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CMSI 370 Interaction Design
09/24/15

Usability Study - Yahoo Mail vs. Outlook

Introduction

Email clients have grown to be universally used by the populace. The age of written messages has long since been replaced by electronic ways of communication. Since many web services offer email functionalities (e.g. Google's Gmail, Yahoo's Ymail, Microsoft's Outlook, etc.), it is important that we compare how well these different products accomplish the same set of tasks.

Because of this, our usability study focuses on looking into the interface of desktop web mail clients. The two applications in question are Yahoo Mail and Outlook (previously known as Hotmail). We used these because, compared to Gmail which is probably the most widely used web mail client around, these two have less users. We wanted to see how intuitive and efficient these are so we decided to test their usability metrics.

In our test, we gathered data from 10 volunteer participants testing the metrics for learnability, efficiency, and errors. Before we gathered data, it was inevitable that we predict which one will come out on top. My prediction was that Microsoft's Outlook would be the winner in this competition since Microsoft has been known to make products that compete with other big companies (the Xbox competes against the PS, their computers against Apple's, etc.). Obviously, I based my prediction on how well their product competes with other leading company's.

Testing Each Metric

In order to start our tests, we created email accounts for both Yahoo and Outlook. This is so that we can better control what emails go into the accounts. In order to properly observe each task and measure the time it takes for each participant to finish them, we recorded the computer screens used by each participant using screen-casting. Doing it this way allows us to rewind the user's actions so that we can better observe what they tend to do (or not do).

For each of the tasks below, we decided to time each task starting from when they move the cursor to whenever they feel satisfied that they have accomplished the task that we gave them.

The tasks are as follows:
1. Reply to an email - The user will select an email that we already created and placed in the inbox for each account; they will need to reply to it just like they would for any other emails. The email contained 3 questions that the user will have to answer. We designed this task this way in order to simulate how a real world email would be received and replied to.

2. Restore email from trash to inbox - The user will have to take an email that we specifically moved to the trash and move it back to the inbox. There are, in fact, two ways of doing this: one is to drag the email from the trash directly to the inbox, and the other is to click some menu buttons labeled "Move" or "Move to" and then select the option "Inbox".

3. Change the theme - This task is self-explanatory. The user will have to change the background theme of the email interface.

Results

Yahoo Mail:

From our observation, many of the participants tended to do the same actions when performing the tasks. For example, the most common error they would do involved moving the email from the trash to the inbox. They would often find themselves clicking on the "More" button instead of "Move" when moving the email from one place to the other. Obviously, this is due to the words containing almost the same exact letters; however, it might also be attributed to "More" being placed in a specific location in the screen: the center ("Move" is placed closer to the left side of the screen).

Changing the theme also proved troublesome for a small number of our participants. Shown in the picture to the right, Yahoo designed the "Gear" icon to be event-triggered by hovering over it (instead of clicking). In contrast to the rest of the interface where clicking is necessary, this inconsistency caused our users to get confused; they would go to the icon thinking that they need to click on it, the list of options will appear a few milliseconds later, but the clicking action would cause the list to disappear again.

Additionally, according to our users, it would seem that the "Themes" option in other email clients is included within the "Settings"; Yahoo decided to separate "Themes" from "Settings" (seen in the picture to the right), thus resulting in confusion among some of our participants.

