Task Tracker Usability Testing Results

Date of Report: October 27, 2013
Date of Test: October 27, 2013
Location of Test: Boston, Massachusetts

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Executive Summary

The purpose of this study was to paper prototype the preliminary interface design with a group of representative users. By completing this study, I was hoping to discover any usability issues that may present themselves in the current design. According to Jakob Nielsen, when there are between 3-5 users, approximately 80% of usability problems. Using this as a general rule, I recruited 4 representative users. Participants were asked to add a task to the website, update the task that they added, mark it as complete, and then delete it. The participants were asked to speak through their thought process as they performed actions. All participants were able to complete all of the tasks that they were presented. The task requiring the user to update the assignment had significantly more errors than any of the other tasks. Four out of the five errors (80%) that were discovered through the testing occurred during this particular phase. This study unveiled many different usability issues with the design that the specific sections will discuss and offer potential solutions to.

Methodology

Who we tested
Four participants, having the following characteristics, evaluated the online Task Tracker website that we developed.

Audience Type

Students	4
Corporate Employees	0
TOTAL (participants)	**4**

Age

18-25	4
TOTAL (participants)	**4**

Computer Usage

0 to 10 hrs. wk.	1
11 to 25 hrs. wk.	2
26+ hrs. wk.	1
TOTAL (participants)	**4**

Gender

Women	2
Men	2
TOTAL (participants)	**4**

What participants did

When participants arrived, they met with the test facilitator who greeted them, received oral consent for the study, and started the test users on the tasks. After the tasks were completed, the user was asked to complete a brief online questionnaire regarding the interaction they just had with the interface. Following the questionnaire, a brief interview was conducted to gather answers about any questions that I may have had during the interaction.

What data we collected

The data that was collected during the interaction included task completion rates, task completion times, and various notes about the user's choices and thought process.

The questionnaire collected information regarding demographics, and a few additional questions for determining the class of user that was being tested such as the number of hours of computer use per week, satisfaction level, etc.

Major findings and recommendations

List of Issues:
- Difficulty with Update Screen – Severity: 4
- Single Login button on homepage caused difficulties – Severity: 2
    - Many users did not notice it right away
- Users did not notice the checkbox right away for completing a task – Severity: 1

List of Solutions:
- Clarify which fields are obligatory on update page.
- Offer an icon on the table that allows a user to click on it and update fields directly. Labels would be hidden and text entry fields would be displayed with the current values as the default so that users can easily update task fields that they would like without requiring all fields to be re-entered.
- Add a login button below the existing username and password fields instead of using the Login tab as a multi-purpose "button"
- Increase the size of the checkbox or add a tooltip that clarifies its purpose in the table.

Although the above list of issues may not be all-inclusive, it provides a framework for the primary issues with the current prototype and the solutions provide potential methods of fixing those problems.

Detailed findings and recommendations

Introductory Questions & Tasks

When users arrived at the study, they were read a briefing article (http://www.ccs.neu.edu/home/mrodrig/IS4300/P5/P5-Briefing.pdf), which described what the study would involve and requested oral consent for the study. After the briefing document was read to the participant, the study began with the representative tasks (http://www.ccs.neu.edu/home/mrodrig/IS4300/P5/P5-TaskScenarios.pdf.

Scenario 1 – Adding a Task to the Website

Your professor for your IS4300 (Human-Computer Interaction) class just assigned the reading of Chapter 14 to be due on Monday, October 24th, 2013. Please use this website interface to add the assignment to your list of assignments. As you proceed through this task, please talk through your thought process and feel free to ask the facilitator any questions as they arise.

Username: foo
Password: bar

Number of participants	4
Percent successful	100%

Sample Findings	Sample Recommendations
All 4 participants were able to complete this task with no errors. All of the participants first knew to log into the website using the username and password provided and then briefly scanned the existing website. 2 of the users initially struggled finding the login button since the affordances of the login tab did not naturally lend itself to also work as a button. They found the "Add" button after a short amount of time and proceeded accordingly.	▪ Add a "Login" button below the login fields to avoid the affordance issue.

The charts of time to complete each task and the number of errors for each task are located on the page after the scenario analyses, though the data will be discussed here.

The time to complete a task and the number of errors are both ratio values and thus the measure of center for this particular task is the mean, and the measure of spread will either be the interquartile range or the standard deviation depending on the distributions.

	Time To Complete Task (seconds)	Number of Errors
Measure of Center:	55.5 seconds	0
Measure of Spread:	7.59386 seconds	0

Scenario 2 – Updating a Task on the Website

Your professor for your IS4300 class just realized that the reading might take longer than he expected, so he postponed it to be due on Thursday, October 31st, 2013. Please use this website interface to update the assignment's due date. As you proceed through this task, please talk through your thought process and feel free to ask the facilitator any questions as they arise.

Username: foo
Password: bar

Number of participants	4
Percent successful	100%

Sample Findings	Sample Recommendations
All 4 participants were able to complete this task but only 1 successfully completed it without any errors. Of the other 3 participants that completed the task with errors, 2 users encountered 1 error while the third user encountered 2 errors while trying to complete the task. All of the participants first briefly scanned the website for an update feature. 1 of the users initially struggled finding the update feature and clicked on the delete icon instead. Since there was a confirmation window, the user did not delete the task. The other users struggled with what fields were required by the update form and ran into a few issues by not filling out certain required fields.	▪ Adding an asterisk to denote a required field will help users determine that they absolutely need to complete it ▪ Another recommendation would be to add an icon that looks like a pencil, which is commonly used to symbolize an editing feature. When the user clicks on it, it would hide the labels and show text entry fields, which would allow the user to update the values they want without replicating text entry requirements. There would then be a save icon that replaces the edit icon which when clicked would update the server, and return the text entry fields to labels.

