Usability Test Plan

for Specialty E-Commerce Website

Moritz Zimmer
10.21.2016

Table of Contents

Document Overview

This document describes a test plan for conducting a usability test on **lesliespool.com** (following referred to as "the website"), a specialty ecommerce website selling pool supplies and chemicals. The goal of this usability test is to analyze a pre-existing *specialty* e-commerce website, with the purpose of gaining some insight that will help me building and developing my skillset, especially as it relates to an upcoming and planned project of mine: The development of a specialty e-commerce website of my own. During the test, the focus will be on the user's performance when interacting with a website selling products and solutions that are not inherently in the comfort zone or field of interest of the subject; with particular concerns on ease of use, clarity of content, as well as stability and compatibility of the website, identifying potential problems and learning opportunities for the aforementioned project and future projects currently in my own development, and learn a lot more about user behavior itself. The reason I chose this website is because I am *very* familiar with the product sold: I have ten years of industry experience with this company, and I am writing some scenarios which are firmly and deeply rooted in reality, things which I see and hear every day, problems which am confronted with every day.

The specific usability test objectives are:

- To determine usability problem areas and design inconsistencies within the user interface and content areas. Potential sources of error may include:
    - Navigation errors – failure to locate functions, excessive input controls to complete a function, failure to follow recommended or assumed screen flow.
    - Presentation errors – failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities, confusion and drawing incorrect or partially incorrect conclusions
    - Control usage problems – improper toolbar and or form usage.
    - Analyze and detect certain and general pitfalls related to ecommerce applications, such as potentially experienced or perceived trust and privacy issues
    - Identify hesitancy to spend money or commit to a purchase
- Have the participant make positive purchasing decision.
- Exercise the web site under controlled test conditions with on sample user, based on this course's recommendation, a Family Member.
- Data will be used to assess whether basic usability goals have been achieved relating to an effective, efficient, and well-received user interface, as well as a positive purchasing decision by the user.
- Establish baseline user performance and user-satisfaction levels of the user interface for adaptation and application in our own future projects.
- Learn from the mistakes made by the developers of the website, in order to not repeat those same mistakes, and gain insight into what worked well and can be adapted into our own designs and projects.

This usability test will be conducted on a subject that is not representative of the customer base of the website. A user unfamiliar with the product is expected to be an advantage: Since this is a specialty e-commerce website (and most smaller websites are, such as the ones I plan to build myself), so I am hoping that having a subject who is unfamiliar with the subject matter will behave in a similar way to how a user might interact with a website selling another specialty product, be it fonts, or anything else. Information gathered will be helpful for my future projects, and in light of e-commerce websites being commonplace, since test subject has used e-commerce websites in the past, itis very likely they will behave likewise in the future. This usability test will be conducted in the home of the test subject, with no remote or live audience, other than possible review of recordings made during the session(s).

Executive Summary

The user will be expected to complete 3 to 4 different tasks, time and progress permitting, including finding a specific part, making a purchasing decision about a pool cover, finding a local store and coupons.

Upon review of this usability test plan, including the draft task scenarios and usability goals for this website, documented acceptance of the plan is expected.

Methodology

This test will be conducted in the home of the facilitator Moritz Zimmer with one (1) participant only. The usability test will not include any other people other than the facilitator and the participant, who will both be physically present in the same room. The test will be performed on a clean install of Windows 7, running in a virtual machine on a MacBook Pro. Browser will be an up to date version of Mozilla Firefox. In case of technical failure, we will fall back on a Windows 8.1 Toshiba system running the same browser. Final assessment of the usability test will be made from information won from the recording session, and the facilitators notes and observations during and immediately after the test.

Participant

The only participant (also referred to as user and subject in this document) in this test has been recruited from the friends and family circle of the facilitator. The participant is an experienced computer user and beginner-level self-taught programmer, but will have no to little experience with the type of product sold on the website to be tested, pool equipment and supplies. This is expected to be an advantage and desired situation, as it will hopefully allow for an observation of an ecommerce website selling specialized product to a client that is unfamiliar and might be “out of their depth”, thus potentially exposing flaws generally inherent with all types of specialty ecommerce websites.