Finally, sending an email, though was the task that generally took the longest time (most likely due to them typing instead of just clicking), seemed to be the task that is easiest to accomplish. I would attribute this to the fact that they all use email clients anyway, albeit not the ones we were testing.
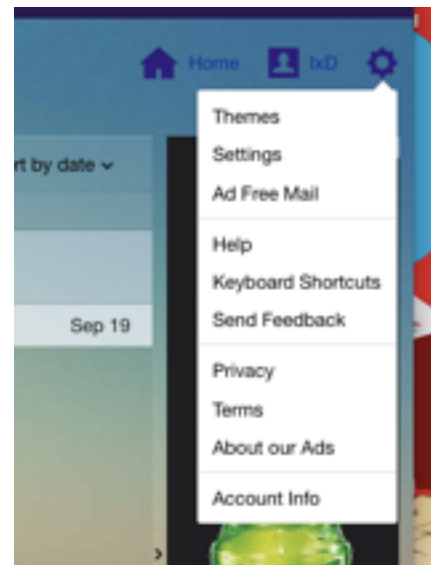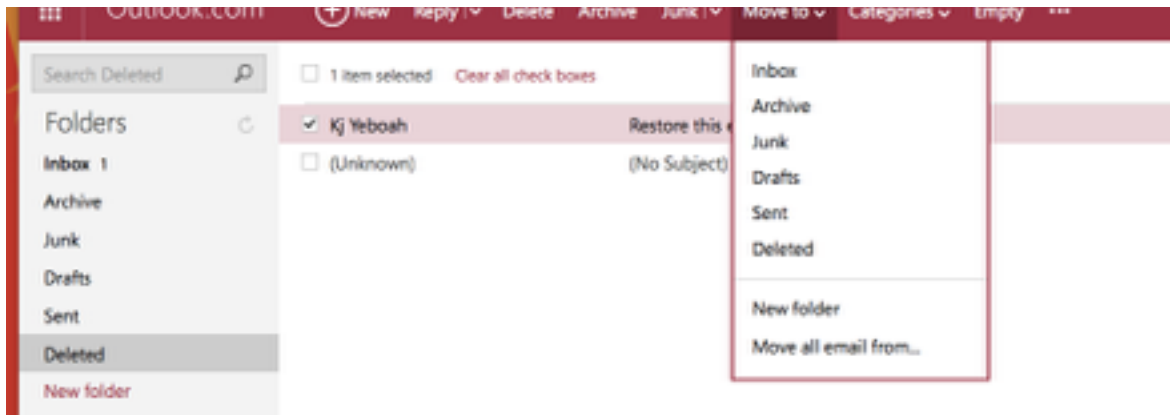
Outlook:

Like with Yahoo Mail, some actions tended to repeat between users. The tasks that were easiest for one user tended to be the easiest for the rest. For example, changing the theme seemed to have taken the least amount of time across all our tasks. The drawback to this is that Outlook was designed so that changing the theme would only change the overall color of the interface. Unlike with Yahoo Mail, which has more options/flair to the theme, Outlook's themes consist of a limited number of simple colors (as shown on the right). Because of this, some of our users would wonder if "That was it?" since the change was instant and the task seemed too simple.
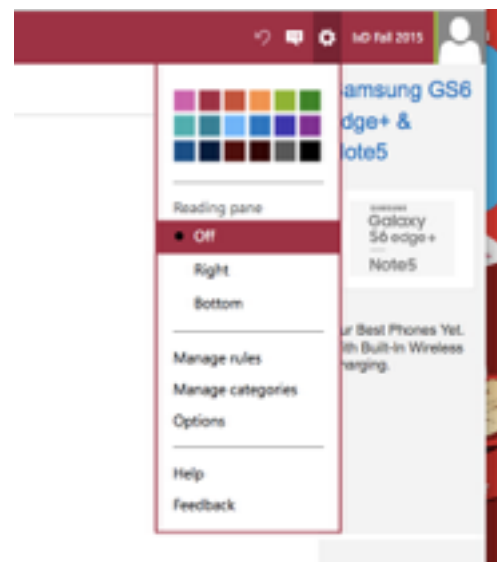
Another major complication that we observed involved moving the item from trash to the inbox. The confusion in this case stems from the fact that the "Trash" is labeled "Deleted" in Outlook. The users would often think that the box labeled "Junk" would be the trash folder ("Junk" is actually the "Spam" in some interfaces) so they would click on it only to find that there was no trash to restore to the inbox. An image of the options is shown below.


