



Compare Items Feature Usability Study

Final Written Report

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Chelsey Glasson

Thomas Sebby

Suzette Ruys

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Executive Summary

This study examines the ease with which REI customers can use the “Compare Items” feature located on REI.com. The 11 findings from the study, which are ranked by severity, were used to create a set of 9 recommendations for the scheduled redesign of the feature. Findings from the study will also be used to assess the impact of future changes to the feature.

Eight REI customers participated in the study. Study participants completed a set of four tasks with the feature while thinking aloud. They also answered survey questions concerning perceived and actual ease of use and their overall satisfaction with the feature.

Although participants struggled to complete all four of the study tasks, they particularly struggled and were dissatisfied with Task No. 3 (Preview a printout of all five of the jacket specifications) and Task No. 4 (Compare four headlamps).

Overview

The following section provides a summary of important study details. These include the study goals, research questions and methods, as well as participant profiles and researcher roles.

Study Goals

The primary goal of this study was to observe and document how users interact with the REI.com “Compare Items” feature in order to determine how to refine its design prior to further development and deployment. This study is vital for REI.com business because, as the President of Usability Sciences Jeff Schueler (2006) and others advocate, offering the ability to easily compare items is an important conversion tool for ecommerce websites.

If implemented, the recommendations of this study could save REI money by lowering customer service inquiries and increasing customer satisfaction and retention. REI currently receives several complaints and inquiries per month regarding the “Compare Items” feature. If the company spends \$5 per e-mail or call, which is typical for most companies (Feldman, 2004), it is needlessly wasting money and potentially losing customers who decide to go elsewhere to compare products. It is also important to mention that research conducted by the Nielson Norman Group (2008) indicates that by incorporating the results of this study in future versions of the “Compare Items” feature, REI.com’s average business metrics could improve by up to 83%.

Another goal of this study was to benchmark, with survey questions, the current levels of ease with which users interact with the “Compare Items” feature. Benchmarking current levels of ease will provide data that can be used in the future to objectively measure the impact of changes to the feature. According to Rubin and Chisnell (2008), benchmarking ensures that, “usability does not degrade as more functions are added to future releases” (pg. 36). Although design changes are usually fueled by the desire to improve a product or service, this is not always the final outcome, and benchmarking allows REI to test for this.

Product Description

The “Compare Items” feature allows customers to compare the price and specifications of products sold through REI.com. The feature was created several years ago with the goal of helping customers make purchases that accurately reflect their needs and wants. Unfortunately, since its launch, customers have complained often about the feature. Some of the most commonly received complaints include:

- There is no easy way to clear checked products.
- The feature requires too much scrolling, both horizontally and vertically.
- Not all items (even similar items) have the same specifications, so specifications from different product categories end up being compared.
- The feature is not printer friendly.

Study Research Questions

The specific research questions addressed by this study include:

- How easy or difficult is it for users to use the “Compare Items” feature?
- What errors are experienced when a user attempts to use the “Compare Items” feature and what causes them?
- At what point do users experience frustration or give up on using the “Compare Items” feature? Why?

- How satisfied are users with the general experience provided by the “Compare Items” feature?
- How do users expect the feature to work?
- What feedback do users have for improving the “Compare Items” feature?

Pilot Study

A week before the study commenced, a pilot session was conducted with a participant new to the “Compare Items” feature. The goal of the pilot session was to assess approximately how long it would take participants to complete the study tasks, answer the survey questions, and provide oral feedback. A secondary goal of the pilot study was to ensure the tasks and survey questions made sense and did not cause unnecessary confusion. A few minor changes were made to the tasks based on feedback received during the pilot session.

Final Study

The study took place on the following two days in a conference room at the REI Flagship store in Seattle, Washington: November 11 (Thursday), and November 12 (Friday). A table was setup at the store to publicize and recruit for the study each day it occurred, and eight individuals ultimately volunteered to participate. Given the tight time frame and limited budget for the study, a screener was not used for the purpose of selecting volunteers. Anyone who was willing was able to participate in the study, which is customary practice for usability studies run by REI staff. Volunteers signed an NDA ([Appendix A](#)) prior to the start of the study and received a \$25 REI gift card for their participation.

