas of complaints are easily corrected by improving transparency of pricing, membership requirements, and return policy, and by standardizing technical specification charts. As REI seeks inclusivity in the outdoor recreation community, we also recommend specific UX testing of the website related to accessibility and BIPOC and LGBTQI populations. This will allow the website to appeal to a broader user base that is often forgotten in the outdoor recreation space.

Kristi and Tessa, The scope of your test is impressive, which shows how thoughtful you were about creating scenarios and choosing tasks. You were able to investigate various aspects of the REI website experience, revealing to me ways to use the site that I didn't know about. And I had no idea that you could find used outdoor gear via the site. Thank you for

teaching me that the site is more than a vehicle for buying new gear. Your testing uncovered quick fixes, such as showing member and non-member price and adding “members only” to the used gear subsite. Effective and efficient. Your presentation of the info is excellent; not only is it clear and easy to understand, it’s visually pleasing. Your recommendations make sense, as you’ve tied them to the results, and you’ve identified high priority changes to make immediately and those that can wait. The fact that only two of you accomplished so much and presented it so effectively is even more amazing. Well done!!

20/20



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“Welcome to the Online Application.” *Online Application*, Minnesota State System, <https://eservices.minnstate.edu/adm/public/studentIntent?campusId=system>.



Appendix A: Participant Screening Form (with script)

Screening Criteria

- 24-40 years of age (young professionals user group)
- Currently employed (and/or spouse is currently employed)
- Active in at least one of the recreational activities that REI specializes in
- Have made an online purchase in the last 6 months
- Do not work for REI

Script

Hi [participant's name], I'm conducting a usability test for my Usability and User Experience class through Metro State. Do you have time for me to ask you a couple questions to determine if you're a candidate to participate in this study?

If no: *Is there another time I could call you that would work better?*

If yes: *Great! There are only five questions, and it should take five to ten minutes to complete.*

{Proceed with questions, skip to end if they are disqualified at any point}

Screening Questions

1. What is your age?
*If <24 or >40, **disqualify***
2. Are you or your spouse currently employed?
*If no, **disqualify***
3. Which answer best describes how often you participate in recreational activities, including camping, hiking, backpacking, climbing, cycling (road and/or mountain biking), running, yoga, snow sports, and watersports?
☐ Daily
- ☐ 3-4 times per week
☐ 1-2 times per week
☐ A couple times per month
☐ A couple times per year
☐ Once a year or less (**Disqualify**)
4. Have you made a purchase online in the last 6 months?
☐ Yes
☐ No (**Disqualify**)
5. Do you currently work for REI?
☐ Yes (**Disqualify**)
☐ No

Disqualified: *Unfortunately, you are not a candidate for this study. Thank you so much for your time. I appreciate your willingness to help and I hope you have a wonderful day.*

Qualified: *Your answers have determined that you are a candidate for this study. The usability test is expected to take 60-90 minutes to complete and will take place in-person during [testing window]. Is there a specific date and time during that window that would work for you? You will be provided with [incentive] as a thank you for your valuable feedback and time.*

{Record date and time they are available}

Great, thank you again for being willing to participate. We will conduct the test on [chosen date and time]. If you need to reschedule, please call me. Otherwise, I will remind you of our testing time two days beforehand. Thank you so much! Goodbye.

Appendix B: Pre-Study Questions

Demographics

1) What is your age?

- ☐ 24-30
- ☐ 31-35
- ☐ 36-40

2) What is the highest level of education that you have completed?

- ☐ Did not complete high school
- ☐ High school / GED
- ☐ Some college
- ☐ Associate degree
- ☐ Bachelor's degree
- ☐ Some graduate school
- ☐ Master's degree
- ☐ Doctorate

3) What is your gender identity?

Gender identity is a person's innermost concept of self as feminine, masculine, neither, or a combination - how individuals perceive themselves. One's gender identity may or may not be influenced by their sex assigned at birth.

- ☐ Agender
- ☐ Man
- ☐ Trans
- ☐ Woman
- ☐ Genderqueer or gender fluid
- ☐ Non-binary or non-conforming
- ☐ Two-Spirit
- ☐ Prefer not to disclose
- ☐ Additional gender identity _____

4) How do you describe yourself?

- ☐ **American Indian or Alaska Native**
A person having origins in any of the original peoples of North, Central, or South America and who maintains tribal affiliation or community attachment
- ☐ **Asian**
A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
- ☐ **Black or African American**
A person having origins in any of the black racial groups of Africa or the Caribbean
- ☐ **Native Hawaiian/Other Pacific Islander**
A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands
- ☐ **White**
A person having origins in any of the original peoples of Europe, the Middle East, or North Africa
- ☐ **Other** _____



Outdoor recreation

5) Which answer best describes how often you participate in outdoor recreational activities, on average? This includes walking for exercise, running, camping, biking, skiing, and other outdoor sports.

- ☐ Daily
- ☐ 3-4 times per week
- ☐ 1-2 times per week
- ☐ A couple times per month
- ☐ A couple times per year
- ☐ Once a year or less

6) What is your favorite outdoor recreational activity?

- | | |
|--|--|
| ☐ Hiking | ☐ Watersports |
| ☐ Backpacking | ☐ Climbing |
| ☐ Camping | ☐ Snowsports |
| ☐ Running | ☐ Other (please write in here: _____) |
| ☐ Cycling (road and/or mountain biking) | |

7) Thinking of the same activity from Question 6, how long have you been participating in this activity?

