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Seattle Tilth Usability Test

Usability Testing Plan for the Seattle Tilth Site

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This document describes the usability test plan developed to research design issues with the Seattle Tilth website (www.seattletilth.org). The goal of this usability test is to advance our understanding of the typical user experience with the site through testing. The goals are to develop design suggestions to improve the overall efficiency and user satisfaction of the website.

Overview

In our investigation of the Seattle Tilth website our analysis team performed a competitive analysis, a heuristic analysis and a card sort test. These were done to determine the Seattle Tilth website's effectiveness in positioning relative to other non-profits, to evaluate how well the site's design advances the organization's mission and goals, and how well its organization resonates with user expectations.

Concerns arose in all the test analyses that led us to focus on usability issues regarding the site. Prior to these tests we had concerns about the overall organization of the site and how it affects the user's ability to mentally keep track of what lies where. What came to mind was Jakob Nielsen's concept of recognition over recall in website structure (Nielsen, 10 Usability Heuristics for User Interface Design, 1995). During the process of the tests performed to date, our concerns about the site's usability deepened.

We concluded that a usability test was required to verify our suspicions about the functionality of the site. What we hope to discover is how the average user experiences the site and measure this using both objective and subjective methods.

We will learn this by formulating a test that will establish a baseline performance level of the typical user and establish methods to measure that performance. These metrics will help us identify the design issues that adversely affect the user's experience. Then we will evaluate the results and develop conclusions about them. From these conclusions we will derive concrete recommendations that will serve to improve the Seattle Tilth website experience.

Usability Testing Explained

The objectives of a usability test are to identify inconsistencies in design and general problem areas within the target website. These may take many forms: navigation issues, design ambiguities, and control issues.

A usability test seeks to observe the website under controlled conditions. Test participants are usually picked from the test site's typical users. Participants are asked to perform a set of tasks that are designed to ferret out potential negative user experiences or to prove that suspect features are working well.

The number of test subjects that proves the most effective is about five, according to Jakob Nielsen (Nielsen, 2012). This seems like a very small number at first glance. Nielsen's preferred approach is to conduct numerous small tests in a more incremental fashion. But absent multiple tests, he is confident that most errors and complications in design will reveal themselves in a small test group.

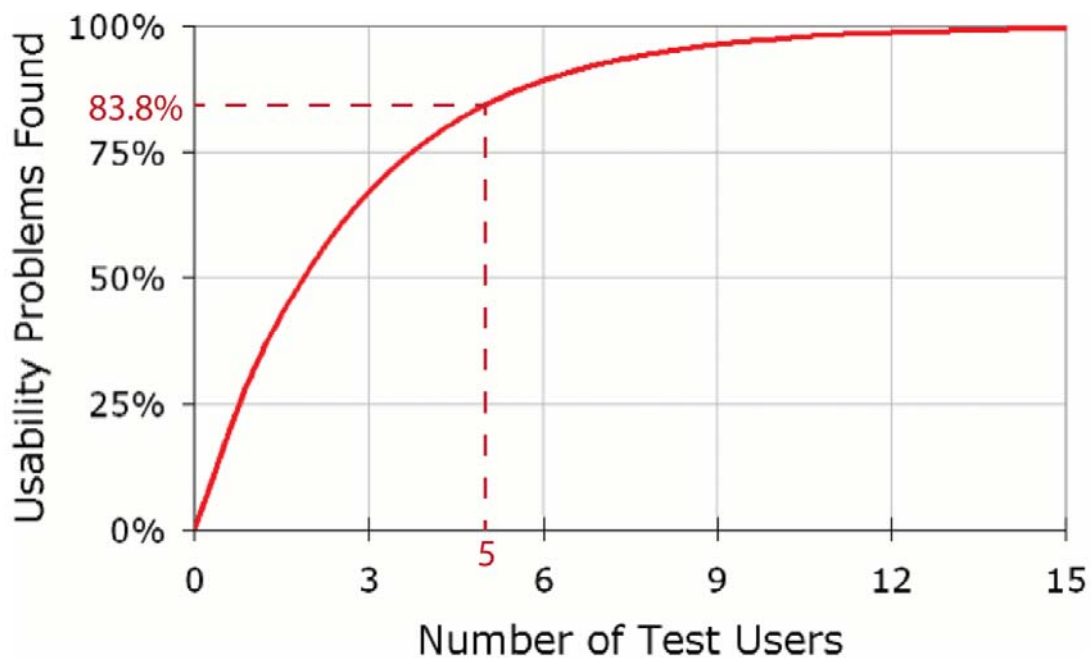


Figure 1. Jakob Nielsen demonstrates that there are significant diminishing returns for usability studies larger than six participants. (Nielsen, 2000 with additions)

Nielsen's chart (Figure 1) indicates surprisingly that five users will expose about 85% of the usability deficiencies during a test. There is body of agreement with these general figures. Rubin and Chisnell, in the Handbook of Usability Testing are willing to go with four or five participants and 80% of usability issue exposure.