Participants were interviewed for up to 60 minutes each, during which time they were asked to complete four tasks ([Appendix B](#)). Although they were not required to complete each task within a specific amount of time, they were prompted to move onto the next task if it became obvious they were not going to be able to complete the task, or if they verbally acknowledge that they reached a point that they would stop using the feature if in a naturally-occurring setting such as their home.

Prior to completing each task, participants read the task aloud and then rated how difficult or easy they expected it to be. Once they completed the task, participants then rated how difficult or easy the task ended up being in addition to ranking how satisfied they were with the overall experience of completing the task ([Appendix C](#)). Participants were asked to “talk and think aloud” while working on each task in order to help the researchers understand their actions and thoughts. When necessary, the moderator of the study asked participants questions to bring clarity to feedback provided or confusion experienced.

Participant Profile

Although a screener was not used for recruiting purposes, participants were asked to complete a short questionnaire ([Appendix D](#)) in order to provide researchers insight into their perspective and abilities. Interestingly, although participants were a diverse group with varying technical abilities, they generally experienced the same issues with the “Compare Items” feature, which indicates the findings of this study are indeed applicable to the general population.

Specifically, the questionnaire revealed the following information about the eight study participants:

- 6 of 8 are REI members
- 6 of 8 shop online

- 8 of 8 research products online
- 6 of 8 have shopped on REI.com in the past
- 2 of 8 have used the “Compare Items” feature
- Age range estimate: 20-65 years.
- Occupations: retired, business consultant, IT consultant, student, restaurant “busser,” carpenter, financial analyst, and IT supervisor

Researcher Roles

Three researchers managed the study and shared the roles of moderator, participant recruiter and note-taker. The moderator walked the participants through the four study tasks and survey questions, asking necessary questions along the way. The note-taker documented important study details (e.g. quotes, points of confusion, recommendations, etc.) and the recruiter manned the recruitment table, managed the study schedule, and walked participants to and from the conference room where the study took place.

Findings and Recommendations

The following section provides a summary of the 11 findings from this study, grouped by task number, in addition to 9 recommendations in response to the findings. Screenshots and quotes are used where appropriate to help illustrate findings and recommendations.

Each finding is assigned a 0-4 severity ranking (0=not an issue, 4=usability catastrophe) based on a framework created by Jacob Nielsen ([Appendix F](#)). The purpose of severity rankings is to provide the development team with guidance as to which usability issues are priority and should be addressed first in the face of budget and timeline issues. As recommended by Nielsen, the severity rankings are based on frequency, impact and persistence of the finding. Researchers independently assigned a ranking to each finding, and all of the rankings were averaged in order to determine the final rankings provided below.

Task 1: Locate the jacket you want to purchase and find six others to compare it to.

Finding 1

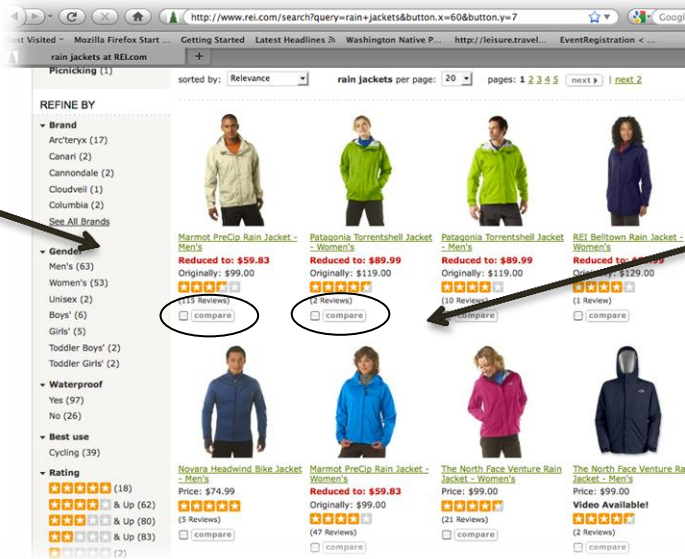
Participants reported that the “Compare” button did not look like an actionable option.

