Parents' Portal Usability Testing Plan

[4/4/11]

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2 Overview

The goals of usability testing include revealing the true needs and expectations of users, establishing a baseline of user performance, and identifying potential design concerns to be addressed in order to improve the efficiency, productivity, and end-user satisfaction. Usability testing is an iterative process of discovering issues in the user interface (Krug 2006).

> "The best way to answer questions about your customers is to recruit some participants, run a quick test, and see what they say and do" (Van Duyne et al, 2006: P.825). If done properly, it could prevent an organization from spending money on a poorly designed product.
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> "If you want a great site, you've got to test" Krug (2006; P.133).

This document describes a plan for conducting a usability test during the development of a portal for parents and/ or families of children with special needs.
The usability test objectives are:

- Determine design inconsistencies and usability problem areas within the user interface and content areas. Potential sources of error may include:
    - Navigation errors – failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.
    - Presentation errors – failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities.
    - Control usage problems – improper toolbar or entry field usage.
- Test the Website under controlled conditions with representative users. Data will be used to access whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.
- Establish baseline user performance and user-satisfaction levels of the user interface for future usability evaluations.

The usability testing will be conducted among the members of the Parents' Panel, which includes 16 parents of children with special needs, two from each region in Virginia. The Parents' Panel will participate remotely. Other parents new to special education will be recruited to participate in face to face sessions held at George Mason University. In addition, Mason students with special needs will be recruited to test the website for usability and navigation.

3 Methodology

The Design Team will conduct two separate rounds of usability testing. The first round will be conducted during the week of April, 11th, 2011. During the first round The Uniform Resource Locator (URL) address of the prototype, along with an attachment of an evaluation task booklet will be sent to the participants via email. Other participants will take part in face to face sessions held at the Computer Lab 100, Commerce Building I at George Mason University. The participants will be asked to review the initial prototype. As they are reviewing the prototype, the participants will be asked to answer a series of questions. The usability testing will measure how the participants react to the prototype and will include questions regarding the participants' perceptions and

recommendations for additional content. Using the feedback gathered from the first round of usability testing, a second round will be conducted April, 25th, 2011 using a similar methodology. New objectives, however, will be constructed based on the first round participants' feedback.

3.1 Participants

The Design Team will primarily be conducting testing sessions online. The Parents' Panel will be participating remotely, via email correspondence. The Design Team will contact Patricia Ojeda from PEATC to assist with the recruitment of parents new to special education. If parents are recruited, they will participate in face to face testing sessions at the Commerce Building I, Computer Lab 100 at George Mason University. Kristine S. Neuber, AT/Parent Information Technology Coordinator, Kellar Institute for Human Disabilities will recruit Mason students to test the website for usability/navigation, with testing to take place at the Assistive Technology Lab at George Mason University.

The participants' responsibilities will be to complete a set of task scenarios representing the home page, the splash page, the landing pages and the fully built out section, "Plan my child's education". They will be asked to provide feedback regarding the usability and acceptability of the user interface.

3.2 Procedure

To avoid bias between face to face testing and remote testing, the same set of instructions will be given to face to face testers and sent via email to remote testers.

Remote Testing

The Parents' Panel participants will be seated at their computers in their work or home environment. Instructions on completing the tasks, along with the task booklets, will be sent via email. The e-mail message will contain the same briefing instructions that were provided to the on-site test participants.

Face to Face Testing

The participants will be testing the website at the Computer Lab 100, Commerce Building I at George Mason University. Their interaction with the website will be monitored by a Design team member serving as facilitator. The facilitator will brief the participants on the testing process and emphasize that they are evaluating the website, and that the participants themselves will not be evaluated. The facilitator will ask the participants if they have any questions.

4 Ethics

All persons involved with the usability test are required to adhere to the following ethical guideline: (1) The performance of any test participant must not be individually attributable, and; (2) individual participant names should not be used in reference outside the testing session.

5 Usability Tasks

The usability tasks were derived from test scenarios developed from use cases. A use case is a description of a series of interactions between a system and a user (Goodwin, 2009). Use cases focus on what people will do rather than on how they will do it (Van Duyne et al, 2006). Due to the range and extent of functionality provided in the website, the tasks are the most common and relatively complex of available functions. In addition, we tested 3 versions of a splash screen. The Design Team wanted to track where the parents live and work, similar to the tracking mechanism on the current T/TAC Online. With the exception to the splash screen tasks, all tasks are identical for all participants in the study.

6 Usability Metrics and Goals

This section describes the usability metrics and goals. Usability metrics refers to user performance measured against specific performance goals necessary to satisfy usability requirements (www.usability.gov). Scenario completion success rates, adherence to dialog scripts, error rates, and subjective evaluations will be used.

6.1 Participation Rate

A participation rate of 100% is the goal for this usability test.

6.2 Splash screen

The goal is to identity which of the 3 screens presents the users with the least barriers to enter the website. The screen with the lowest number of drop offs will be selected for the second round of usability. If all three perform equally, we will utilize the same screen used on the current T/TAC Online.

6.3 Task 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).

A task completion rate of 100% is the goal for each task in this usability test.

6.4 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.
In general, critical errors are design or technical flaws that prevent users from correctly completing a task. **All critical errors will be addressed for round two of usability testing**.

6.4.1 Error Free Rate

Error-free rate is the percentage of test participants who complete the task 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 of 90 % is the goal for each task in this usability test.

6.5 Non-critical Errors

Non-critical errors are errors that are discovered by the participant. If not detected, they do not prevent the user from completing the task. 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). Noncritical errors can always be recovered 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 provided that they complete the task. **Based on severity and frequency non critical errors will be addressed for round two of usability testing.**

6.6 Subjective Evaluations

Subjective evaluations regarding ease of use and satisfaction will be collected via the task booklets. The booklets will utilize free-form responses, multiple choice questions and rating scales. These data are used to assess attitudes of the participants regarding the prototype.

7 Severity of Errors

To prioritize recommendations, 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.

7.1 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)

7.2 Frequency

Frequency is the percentage of participants who experience the problem when working on a task.

- High: 30% or more of the participants experience the problem
- Moderate: 11% - 29% of participants experience the problem
- Low: 10% or fewer of the participants experience the problem

8 Reporting Results

The Usability Test Report will be provided at the conclusion of the usability test. It will consist of a report and/or a presentation of the results; evaluate the usability metrics against the targeted goals, subjective evaluations, specific usability problems and recommendations for resolution. The recommendations will be categorized by severity impact (impediments to user) and frequency to aid in implementation strategy.

9 References

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