The participants’ responsibilities will be to attempt to complete a set of task scenarios presented to them in an efficient and timely a manner , and to provide feedback regarding the usability and acceptability of the user interface. Additionally, the goal is to get the participant

to make a purchasing decision in the process. The participants will be directed to provide honest opinions regarding the usability of the website, and to participate in potential post-session subjective questionnaires and debriefing.

The participant has been selected in accordance with this course's specification, and is a family member and friend. The participant has *not* been selected based on their skillset and interest in the website to be tested, instead, the website has been selected to specially *not* be in their field of interest and expertise, such as to be able to learn how a user unfamiliar with a subject matter interacts with a specialty ecommerce website.

Training

The participant will receive an overview of the usability test procedure, equipment and software to be used. The browser and operating system software has been chosen so the subject will be familiar with the technical surroundings and no further technical training is required. For the tasks, there is no additional knowledge of technology, pools, pool chemicals or pool equipment needed; however, certain expositional instructions will be provided during the execution of the test as they relate to the test scenarios, such as a short briefing on the item to look for (pump lid, etc.), or the action to be taken.

Procedure

Participants will take part in the usability test at the home of the facilitator, Moritz Zimmer in Waxahachie, USA. An Apple Macintosh Laptop computer running a virtual Windows 7 machine will simulate a typical scenario of a potential customer of the website using a home computer to self-trouble shoot issues with their pool, and/or find solutions on their own as they would in a real world scenario. The participant's interaction with the Web site/Web application will be monitored by the facilitator seated at the same table. The session will not be observed by anyone other than the participant and the facilitator, who may take notes during the session, as well as possibly debrief the participant after the completion of the test. The test sessions will be recorded via a screen-recorder, and audio of the session will be recorded separately with a microphone in the same room.

The facilitator will brief the participant on the Web site and inform the participant that they are evaluating the application, rather than the facilitator evaluating the participant. Participants will sign an informed consent that acknowledges: the participation is voluntary, that participation can cease at any time, and that the session's screen interactions will be screen-recorded digitally, as well as their voice and interaction with the facilitator will be digitally audio-recorded, but their privacy of identification will be safeguarded. The facilitator will ask the participant if they have any questions.

The Participant will complete a pretest demographic and background information questionnaire. The facilitator will explain that the amount of time taken to complete the test task will be measured and that exploratory behavior outside the task flow should not occur until after task completion. At the start of each task, the participant will read aloud the task description from the printed copy and begin the task. Time-on-task measurement begins when the participant starts the task.

The facilitator will instruct and gently remind the participant to 'think aloud' so that a verbal record exists of their interaction with the Web site/Web application. The facilitator will observe and take notes regarding the user's behavior, user comments, and system actions with pen and paper, and will later use them in the critical analysis of the test.

After each task, the participant may be asked complete the post-task questionnaire and elaborate on the task session with the facilitator. After all task scenarios are attempted, the participant may complete a post-test satisfaction questionnaire interview with the facilitator.

The facilitator will specifically set aside some time to answer any questions the participant might have had during the test, but was unable to answer, or chose not to answer during the test to encourage the user to find a solution. Should any questions or conversation after the test occur, the facilitator will use these comments and findings in his notes and reports as well, depending on their pertinence to the goals of this test. However, it should be noted that this time set aside is primarily a courtesy to the user, if requested.

Roles

The roles involved in a usability test are as follows. The facilitator, me, will play most roles in this test. Some roles as lined out in the usability.gov template will fall away, while others may be consolidated into one person.

Facilitator

- Provides overview of study to participants
- Defines usability and purpose of usability testing to participants
- Assists in conduct of participant and observer debriefing sessions
- Responds to participant's requests for assistance
- The facilitator will serve as trainer, providing training overview prior to usability testing, which will be kept minimal
- The facilitator will serve as data-logger as well

Test Observers

- The facilitator will be the sole observer of this test
- Portions of this test will be shared via (potentially edited and abbreviated) video with this course's teacher, whose observatory roll will focus primarily on evaluating the facilitator and the methods of this test

Test Participant

- Receives overview of study from facilitator
- Is instructed and coached on usability and purpose of usability testing from facilitator
- Performs scenarios laid out by this test and the facilitator

Ethics

All persons involved with the usability test are required to adhere to the following ethical guidelines:

- The performance of the test participant must not be individually attributable. The individual's name will not be used in reference outside or during the testing session.
- A description of the participant's performance will not be reported to anyone, and nobody shall make any and all conclusions based on observances made during the test

Usability Tasks

The usability tasks were derived from real world scenarios observed in ten years of industry experience by the facilitator with the subject matter, as well as test scenarios developed from use cases and with the assistance of literature on the subject matter, including the books and resources laid out in the source-appendix. Due to the range and extent of functionality provided in the application or Web site, and the short time for which the participant will be available—as well as the constraints of the video requirements for this course, the nature of the tasks has been carefully selected to reflect real world scenarios as observed by the facilitator, and are based on the most common usage of a specialty ecommerce website, as well as based on the perception of which areas I wish gain the most insight into.

The test will be conducted on the live version of the website, with no other provisions made. During the test, the participant may be asked to sign up for the actual rewards-program on the website, using a specifically set up email address for this purpose only. This email address is hosted on the facilitators domain (zimmermail.net) and webserver for the specific purpose of this usability test, and will be deleted after the test is complete. The participant will be given the specifics needed for the sign-up, including an arbitrary name and this aforementioned email address.

The task descriptions below are required to be reviewed by teacher of this course to ensure that the content, format, and presentation are representative of real use, and are representative in order to evaluate the facilitator. Their **acceptance is hopefully to be documented** *prior* to usability test.

The scenarios the participant will be asked to partake in are as follows:

Prerequisites

- The participant will be briefed that they are to act as a new pool owner, and will be given information pertinent to each scenario as they occur.
- This information will not be overwhelming, and will be enough to solve each task. The scenarios have been chosen and thought up by the facilitator based on almost a decade of industry experience, and the information given is very typical of the quantity and quality of information a real visitor to the website would have.
- **Script**:

  “

As you can tell, you are looking at a website for pool products. Before you start, allow me to give you a little background information about each scenario, and read to you the entire scenario first, so we have a good understanding of what's going to happen. Remember, the goal is not to evaluate you, but for me to evaluate this website and to learn something in the process. So even and especially failure is a good thing, because we want to find those things that make users like yourself not able to use a website as we sometimes hope people would use them.

I want you to imagine that you just bought a house with a pool, or perhaps your mother bought a house with a pool, and you are new to all of this, but there are a few things that need to be taken care of, and you would like to see if you can't fix them with the help of this website.

Scenario 1: Find a Pentair® Intelliflo® Pump lid

The participant will be asked to find a Pentair® Intelliflo® Pump lid. Test will start on the home page.

Additional Information for the Participant

The facilitator will provide a picture print-out of the item in question, with some visible markings and a good representation of the shape as a real pool-owner would have at their disposal by looking at their pump. The picture has been taken by the facilitator of a representative display pump.

Proposed Script

> *For your first task, I am going to ask you to find a specific part. You are looking for a new "seal" for your pumps lid. Since we don't have a pump here, I have printed out a picture for you of what kind of pump you have. The clear lid is leaking, and you are looking for a new seal. You can use any information you can derive from the picture, just like you would if you had the pump in reality, and you can use any aspect of the website, including the search function, but I am going to ask you not to leave the site or use google or bing to find out anything else.*
>
> *Please verbalize as much as you can, explain your thinking as you go along, but if you have any questions, I may not be able to answer them until the end of the session, because I am not here to give you any guidance. There will be some time at the end of the session to answer any questions, in case I was unable to answer any of your questions during the test.*

Goals

The goal of this scenario is to evaluate and learn about the *navigation* through several layers of navigational elements, and finding a relatively small part in a sea of similar parts.

Scenario 2: Select (and hopefully commit to buy) a Pool Cover

The participant will be asked to select a pool cover for their pool. This test will start from the homepage.

Additional Information for the Participant

The participant will be given the information about the pool being an in-ground pool of roughly the length and width of the room. (This is a very typical way for customers to describe their pools dimensions. Since pool cover measurements are typically in feet, it will force the participant to hopefully think about the exact dimensions more carefully. If asked, the more specific measurements of 17x34 will be provided by the facilitator, which would simulate the real-world scenario of measuring the pool).