Severity Ranking: 2

Recommendation 1

Test alternative design solutions for the “Compare” button.

Finding 2:
Participants did not expect the option to compare items from this page (product category page).



Findings 1 & 3:
Participants did not know which "Compare" button to select. They also felt the buttons did not look actionable.

Finding 2

Participants expected to access the "Compare Items" feature through an item's product page, not its corresponding category page. **Severity Ranking: 3**

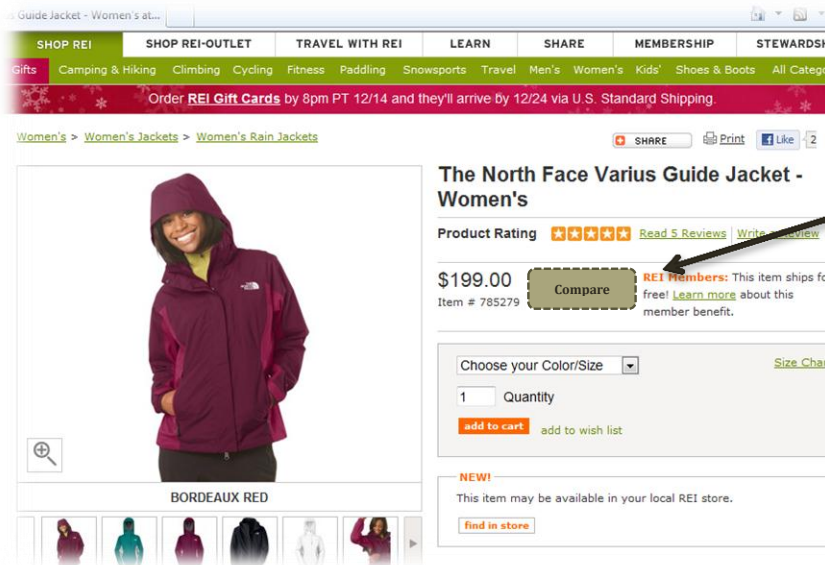
"I will jump back. I thought it would be on this page <product page>; a button here for comparison as well, but it isn't there"
--Chris

Finding 3

Participants were also confused and surprised by the numerous "Compare" buttons present on category pages and did not know which one to select. **Severity Ranking: 3**

Recommendation 2

Move the entry point to the "Compare Items" feature onto product pages in addition to category pages.



Findings 3: Participants wanted the ability to compare items from product detail pages as well as category pages.

Finding 4

Participants overlooked the scroll bar on the bottom of the “Compare Items” page, resulting in them wondering what happened to the items they elected to compare but could not see. **Severity Rating: 3**

“I have to scroll. Ultimately I would see all—but this is annoying that I have to scroll and not see it all at once.”

--Chris

Recommendation 3

Place necessary scroll bars above the page fold or create visual cues to let the user know the screen will scroll horizontally.

Finding 5

Participants were frustrated by the amount of scrolling required to compare product specifications. **Severity Rating: 2**

“This scrolling is a little tough—it would be great if they all fit on the page together—and I would like to make something that I would like to eliminate just disappear.”