A testing venue is chosen and the test participants are contacted with an invitation either by mail or email. The invitation announces the time and location of the test and any incentives that may be offered as an enticement. The potential test subject is asked to respond as to whether they are willing to participate. Once these responses are received by the testing group, the responders are contacted for a screening interview to ensure that the test subjects are of the proper demographic for which the test is designed. Once a sufficient number of participants is screened, accepted, and notified, the test can proceed.

The test facility needs to be set up to have all the test equipment ready. Usually this involves installation of a number of computers with Internet access, cameras, and activity recording software installed. Additional computers for test observers may be employed, or the observers may watch the participants directly.

Additional setup is required for the test facilitator, and any recorders or observers. These can include tables, chairs, and additional computers. Tables may also be needed for reception, refreshments and incentives. Furniture is arranged according to the test plan. Certain best practices are followed as to the arrangement and how it may affect participant's performance and their potential reaction to the testing room and location and proximity of test personnel. General guidelines are laid out in Handbook of Usability Testing (Rubin & Chisnell, 2008).

When a test participant arrives at the test venue they are greeted by test personnel and invited to partake of refreshments. Then the participant is ushered into the test room and the facilitator introduces herself, explains test confidentiality issues and begins a short pre-test questionnaire, generally consisting of demographic questions. Once the questionnaire is completed the facilitator then begins a brief introduction to the test outlining its objective. The participant is informed that they are being recorded and observed. They are also told to observe the "thinking-aloud protocol", which is the user describing their activities out loud while they perform them. This protocol informs the facilitator and any observers what the test subject is experiencing in real time. This provides detail to the observations, and allows the facilitator to subtly guide the subject when difficulties arise.

The first task is described and a card with the description is laid out before the test subject to assist them in keeping on task. The participant then proceeds while they verbally describe their activity.

Care is taken by the facilitator not to coach the subject into a prescribed outcome but rather enable them to their natural destination. The facilitator's aim is to get the user to describe their experience, and if difficulties are encountered, to get the subject to detail their experience.

The other principal task of the facilitator is to take notes during the test if observers are not present. Care is taken to make sure that the manner of the note taking does not cue the test subject in any way.

Once the participant has completed the first task, the facilitator proceeds to introduce the next one. The participant proceeds through all subsequent tasks in the same way.

At the end of the test the facilitator debriefs the test subject. The subject is presented with a participant consent form and a non-disclosure agreement to sign. The facilitator then asks about their general experience, any test difficulties they may have encountered during the test, and any general impressions. She then presents the participant with a post-test questionnaire. The participant is then thanked and presented with their incentive.

After the testing the data is compiled into spreadsheets, charts, and graphs to help reveal success rates, usage patterns, and error severity ratings. These visuals clarify what the data means for the analysis team and points toward conclusions about the existing website and recommendations for improvements. The data and visuals will eventually find their way into the usability report.

The usability report's role is to deliver the data to the stakeholders and the people who may actually be designing and implementing the site changes. The power of this data is that it brings home to the stakeholders what real users experience on their website.

The Seattle Tilth Usability Test

Designing the Test

The usability test for the Seattle Tilth website is based on activities we focused on in the competitive analysis and the heuristic analysis. These activities involve registering for a class, making a donation, and signing up for an event. We continued with these because together they generate funds that make up such a vital portion of Seattle Tilth's revenue. In addition to the financial aspect, these

activities are essential to Seattle Tilth's public outreach and are therefore an excellent measure of how the website serves the mission.

To develop specific tasks for the usability test, each of the team members researched one of the test activities. Within these activities, each looked for any odd features or quirks that indicated portions of the site design that seemed less well thought out. Team members strove to develop tasks that were in the middle range of difficulty for the typical user and demonstrated what the user would encounter on a regular basis.

The class registration task involves seeking out the price, location, date, and time for a Beekeeping class without using the search function. The donation task is a check to see if one's employer provides matching donations to Seattle Tilth. The events related task emulates a user attempting to ask a question not in an event's FAQs.

Test Methods

Our target number of test participants, given resources and the structure of the test environment, was six. If the analysis team had the opportunity to test more people, we would take advantage of the additional data. But we were satisfied that the baseline number of participants would be enough to provide effective data. In the end the team tested 11 participants.

The most potentially serious deviation from standard test methods was that the test subjects were not selected from the website's typical demographic. Students of the UX Research Methods (ITC298) will comprise the main body of the testing group. Other test participant results may be used.

Each usability test will occur in Room 3174 at Seattle Central College. The test dates will be Thursday, June 4, Tuesday, June 9, and Thursday, June 11, 2015 from 3:30PM to 5:00PM.