Proposed Script

> *For this second task, you are still assuming you are the same new pool owner, but as you consider the season and the weather outside (it is Winter), you are going to need to buy a cover for the pool. You know the pool is roughly the size of this room, and you have a few trees and shrubs around the pool that are shedding their leaves right now. I want you to use the website—again, every aspect of this website, but not any other part of the internet—to select a good cover for the pool.*
>
> *Please remember to verbalize your thoughts as you navigate the site.*

Goals

The *ultimate, unstated* goal of this scenario is for the participant to make a positive purchasing decision. More specifically, it is also to evaluate how well the website is structured and built to guide a completely unsure user to not only find a product, but also be confident enough to purchase it. I am looking for the how and why a purchasing decision was made, or why not.

Scenario 3: Create an Account / Form Usage

The participant will be asked to create an account on the website. The user will start on the homepage.

Additional Information for the Participant

The Because of privacy concerns using real information on a real website, the user will be instructed to use the following fictitious information during signup:

- ***Name:*** Max Mustermann, 123 Strasse, 75165, Waxahachie, USA.
- ***Email:*** usetest0815@zimmermail.net, Usabilitytest@2

If account validation is required, this will be performed by the facilitator on a different machine, so the usability test can continue.

Proposed Script

> *Next, I would like to evaluate the process of creating an account on Leslie's Pool dot com. I want you to see how you would create an account on this website. Please don't use your real information, I have instead printed out for you this information of a fictitious user and a functioning, but temporary email address. Please proceed exactly as you would, creating an account, verbalize your thoughts, and make exactly the kind of choices you would make if you were to do this on your own.*

Goals

I want to evaluate how well the forms of this website work, and how easy it is for the participant to commit to several different things offered on the website:

- Sign up for the rewards program
- Remember the participants pool type, equipment, etc.
- Opting in and out of newsletters

Find out other perks or annoyances

Scenario 4: Find a Local Store and Coupons

The participant will be asked to find a local store, and to see if there are any coupons available. If the user previously was able to find parts, see if those parts are available in a local store.

Additional Information for the Participant

We will continue using the information gathered and generated in the previous scenarios.

Proposed Script

> *For this last test, I would like for you to see if you can find a local store in your area, and see if there are any specials available.*
>
> *(Additionally, if the user was previously able to find the part and/or the cover* and *was able to find a local store): You want to know if the items you just bought / intended to buy are available in your local store.*

Goals

Find out how successful the website blurs and connects the lines between their online presence and their physical stores. Additional scenario described above is something that is *not* currently possible on the website, but something users ask for all the time

Usability Metrics

Usability metrics refers to user performance measured against specific performance goals necessary to satisfy usability requirements. Scenario completion success rates, adherence to

dialog scripts, error rates, and subjective evaluations will be used. Time-to-completion of scenarios will also be collected.

Scenario Completion

Each scenario will require, or request, that the participant obtains or inputs specific data that would be used in course of a typical task. The scenario is completed when the participant indicates the scenario's goal has been obtained (whether successfully or unsuccessfully) or the participant requests and receives sufficient guidance as to warrant scoring the scenario as a critical error. Additionally, the facilitator may end a scenario prematurely if a long period of time has progressed without any significant advances to the scenario.

Critical Errors

Critical errors are deviations at completion from the targets of the scenario. Obtaining or otherwise reporting of the wrong data value due to participant workflow is a critical error. Participants may or may not be aware that the task goal is incorrect or incomplete. The facilitator reserves the right to continue a test scenario in case of this type of critical error, if he deems the information gained from a continuation might be helpful to the overall goal.

Independent completion of the scenario is a universal goal; help obtained from the other usability test roles is cause to score the scenario a critical error. Critical errors can also be assigned when the participant initiates (or attempts to initiate) and action that will result in the goal state becoming unobtainable. In general, critical errors are unresolved errors during the process of completing the task or errors that produce an incorrect outcome.

Non-critical Errors

Non-critical errors are errors that are recovered from by the participant or, if not detected, do not result in processing problems or unexpected results. Although non-critical errors can be undetected by the participant, when they are detected they are generally frustrating to the participant.

These errors may be procedural, in which the participant does not complete a scenario in the most optimal means (e.g., excessive steps and keystrokes). These errors may also be errors of confusion (ex., initially selecting the wrong function, using a user-interface control incorrectly such as attempting to edit an un-editable field).

Noncritical errors can always be recovered from during the process of completing the scenario. Exploratory behavior, such as opening the wrong menu while searching for a function, will not be coded as a non-critical error.