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	Time To Complete Task (seconds)	Number of Errors
Measure of Center:	81.75 seconds	1
Measure of Spread:	19.51709 seconds	0.81650

Scenario 3 – Marking a Task Complete on the Website

You just finished reading Chapter 14 for IS4300. Please use the web interface to mark the assignment as complete. As you proceed through this task, please talk through your thought process and feel free to ask the facilitator any questions as they arise.

Username: foo
Password: bar

Number of participants	4
Percent successful	100%

Sample Findings	Sample Recommendations
All 4 participants were able to complete this task while only 1 ran into an error. The 3 participants that completed the task without any errors noticed the checkbox shortly after being handed the notecard with the task. The user that encountered the issue did not notice the checkbox and went looking at the "Update" screen for clues. After clicking on it, they said that they saw it while waiting for the computer to open the new window. The time was therefore higher than the other users because the computer's response time is not representative.	▪ Increasing the size of the checkbox would help visibility of this field. ▪ Perhaps grouping common icons together into one table column would be better for visibility. ▪ Would using an icon be better for marking completion of a task?

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	Time To Complete Task (seconds)	Number of Errors
Measure of Center:	7.75 seconds	.25
Measure of Spread:	5.18813 seconds	0.5

Scenario 4 – Deleting a Task from the Website

You decided that you do not want the website to keep track of old completed tasks, so you would like to delete the assignment for the Chapter 14 reading in the web interface. As you proceed through this task, please talk through your thought process and feel free to ask the facilitator any questions as they arise.

Username: foo
Password: bar

Number of participants	4
Percent successful	100%

Sample Findings	Sample Recommendations
All 4 participants were able to complete this task rapidly with no issues at all.	▪ Confirm that the wording of the confirmation dialog is easily understandable in the final implementation.

The charts of time to complete each task and the number of errors for each task are located on the page after the scenario analyses, though the data will be discussed here.

The time to complete a task and the number of errors are both ratio values and thus the measure of center for this particular task is the mean, and the measure of spread will either be the interquartile range or the standard deviation depending on the distributions.

	Time To Complete Task (seconds)	Number of Errors
Measure of Center:	3.5 seconds	0
Measure of Spread:	0.57735 seconds	0

Additional Data:

Table of Time to Complete Tasks in Seconds:

Time to Complete (seconds)	Participant 1	Participant 2	Participant 3	Participant 4
Task 1	63	56	58	45
Task 2	109	80	75	63
Task 3	10	14	4	3
Task 4	3	4	4	3

Table of Number of Errors:

Task Errors	Participant 1	Participant 2	Participant 3	Participant 4	Number of Errors per Task:	Percentage Errors per Task:
Task 1	0	0	0	0	0	0%
Task 2	2	1	1	0	4	80%
Task 3	0	1	0	0	1	20%
Task 4	0	0	0	0	0	0%
Number of Errors per Participant:	2	2	1	0		
Percentage Errors per Participant:	40%	40%	20%	0%		

Exit Questions/User Impressions

The following are some sample questions and responses from both the questionnaires responses and brief interviews after the usability tests.

Summary of user impressions

Questions	Responses
What did you like best about the website?	1) Simplicity 2) Predictability 3) Layout
What did you like least about the website?	1) No color 2) Icons aren't clear/easy to understand
If you were to describe this website to a friend, how would you describe it?	1) Good Site 2) Simple layout 3) Helpful for task management
Do you have any other final comments or questions?	1) Icons could use improvement 2) Include color in design

The questionnaire results can also be found viewed online here (via Google Forms). (https://docs.google.com/a/husky.neu.edu/forms/d/1MLriL9-_ntmLRASC1TnITZJKCKJh36S8vVCyVZgCJy4/viewanalytics)

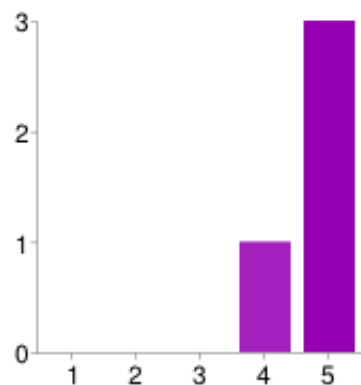Here are a few samples of the data collection and analytics obtained by using Google Forms:

How experienced are you with computers?
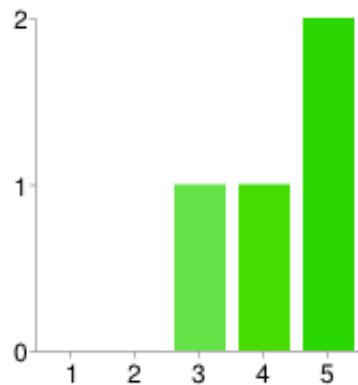
1	0	0%
2	0	0%
3	1	25%
4	1	25%
5	2	50%

How satisfied are you with the user interface of the website you tested?

1	0	0%
2	0	0%
3	0	0%
4	1	25%
5	3	75%