A comparison of how the participants performed on our three different tasks is shown below:

Users	Individual Metric Data for Yahoo Mail: Reply to email				Individual Metric Data for Outlook: Reply to email			
	Learnability time (sec)	Efficiency time (sec)	# of errors (learnability)	# of errors (efficiency)	Learnability time (sec)	Efficiency time (sec)	# of errors (learnability)	# of errors (efficiency)
Andres	64	25	2	0	63	20	0	0
Chris	49	33	0	0	47	33	0	0
Joey	80	50	1	0	55	13	1	0
Josh	26	15	0	0	39	22	0	0
Kalia	62	19	0	0	85	39	1	0
Mattie	41	29	0	0	50	20	0	0
Maurice	49	22	1	0	47	20	0	0
Sean	20	19	0	0	47	31	0	0
Sylvana	126	20	0	0	43	22	0	0
Trixie	48	22	1	0	34	22	1	1

Users	Individual Metric Data for Yahoo Mail: Restoring Trashed Email				Individual Metric Data for Outlook: Restoring Trashed Email			
	Learnability time (sec)	Efficiency time (sec)	# of errors (learnability)	# of errors (efficiency)	Learnability time (sec)	Efficiency time (sec)	# of errors (learnability)	# of errors (efficiency)
Andres	22	11	0	0	20	11	1	1
Chris	29	10	1	0	22	8	1	0
Joey	45	33	1	0	30	10	1	0
Josh	11	7	0	0	10	6	0	0
Kalia	23	11	1	0	17	16	0	0
Mattie	37	9	1	0	22	7	0	0
Maurice	15	8	1	0	21	11	1	0
Sean	43	10	1	0	109	7	3	0
Sylvana	15	16	0	1	38	8	1	0
Trixie	18	18	1	1	31	10	1	0

Users	Individual Metric Data for Yahoo Mail: Changing Theme				Individual Metric Data for Outlook: Changing Theme			
	Learnability time (sec)	Efficiency time (sec)	# of errors (learnability)	# of errors (efficiency)	Learnability time (sec)	Efficiency time (sec)	# of errors (learnability)	# of errors (efficiency)
Andres	40	10	2	0	17	17	0	0
Chris	68	12	4	0	34	10	0	0
Joey	14	24	0	0	20	8	0	0
Josh	70	6	3	0	7	3	0	0
Kalia	37	16	1	1	15	4	0	0
Mattie	31	12	1	0	4	3	0	0
Maurice	11	14	0	0	4	8	0	0
Sean	15	8	0	0	6	4	0	0
Sylvana	20	12	0	0	15	2	0	0
Trixie	16	12	0	0	7	3	0	0