- ☐ Less than one year
- ☐ 1-3 years
- ☐ 3-5 years
- ☐ 6-10 years
- ☐ More than 10 years

8) How much, on average, do you spend on the activity from Questions 6&7 per year?

- ☐ \$0 - \$99
- ☐ \$100-\$299
- ☐ \$300-\$499
- ☐ \$500-\$999
- ☐ \$1,000+

Internet usage

9) How often do you make purchases online? This includes any kind of purchase (food, clothing, furniture, electronics, etc.), not just recreational equipment.

- | | |
|---|---|
| ☐ Daily | ☐ A couple times per month |
| ☐ 3-4 times per week | ☐ A couple times per year |
| ☐ 1-2 times per week | ☐ Once a year or less |

10) What kind of device do you prefer to use to make purchases online?

- | | |
|---------------------------------------|---|
| ☐ Mobile phone | ☐ Laptop computer |
| ☐ Tablet | ☐ Desktop computer |

11) How much time, on average, do you spend on the internet weekly? This includes time spent on the internet due to work or school.

- ☐ Less than 10 hours
- ☐ 10-20 hours
- ☐ 20-40 hours
- ☐ Over 40 hours



Appendix C: Scenarios (Tasks and Sub-tasks)

1. You are looking for a warm base layer to wear in the upcoming cold months so that you can continue to be active through the winter.

Task: Find a midweight wool base layer top in your size for under \$75.

- a. Determine the average customer rating.
- b. Determine whether it is available at a store within 50 miles of your home.

2. You would like to take a trip somewhere to go mountain biking, and heard that REI offers trips that cater to specific outdoor activities.

Task: Find a trip that caters to mountain biking.

- a. Identify the location, dates, and cost estimate.
- b. Identify what gear, if any, REI provides for the trip.

3. You enjoy rock climbing and want to get a 6 year-old child in your life (your own child, a niece/nephew, a grandchild, a godchild, etc.) involved in the sport.

Task: Find a kids' climbing class/event within 100 miles of St. Paul.

- a. Identify the date, time, cost, and location of the soonest class that is not full.
- b. Determine whether this child is old enough for the class, and what they would need to bring.

4. You need a new tent for backpacking and camping trips, but you are on a budget. You've heard that REI sells used gear online and want to see if you can find a light tent that fits a minimum of two people.

Task: Find whether REI.com has a **used** tent in excellent condition for under \$200, that fits at least 2 people.

- a. Determine the packed weight of the tent.
- b. Find the description of the tent's condition.
- c. Determine shipping cost.
- d. Determine the return policy on used gear purchases.



Appendix D: Reaction Terms

Accessible	Energetic	Optimistic
Advanced	Engaging	Ordinary
Annoying	Entertaining	Organized
Appealing	Enthusiastic	Overbearing
Approachable	Essential	Overwhelming
Attractive	Exceptional	Patronizing
Boring	Exciting	Personal
Business-like	Expected	Poor quality
Busy	Familiar	Powerful
Calm	Fast	Predictable
Clean	Flexible	Professional
Clear	Fragile	Relevant
Collaborative	Fresh	Reliable
Comfortable	Friendly	Responsive
Compatible	Frustrating	Rigid
Compelling	Fun	Satisfying
Complex	Gets in the way	Secure
Comprehensive	Hard to Use	Simplistic
Confident	Helpful	Slow
Confusing	High quality	Sophisticated
Connected	Impersonal	Stable
Consistent	Impressive	Sterile
Controllable	Incomprehensible	Stimulating
Convenient	Inconsistent	Straight Forward
Creative	Ineffective	Stressful
Customizable	Innovative	Time-consuming
Cutting edge	Inspiring	Time-Saving
Dated	Integrated	Too Technical
Desirable	Intimidating	Trustworthy
Difficult	Intuitive	Unapproachable
Disconnected	Inviting	Unattractive
Disruptive	Irrelevant	Uncontrollable
Distracting	Low Maintenance	Unconventional
Dull	Meaningful	Understandable
Easy to use	Motivating	Undesirable
Effective	Not Secure	Unpredictable
Efficient	Not Valuable	Unrefined
Effortless	Novel	Usable
Empowering	Old	Useful
		Valuable



Appendix E: Post Study Questions

System Usability Scale (SUS) – Reikert scale

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I think that I would like to use REI.com frequently.					
I found the website unnecessarily complex.					
I thought the website was easy to use.					
I think that I would need the support of a technical person to be able to use this website.					
I found the various functions on REI.com were well integrated.					
I thought there was too much inconsistency on REI.com.					
I would imagine that most people would learn to use this website very quickly.					
I found REI.com very cumbersome to use.					
I felt very confident navigating REI.com.					
I needed to learn a lot of things before I felt confident navigation the website.					

Source: <https://www.loop11.com/how-to-evaluate-the-usability-of-your-website-using-the-system-usability-scale/>

Scoring of Post Study Questions:

The System Usability Scale for each participant will be scored following the standard scoring rules for the SUS. The process we will follow is described in the excerpt below, from John Brooke.

“SUS yields a single number representing a composite measure of the overall usability of the system being studied. Note that scores for individual items are not meaningful on their own.

To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1,3,5,7,and 9 the score contribution is the scale position minus 1. For items 2,4,6,8 and 10, the contribution is 5 minus the scale position.

Multiply the sum of the scores by 2.5 to obtain the overall value of SU.

SUS scores have a range of 0 to 100.” (Brooke, 1996)