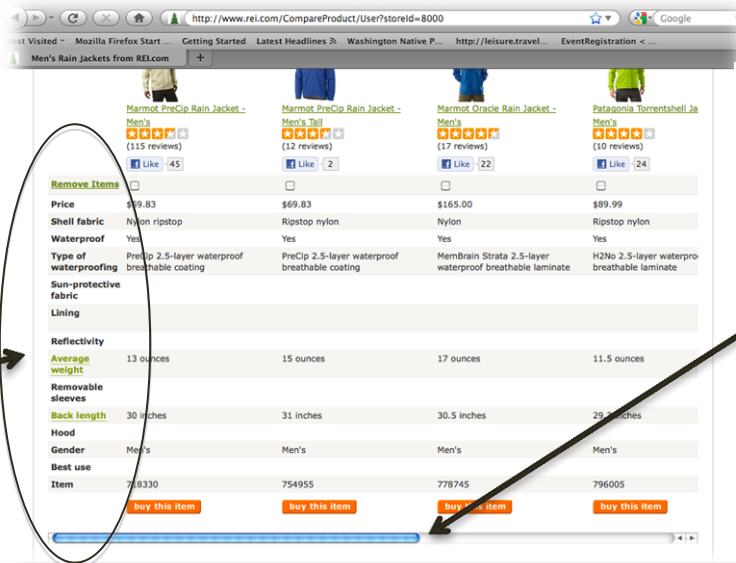
--Kris

“It would be better if there were a compare matrix instead of this side-scroll.”

--Eric

Recommendation 4

Implement a design solution that reduces the amount of scrolling required to interact with the “Compare Items” feature.



*Findings 6:
Participants wanted specification headings do carry over when scrolling.*

*Findings 4 & 5:
Participants overlooked the scroll bars and were frustrated by the amount of scrolling required to use the feature.*

Finding 6

Participants said it was too easy to lose track of specifications of interest because specification headings presented on the left-hand side of the Compare Items page did not carry over when scrolling to the right. **Severity Rating: 3**

I like these descriptors—that is what I am looking for—don't like scrolling. I can see how some people might need faint line to separate feature info horizontally. Descriptors have disappeared—now I have lost the feature info—and not on the same line—is this type of insulation or something else?? I guess I would say somewhat satisfied and somewhat dissatisfied.
 --Kris

Recommendation 5

The specification subject headings should remain visible at all times while a user interacts with the “Compare Items” feature.

Finding 7

Several participants said that the color information on the products should be available within the compare items interface. **Severity Rating 2.**

Task No. 2: Remove two jackets from the comparison chart.

Finding 8

Participants struggled with removing items because they thought the “Remove Items” link looked like a specification heading when they were expecting an actionable button similar to the “Compare” button. **Severity Rating: 2**

No matter what navigation or functionality that you use, stick with it through the entire site, don't change between functions.
 --Sheila's

Recommendation 6

Replace the “Remove Items” check box, replace it with a button, and remove the “Remove Items” link. Also add the option to “Select All”.

*Finding 7:
 Participants said the
 “Remove Items” link
 should be a button.*

	The North Face Venture Rain Jacket - Women's	The North Face Varius Guide Jacket - Women's	REI Taku Jacket - Women's	REI Ultra Light Jacket - W
Remove Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Price	\$99.00	\$199.00	\$209.00	\$119.00
Shell fabric	Nylon	Nylon	(Hood, shoulders, sleeves) polyester ripstop/(jacket body) polyester interlock	Ripstop nylon
Waterproof	Yes	Yes	Yes	
Type of waterproofing	HyVent 2.5-layer waterproof breathable coating	HyVent waterproof breathable laminate	Waterproof breathable laminate	REI Elements 2.5-layer w breathable coating
Lining		Nylon		
Average weight	11 ounces	26 ounces	22.9 ounces	15 ounces
Back length	26 inches	26 inches	27 inches	26.5 inches
Gender	Women's	Women's	Women's	Women's

Task No. 3: Preview a printout of all five of the jacket specifications.

Finding 9

Participants were surprised that they could not print out the specifications of all five jackets on one page. They expected customized print options that went beyond a simple screenshot—especially for the purpose of bringing the printout to the store with them to direct their shopping. **Severity Rating: 3**

Getting all 5 would be very difficult—if the task is to really get all 5 then it is difficult. This is too difficult for what it is—at home I wouldn't have been happy about this.

