Usability Consulting Services .....making IT easier

University Information Technology Services, Indiana University

Application	IU Webmail
Owners	Josh Walgenbach, Bret Hammond
Date	May 9, 2003
Activity	Usability Testing & Usability Review
Consultants	Todd Zazelenchuk, Sangil Yoon

Participants		
	Graduate Student	6
	Undergraduate Student	1
	TOTAL	**7**

Executive summary

In May 2003, a usability study of the Indiana University's Webmail prototype was conducted with 6 graduate and 1 undergraduate students from Indiana University.

In general, users successfully completed the usability tasks set before them, clearly showing improvement over the current Webmail client. However there were areas in the prototype where users showed difficulty in navigation and understanding what features were available for use. Primary problem areas noted during the sessions and following the consultants' internal review included: inconsistencies in link vs. label and pulldown menu behaviors, and screen clutter associated with elements deemed to be of secondary value to most users.

This report briefly describes the purpose and methods for the study, and provides a summary of the observations made from each session. Recommendations are made for the Webmail team to consider as they continue to prepare their prototype for release in July. A package of screen mockups and rationales accompanies this document.

Purpose of Study

A new version of the IU Webmail was developed during the spring semester 2003. Prior to its scheduled release at the end of July, the team was interested in gathering usability data to refine the interface.

Method

Usability testing methodology [1] was used to evaluate the website. This approach involved having users perform authentic tasks using the system, while evaluators observed and recorded their actions and comments. Users were asked to perform a think-aloud protocol[2] to help the evaluators understand their behaviors and gain insight into the design of the email client. Sessions were performed on an individual basis with each session lasting approximately 1 hour (30 minutes for completing tasks, and 30 minutes for post test questions). Following the last session, qualitative and quantitative data were analyzed and summarized and recommendations for redesign were made. Participants were rewarded with a $5.00 gift certificate to the Indiana University Bookstore in return for their participation.

Participants

Participants included both graduate and undergraduate students at Indiana University. The study was focused on the student population, as recent UITS surveys indicated that 73% of undergraduate and 54% of graduate students use Webmail. All users reported that they had used the current IU Webmail application available on the IU web site. Two users indicated that they had some experience with the prototype prior to testing.

Procedures

Each session began with a brief explanation of the purpose of the study and of the protocol to be followed for the session. Participants were reminded to think aloud as the completed the tasks. Users were then asked about their previous Webmail use (frequency, satisfaction). Tasks were completed one at a time in numerical sequence as there was dependability between each task. When users completed a task, it was recorded as either 1) success with ease, 2) success with difficulty, or 3) failure to complete the task. Success with ease included those tasks that were completed on the first or second try. At the completion of the 10 tasks, the users were given a System Usability Scale survey to complete while continuing to think aloud.

Sessions were conducted using Internet Explorer 5.5, and the Windows 2000 operating system on an Intel Pentium II computer.

Tasks

The development and evaluation teams collaborated on the creation and refinement of the tasks used for the study. Tasks were designed to test the various functions offered by the system and to reflect actual goals that users might have for using the Address Book.

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[1] Dumas, J. S., & Redish, J. C. (1993). *A practical guide to usability testing.* Norwood, NJ: Ablex.

[2] Ericsson, K. A., & Simon, H. A. (1993). *Protocol analysis: Verbal reports as data* (Revised ed.). Cambridge, MA: MIT Press.

Results

The results of the study have been divided into three sections:

1. Task performance (e.g. successes and failures) – Table 1 presents the scenarios that users were asked to complete along with the results of their performances.

2. Observations, interpretations and recommendations – Table 2 presents the qualitative results of the usability sessions. These results are presented in the form of Observations – an objective description of participants' actions and comments during a session, and Interpretations – proposed explanations for participants' observed behaviors and justification for recommendations based on known design principles. A third column contains Recommendations – suggestions for maintaining aspects of the current design that work, changing aspects that are problematic, and considering possibilities that would benefit from future testing.

   The table on the following pages presents the observations, interpretations, and recommendations for redesign.

3. Recommended screen layout mock ups have been created based on usability session observations and usability principles.

Table 1. Task Performances

	Task	Success Easy	Success Difficult	Failure
1	Login with user name and password.	6	0	0
2	View "Test email #1" from sanyoon@indiana.edu, and view the attached Word (homework.doc) file.	5	1	0
3	After viewing "Test email #1" you would like to respond to this person, please write a brief response.	6	0	0
4	After viewing "Test email #2", send a copy of the message to usable@indiana.edu	6	0	0
5	Save "Test email #3" into a new folder called "Test Emails"	1	5	0
6	Mail a message to a single person with the file "testfile.doc" attached. (file is on the computer Desktop)	4	1	1
7	You want to enter Sang's email address (sanyoon@indiana.edu) into your address book, how would you do this?	5	1	0
8	Check for new mail in your inbox.	4	1	1
9	Use your address book to send an email to sanyoon@indiana.edu .	3	2	1
10	You have no more use for your test emails; delete these messages from your inbox as well as the folder you created.	4	2	0