Below are six scatter plots of the individual time data that we collected (for learnability and efficiency).
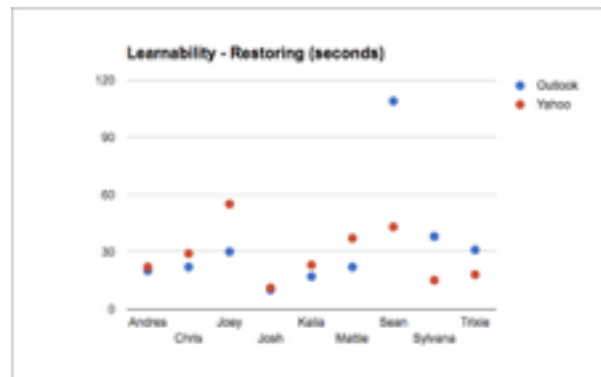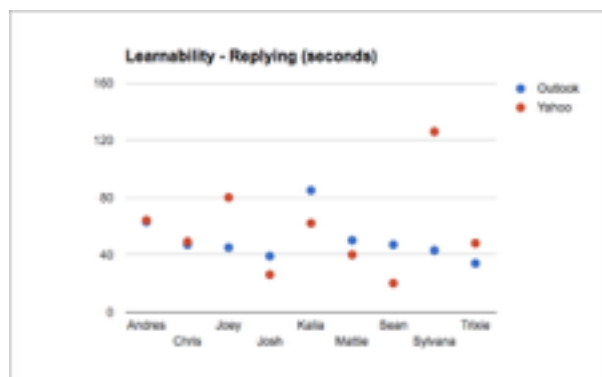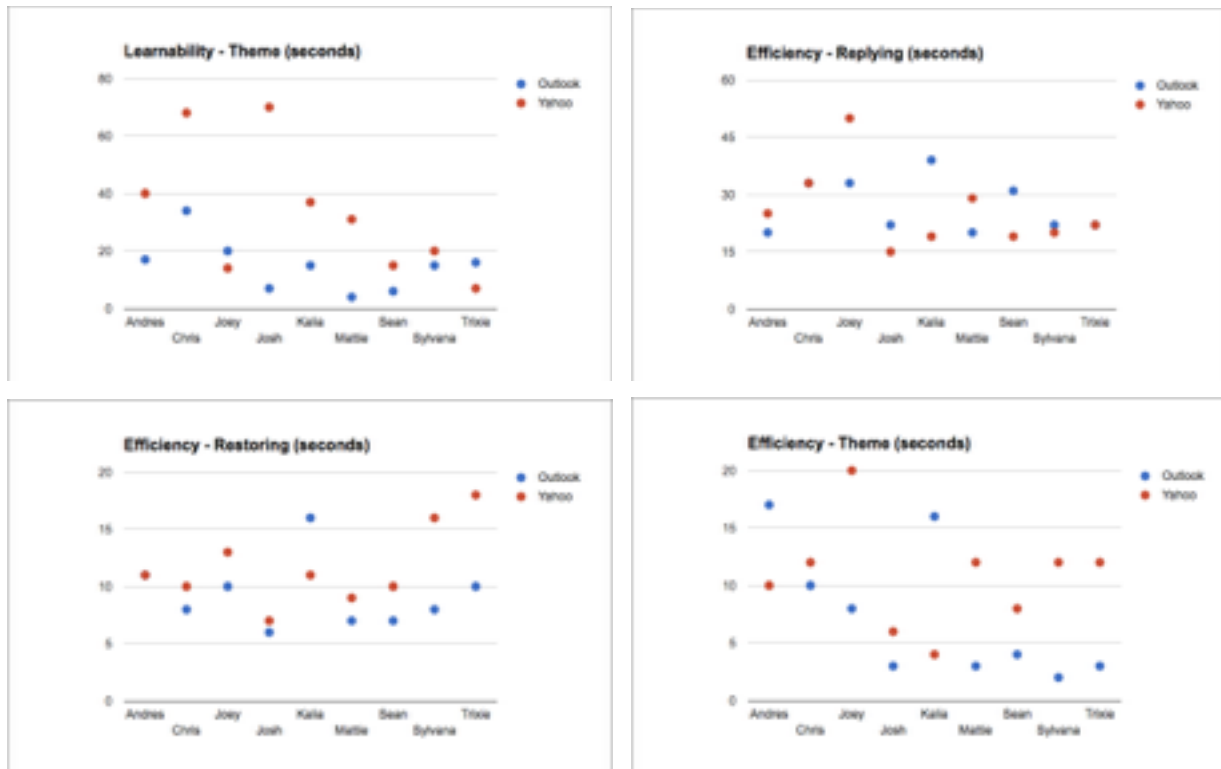
Looking at these graphs, it would seem that there is no observable trend between the performance of each of our participants. As a result, we've also tallied the average of the individual sets of data for each task for each metric in order to determine overall which one performed better than the other:

Average Metric Data for Yahoo Mail				
	Avg learnability time (sec)	Avg efficiency time (sec)	Avg # of errors (learnability)	Avg # of errors (efficiency)
Reply to email	51.17	29	0.5	0
Restore email from trash	28.7	11.3	0.7	0.2
Change theme/ background	39.8	12.7	1.1	0.1

| Average Metric Data for Outlook				
	Avg learnability time (sec)	Avg efficiency time (sec)	Avg # of errors (learnability)	Avg # of errors (efficiency)
Reply to email	46.3	25	0.3	0.1
Restore email from trash	22.5	8.7	0.9	0.1
Change theme/ background	14.83	7.3	0	0

Heuristic Evaluation

From these averages, we can see in general that for all tasks in both learnability and efficiency, the average time it took for the participants is less when using Outlook than when they were using Yahoo Mail. Likewise, though not as prominent, the average number of errors is slightly greater with Yahoo Mail than with Outlook. It should be noted that, since this is the case, Yahoo Mail is not quite as intuitive as Outlook since it performed worse on average in all metrics for each task. I can only infer that this is the result of Outlook's much simpler interface which does not bog down the user with extra information. Outlook seems to be designed specifically just for sending and receiving emails whereas Yahoo also contained extraneous menus (such as those for calendars).