--Chris

Somewhat difficult and somewhat dissatisfied—I am prevented from doing what I wanted to do exactly. <speaking about print options>

--Travis

Recommendation 7

Provide users with customizable print options.

Task No. 4: Compare four headlamps.

Finding 10

Participants did not like that the rain jackets remained in the “Compare Items” page and that they had to delete all of them in order to compare headlamps side by side.

Severity Rating: 4

That is kind of weird that it kept my old comparison items

It is inconvenient because I have to scroll up and over and then it kind of interspersed them—this is really inconvenient. Then I have to scroll all the way back. I had to go up to figure out which one is the jacket—go up select—then go down and over to scroll—then go up to click on the remove button.

--Travis

Very dissatisfied with that—removing the coats was not good. I wouldn't use this unless I was only shopping for one item 4 items or less, I wouldn't print it out. Might not use feature.

--Kris

Recommendation 8

Implement an easier way for users to clear the “Compare Items”.

Finding 11

Participants were surprised that by default the headlamps were not clustered as a group separate from the rain jackets, but instead by product number.

Severity Rating: 2

“If I was done with jackets, I wouldn't want them there”

--Eric

Recommendation 9

Organize items by subject matter instead of product number and allow users to change what specification products are organized by (price, name, rating, etc).

Conclusion

This section summarizes and prioritizes the findings from this study and provides an overview of what was learned in conducting it.

Benchmarking

Novice and experienced Internet users, as well as REI members and non-members, struggled with using the “Compare Items” feature. The severity rankings, survey question responses, and observations indicate that participants particularly struggled with Tasks No. 4 and 5. As reflected in the chart below, Tasks No. 4 and 5 received the lowest satisfaction scores from participants. Out of all the tasks, these two tasks also received the most extreme differences in scores between how difficult participants expected them to be vs. how difficult they ended up being.

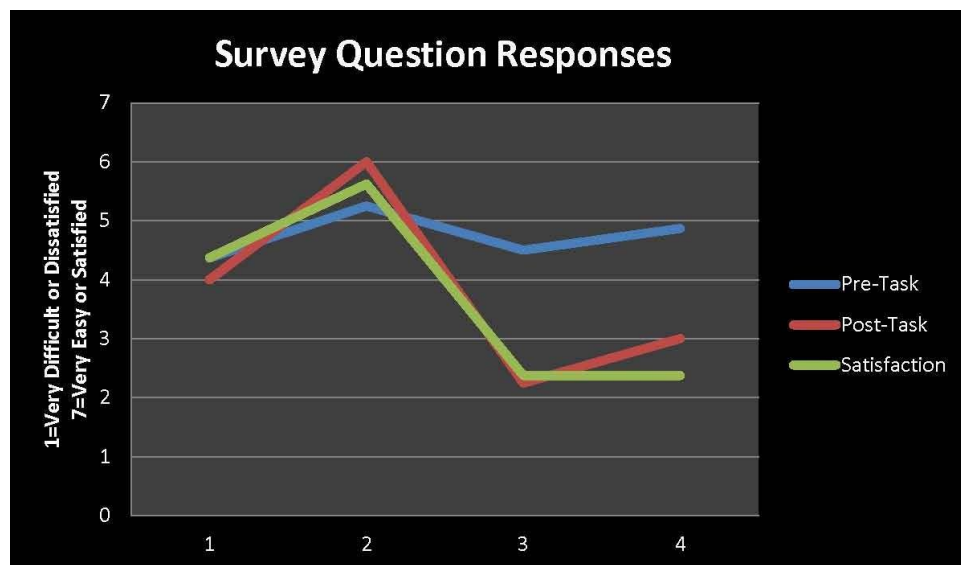


Figure 1: How difficult or easy do you expect this task to be vs. how difficult or easy was this task to complete vs. how satisfied were you while working on this task (responses averaged).