Observation Interpretation Recommendation

Table #2

Standard mail activities (e.g. log-in, compose, read, reply, attachments, address book)		
Users clearly understood and located the read, reply, and forward features. (6 of 6)	The general approach to these features is consistent with what users expect.	1. Maintain the location of most of the standard features, but remove the Send, Save, Cancel buttons from the top of the compose window.
Users clicked on the attachment button, but did not see any resulting action. (3 of 6)	The visual change was not catching the user's eye when the attachment button was clicked. Users also commented on expecting to see the attachments above the message composition area, rather than at the bottom of the screen	2. Relocate the attachment buttons above the message composition area.
Several users were not able to return to the inbox after using the Address Book feature. (3 of 6)	Users were looking for the "Inbox" button that appears in the inbox main menu. When in the Address Book, the inbox main menu is replaced with Address Book related buttons. A "Mail" button with a different icon replaces the "Inbox" button.	3. Maintain the top menu from the Inbox (Inbox, Compose, Folders, etc) when viewing the Address Book. The Address Book menu is placed below this main menu with the last "Mail" button removed.
Several users indicated that they did not expect to see a search screen when clicking the Address Book button.	When entering an address book, users are accustomed to viewing a list of their contacts for quick access.	4. Start page for the address book will show the full contact list.
Users clicked on the "Save as" button to move a message into folders. (3 of 6)	Confusion due to the working and placement of "Save as". Users thought they could use the "Save as" button to move messages into folders.	5. Change the "Save as" to "Save to computer"
When forwarding a message, several users questioned the function of the "Redirect" and "Message Source" buttons.	Most people do not use these two features. Even when users did click on these options, they were still unclear of what they had done.	6. Remove the "Redirect" and "Message Source" buttons from the message view. The features can be activated in the options menu if needed.

Observation	Interpretation	Recommendation
Display (e.g. page layout, color scheme, icons)		
Users indicated a preference for the single panel view over multi panel view.	Users tend to prefer less crowded screens that are easier to navigate when working on the web, and the single panel view offers this. A single panel screen default will be easier to incorporate into the OneStart portal, secondly it's important for users to recognize that there are different view options, therefore this option should be available on the surface level.	7. Set the default view to single panel view; provide a graphical toggle switch in the inbox showing which viewing mode it's in and it will allow quick changes between single and multi panel modes.
Users generally commented that the color coding was helpful in the inbox.	Color coding can be helpful till the point where there are too many to observe: 1 + 1 = 3 phenomena)	8. Maintain some color coding, but reduce it to the essentials (new, seen, replied) and use the associated icons to help convey any others.
Several users had difficulty in correctly describing the "Personal" icon's meaning.	The current icon and label are not sufficient to convey the correct function of this icon.	9. Consider changing the alt tag for the "Personal" icon to something more descriptive. (to be discussed)
On the log in screen, and compose screen, the labels are written in a light pink color on a white background.	Low contrast makes it hard to read. Darker colors help create a stronger contrast to the white background color.	10. Change the label font to a darker color.
The log in screen was easy for users to log in.	Simplicity makes this page effective, but based on user feedback from the first Webmail version; users would like a visual connection to the IU homepage.	11. Enlist services of the SIT team graphic designers to create a simple fast loading log in page for Webmail.
Inbox (e.g. sorting, deleting, new mail)		
Majority of users selected the subject line to open a message. One user was confused on the "From" address being an active link, the user had to click the link to find out its purpose. (5 of 6)	Providing two links for the same function is confusing for users.	12. Remove the active link from the "From" display category. Users can select the "Subject" active link to open an email message.
Several users looked for an option to check all boxes when moving or deleting messages. Users were also confused when asked to describe the checked off box under then "Delete" text button.	Users are accustomed to having the option to select all messages on a screen for deleting or moving multiple messages. It appears that the checked off box can be unchecked; however it is a static image with no function.	13. Remove the check in the checked box and allow the box to be checked when a user wants all messages to be checked.

Observation	Interpretation	Recommendation
Majority of Users were surprised and confused about the multiple steps needed to completely remove a message from their mailbox (4 of 6 users)	While the strikethrough approach allows users a way to undelete, the majority of users expected the message to be gone when deleted.	14. Delete a message by selecting the check box next to the message and clicking the delete button. The deleted message will be moved to a trash folder, which will be purged when a user logs out of Webmail. A pop up notification will ask users if they wish to purge all messages in the trash folder when logging out.
Majority of users were unclear about how columns were being sorted. (5 of 6)	The small size of the directional arrows and the misunderstanding of the up and down arrow led to user confusion on the function of these features.	15. Only display the directional arrow for the category that is being used to display the messages. When a user selects a sorting category, the directional arrows will appear for that category only. Add ascending and descending examples in the "Display Options" (e.g. "A-Z", "Z-A, "1-9", "9-1").
The pop up notification of new mail was understood and appreciated by users. The unexpected pop up when you transition from Inbox to other folders informing you of new mail that is still in the inbox poses a problem	When a user checks the option to have a pop up message appear when new mail is received, they only expect to see the pop up message when a new message is delivered to their inbox, not in the middle of a transition from one page to another.	16. Retain the pop up notification that users can select in options. Remove the auto notification that appears when moving between folders. Use the pop up notification dialog box in the "Inbox" only for newly delivered messages. (e.g. "You have X new message(s)")

Folders (e.g. moving messages)		
The majority of users showed difficulty in moving messages to folders by exploring incorrect buttons (e.g. Save as, folders). (5 of 6)	There is a right to left flow of moving a message, but you have to select a menu item, and then move back to the left to make the action happen. The sizes of the move and copy buttons are small and were easily overlooked.	17. Add radio buttons to the right of the Move and Copy text. Then allow the pull down menu to take automatic action.
Users accurately described the function of "Check Folder(s) for New Mail" and "Do Not Check Folder(s) for New Mail" in the Folders drop down option menu. These users stated that they would not use this option. (3 of 6)	Users that could understand the function of this option stated that they could not see themselves using either option. This is an option that is not common in email clients, and confuses users when it is made available to them.	18. Remove the options, "Check Folder(s) for New Mail" and "Do Not Check Folder(s) for New Mail" in the Folders drop down option menu.