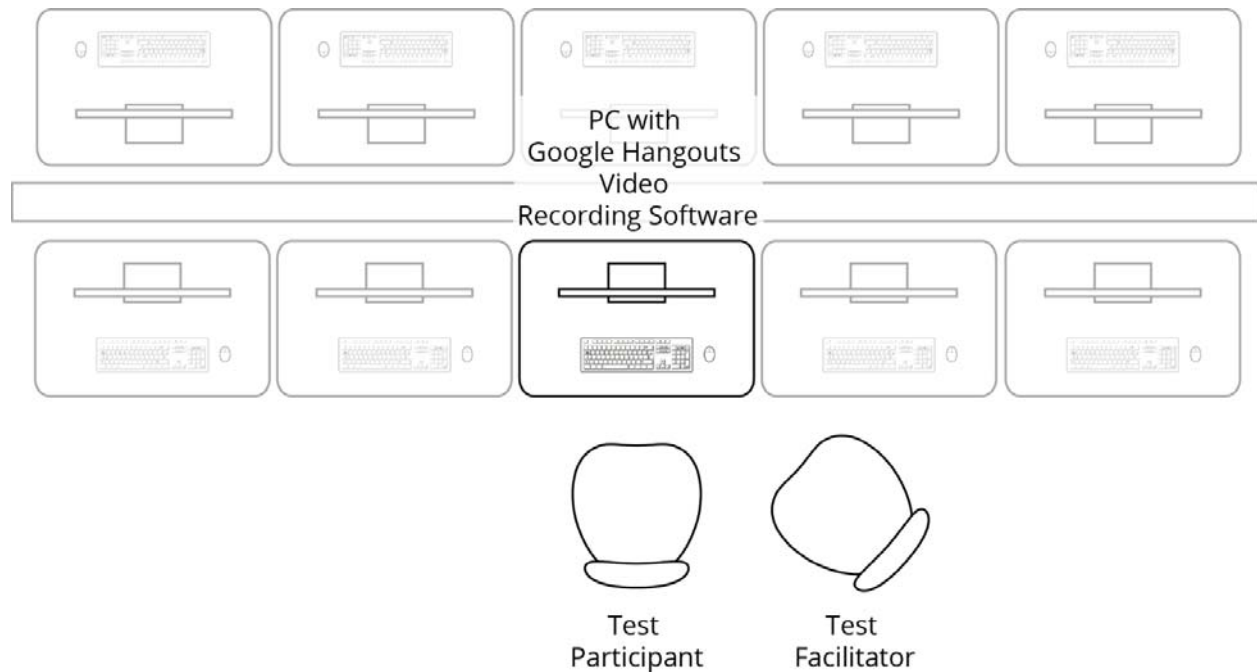


Figure 2. Physical arrangement of usability test environment.

The physical environment for the test also varies somewhat from the norm, again due to budget constraints. The test venue is a classroom and the facilities inside that room are fixed. The analysis team strove to emulate the typical test environment (Rubin & Chisnell, 2008) as closely as possible. The principle elements are the relative positions of the participant and the facilitator. This relationship between the participant and the facilitator is the main human dynamic in the usability test. Retaining this portion of the usability test structure is the most important element.

Errors

Errors can occur during the test. As in any experimental environment, errors can be the single most valuable source of information. Failures in design that prevent a participant from completing a task often evoke the most dramatic responses. User frustration is seldom hidden, especially with the think aloud protocol in practice during a usability test. Indeed, in the Handbook of Usability Testing, Dana Chisnell reports that 80% of the value of usability testing comes from observing the participants reactions.

The test facilitator is tasked with recording any user errors that occur. Added assurance of correct error tracking is provided by the video recordings which can be reviewed further for errors and error re-evaluation by the analysis team.

Errors are either non-critical or critical. A non-critical error does not prevent successful completion of the task. A critical error, however, will prevent any successful completion.

Test roles

The Seattle Tilth Usability Test differs from the typical test format in the number of people involved at any one time due to our budget constraints.

There will be one facilitator for each test participant. The facilitator will greet the participant, and walk them to the PC used for the test. The facilitator will perform the pre-test questionnaire and then read the test script to the participant. Once the test begins, the facilitator will take notes on the test proceedings.

After the test is completed the facilitator will then debrief the participant and present them with the post-test questionnaire. Once that is completed the facilitator will inform the participant that they are finished and invite them to partake in the incentive pizza.

There will be no observers watching the test proceedings. The use of the video recordings will serve as a substitute. These recordings will enable the team to review the recordings and take further notes regarding any new observations.

Analyzing the results

In usability testing in a work environment it is customary to create a preliminary report to get some initial results out the design and development teams. This is pretty much raw data seasoned with some conclusions.

It is important to be conservative on any conclusions and recommendations at this preliminary stage. The analysis team might be under the impression that the data will clearly show a particular result. But once compiled that result may not prove to be so clear. At this stage it is best to stick to more obvious issues like frequent failures that occur at the same location.

The next stage is to compile that data so that it is in a usable form. Patterns may reveal themselves once the data is compiled that aren't evident at the time of testing. Careful compilation will enhance the value of the data created during the test procedure and increase the chances that it will be used in a constructive way.

Compiling the data

Data compilation will be performed by the analysis team once the usability testing is complete. The task completions, failures, elapsed times, facilitator notes, participant comments, and post-test questionnaires are all sources of test data.

Procedures for this compilation will follow guidelines set forth in the Handbook of Usability Testing (Rubin and Chisnell, 2008). This will provide the analysis team with a coherent body of data from which to develop recommendations. It will also create visuals to convey the data to the stakeholders.

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