These numbers are important to recognize, not only because they shed light on which tasks are currently the most difficult for users of the “Compare Items” feature to complete, but also because they will be helpful in analyzing the general impact of future changes to the feature. They do not, however, reveal why the tasks were difficult, which is why analysis of findings does not stop here.

Severity Rankings

For each task there were several findings reported attached to different elements of the “Compare Items” feature. It is not until these individual findings are addressed that it will be easier for users to complete the four tasks addressed in this study as a whole. The below chart summarizes the severity ratings assigned to each finding.

Severity Ranking 4

- Finding 10

Severity Ranking 3

- Findings 1, 2, 4, 6, 11

Severity Ranking 2

- Findings 3, 5, 7, 8, 11

2 = Minor usability problem: fixing this should be given lower priority

3 = Major usability problem: important to fix, so should be given high priority

4 = Usability catastrophe: imperative to fix this before product can be released

Next Steps

All of the findings and recommendations from this study should eventually be addressed in redesigning the “Compare Items” feature. However, the above severity rankings indicate that in the face of budget and timeline issues, the high priority fixes for the feature are:

- Provide users with the ability to easily reset their comparison charts (Finding 10).
- Reduce the amount of scrolling required to use the feature (Finding 4).
- Give users the option to customize print options (Finding 9)
- Show the specification categories of the comparisons at all time, even if it is necessary to scroll (Finding 6).
- Make the “Compare” button look more like an actionable button (Finding 1).
- Provide users access the “Compare Items” feature from a product’s detail page (Finding 2).

What We Learned

We gained valuable insight from this project concerning how to run a successful usability study. Some of the things we learned include:

- It is important to overestimate the amount of time needed to test each participant. After running our pilot study, we thought we would require 30 minutes per participant but ended up needing an hour in some circumstances.
- Be careful how you word profile questions—we removed the education question (do you have a bachelor’s degree or higher) because it made participants uncomfortable.
- It is difficult to catch all the functions, actions and comments that a user engages in, so the more note-takers the better. Recording sessions is also highly recommended for this reason.
- It is important to assure participants from the start that they are not being tested. A few of our participants were very nervous and self-conscious throughout the testing process.
- A checklist is important to help the research team remember what needs to be done prior to, during and following each study session (e.g. reset test website, have participant sign NDA, give participant incentive, etc.)

- It is helpful to schedule time between participants so the research team can discuss their observations and brainstorm potential areas of interest for the next participant.

References

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Appendix A

Consent Form

REI, Inc.: Research Project Participation Form

Thank you for deciding to volunteer in for a REI, Inc. research project. The research project will consist of one or more activities and/or sessions to learn about your interaction with technology, products, or services provided by REI, Inc. Please note that you have no obligation to participate and you may decide to terminate your participation at any time.

Materials and Feedback

We ask for your permission to record, document, or transcribe your research session in any format and media (“materials”). You may also provide suggestions, comments or other feedback (“feedback”) to REI, Inc. with respect to the research project. Feedback is entirely voluntary. REI, Inc. shall be free to use, disclose, reproduce, license, or otherwise distribute, and exploit the Feedback and Materials. REI, Inc. shall own all information, software, documentation, and any materials in connections with the research project.

Confidentiality

The research project is confidential and you agree to : (a) never disclose it to anyone else (unless a court or government orders you to); and (b) keep it secret as you would your own confidential information. REI, Inc. does not consider all information about the research project to be confidential. If you legally received information from someone other than REI, Inc., and that person was entitled to share the information with you and did not obligate you to keep it a secret, you do not need to keep that information secret. The same holds true for information REI, Inc. disclosed to you or someone else without obligation to keep it secret or information that you develop independently.

Your Authority to Participate

You represent that you have the full right and authority to sign this form, and if you are a minor that you have the consent (as indicated below) of your legal guardian to sign and acknowledge this form, and you will not disclose to REI, Inc. any non-public information, whether yours or a third party’s without notifying REI, Inc. in advance. In addition, you agree to release REI, Inc. and its affiliates, and clients from any and all claims that you may have now or in the future related to your participation in the research project.