Subjective Evaluations

Subjective evaluations regarding ease of use and satisfaction will be collected via verbal questionnaire interview during debriefing at the conclusion of the session. The questionnaire will be an informal conversation.

Scenario Completion Time (time on task)

The time to complete each scenario, not including subjective evaluation durations, will be recorded.

Usability Goals

The next section describes the usability goals for the evaluation of **lesliespool.com**

Completion Rate

Completion rate is the percentage of test scenarios successfully completed without critical errors. A critical error is defined as an error that results in an incorrect or incomplete outcome. In other words, the completion rate represents the percentage of scenarios which, when they are finished with the specified task, have an "output" that is correct. Note: If the participant requires assistance in order to achieve a correct output then the task will be scored as a critical error and the overall completion rate for the task will be affected.

There is no specific completion rate goal for this test, as the goal for this test is to learn from errors, or things well done.

Error-free rate

Error-free rate is the percentage of test scenarios completed without any errors (critical **or** non-critical errors). A non-critical error is an error that would not have an impact on the final output of the task but would result in the task being completed less efficiently.

An error-free rate is not something I am looking for in this usability test.

Time on Task (TOT)

The time to complete a scenario is referred to as "time on task". It is measured from the time the person begins the scenario to the time he/she signals completion.

Subjective Measures

Subjective opinions about specific tasks, time to perform each task, features, and functionality will be surveyed. At the end of the test, participants will rate their satisfaction with the overall system in a brief, informal interview with the facilitator. This will be combined with the interview/debriefing session, and the data may be used to assess attitudes of the participants.

Problem Severity

Although no recommendations will be made to the owners and operators of the website, in order to evaluate recommendations and tips for my own future development, a method of problem severity classification will be used in the analysis of the data collected during evaluation activities. The approach treats problem severity as a combination of two factors—the impact of the problem and the frequency of users experiencing the problem during the evaluation.

Impact

Impact is the ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion. There are three levels of impact:

- **High**—prevents the user from completing the task (critical error)
- **Moderate**—causes user difficulty but the task can be completed (non-critical error)
- **Low**—minor problems that do not significantly affect the task completion (non-critical error)

Problem Severity Classification

The identified severity for each problem implies a general reward for resolving it, and a general risk for not addressing it, in the current release.

Severity 1 – High impact problems that often prevent a user from correctly completing a task. They occur in varying frequency and are characteristic of calls to the Help Desk. Reward for resolution is typically exhibited in fewer Help Desk calls and reduced redevelopment costs, as well as improved conversion rates and sales.

Severity 2 – Moderate to high frequency problems with moderate to low impact are typical of erroneous actions that the participant recognizes needs to be undone. Reward for resolution is typically exhibited in reduced time on task .

Severity 3 – Either moderate problems with low frequency or low problems with moderate frequency; these are minor annoyance problems faced by a number of participants. Reward for resolution is typically exhibited in reduced time on task and increased data integrity.

Severity 4 – Low impact problems faced by few participants; there is low risk to not resolving these problems. Reward for resolution is typically exhibited in increased user satisfaction.

Reporting Results

The Usability Test Report will be provided at the conclusion of the usability test. It will consist of a report of the results; evaluate the usability metrics against the goals, subjective evaluations, and specific usability problems and recommendations for resolution, as well as things that can be learned for my own future projects. The report is anticipated to be delivered to the teacher of this course by the due date indicated on BlackBoard.

Sources

Krug, S. (2010). *Rocket Surgery Made Easy.* Berkeley: New Riders.

Krug, S. (2013). *Don't Make me Think: A Common Sense Approach to Web Usability, 3rd Edition*: Berkeley: New Riders.

Optimal Workshop. (29. Jun. 2016). Do-It-Yourself Usability Testing with Steve Krug. *YouTube:* [Video File]. Retrieved from: https://www.youtube.com/watch?v=VTW1yYUqBm8

Zimmer, M. (22. Sep. 2016). Annotated Bibliography for Usability, User Interface Design, User Experience Testing, Review, and Industry-Expert-Proposed Best Practices. *FHSU: Unpublished*. Retrievable from: http://files.moritzzimmer.com/2AnnotatedBibliography_MoritzZimmer.pdf