Please confirm your acceptance by signing the bottom of this form. On behalf of REI, Inc., we thank you for your contribution and look forward to your research session.

Signature

Date

Name (print)

Address

City / State / Zip

Appendix B

Scenarios & Tasks

Task 1:

You came to REI today looking for a new rain jacket for this winter. You usually like to research expensive purchases online, which is generally the easiest way to gather product specifications

Using REI.com, locate the jacket you want to purchase (this can be any rain jacket). Now, using the website once again, find and compare six other rain jackets to the one you want to purchase.

Remember to talk and think aloud and to let the moderator know when you have finished working on this task.

Task 2:

To help in the decision-making process you decide to limit the comparisons that you are making online and so you remove two jackets from the comparison chart.

Using the REI.com website, remove two jackets from the comparison chart to bring the number in the chart down to five.

Remember to talk and think aloud and to let the moderator know when you have finished working on this task.

Task 3:

You decide that you will try on some of the jackets in the store and so you print out the specifications of all five jackets to bring with you to the store.

Using the REI.com website complete all of the steps necessary to print out a copy of all five of the jacket specifications to refer to while shopping in the REI Flagship store (no need to actually print anything).

Remember to talk and think aloud and to let the moderator know when you have finished working on this task.

Task 4:

Before exiting the website, you remember that you would also like to purchase a headlamp while visiting the store.

Using the REI website, navigate to the headlamps and find information concerning what differentiates four of them. Then, pick one and place it in your shopping cart.

Remember to talk and think aloud and to let the moderator know when you have finished working on this task.

Appendix C

Participant Satisfaction Rating

Pre-Task Question

How difficult or easy do you think it will be to complete this task? *(Circle your response on the scale below. Please be as candid as possible in your evaluation.)*

1	2	3	4	5	6	7
Very difficult	Difficult	Somewhat difficult	Neither difficult nor easy	Somewhat easy	Easy	Very Easy

Post-Task Questions

How difficult or easy do you think it was to complete this task? *(Circle your response on the scale below. Please be as candid as possible in your evaluation.)*

1	2	3	4	5	6	7
Very difficult	Difficult	Somewhat difficult	Neither difficult nor easy	Somewhat easy	Easy	Very Easy

How satisfied were you while working on this task? *(Circle your response on the scale below. Please be as candid as possible in your evaluation.)*

1	2	3	4	5	6	7
Very Dissatisfied	Dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Satisfied	Very satisfied

Comments:

Appendix D

Profile Questions

1. Are you an REI member? Yes or No
2. Do you shop online? Yes or No
3. Do you research products online? Yes or No
4. Have you shopped on REI.com before? Yes or No
5. Have you ever compared products using the “Compare Items” feature on REI.com?
Yes or No
6. What is your current occupation? _____

Appendix E

Participant Post-Study Discussion Questions

- What do you like about the feature?
- What do you dislike about the feature?
- Is the feature something you would use?

Appendix F

Jakob Nielsen: Severity Ratings for Usability Problems

(<http://www.useit.com/papers/heuristic/severityrating.html>)

According to Jakob Nielsen there are three factors that influence the severity of a usability problem.

- The **frequency** with which the problem occurs: Is it common or rare?
- The **impact** of the problem if it occurs: Will it be easy or difficult for the users to overcome?
- The **persistence** of the problem: Is it a one-time problem that users can overcome once they know about it or will users repeatedly be bothered by the problem?

He created the following 0 to 4 rating scale to rank the severity of usability problems:

0 = I don't agree that this is a usability problem at all

1 = Cosmetic problem only: need not be fixed unless extra time is available on project

2 = Minor usability problem: fixing this should be given low priority

3 = Major usability problem: important to fix, so should be given high priority

4 = Usability catastrophe: imperative to fix this before product can be released