At first glance, there does not seem to be many options in Outlook's interface. Instead, the user is shown a plain white screen:
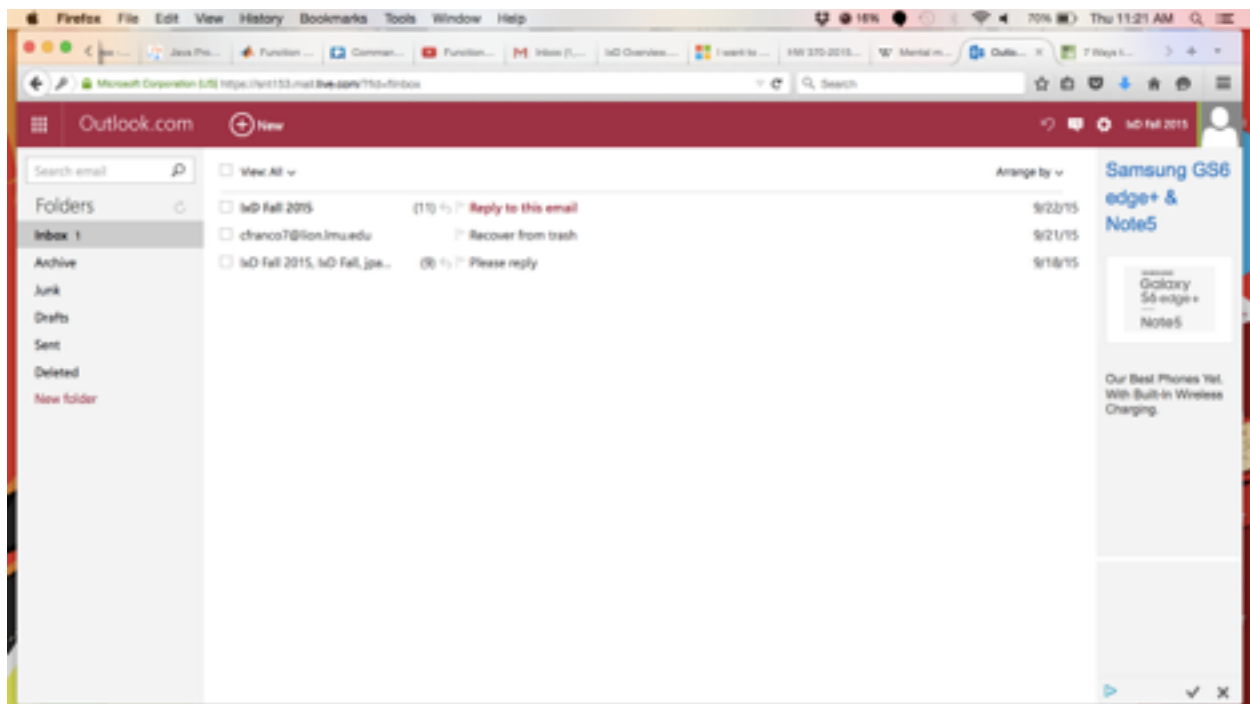
Since Outlook is Microsoft's way of transitioning from Hotmail, an even less used email client due to its age, the developers could have tried to build the interface so that the tasks are as straightforward as possible; their mental model could simply be comprised of menus and toolbars for performing basic email necessities. As evidenced from Microsoft's design guidelines for designing menus, "the context menu is a lightweight menu that provides the user with instant actions. It can be filled with custom commands. Context menus can be dismissed by tapping or clicking somewhere outside the menu". These context menus include the list of folders shown at the left side of the screen (shown in the picture above). By how they described these menus in the guideline, it would seem that they aim for speed and screen real-estate. Its minimal style greatly suits the actions that involve emails which could have caused the users to accomplish each task as efficiently as possible and error-free as possible. One downside that I find in these simple designs, however, is that the user has less freedom to personalize their email clients. From personal experience, since I tend to check my emails everyday, I would want to make my email window as comfortable as possible.
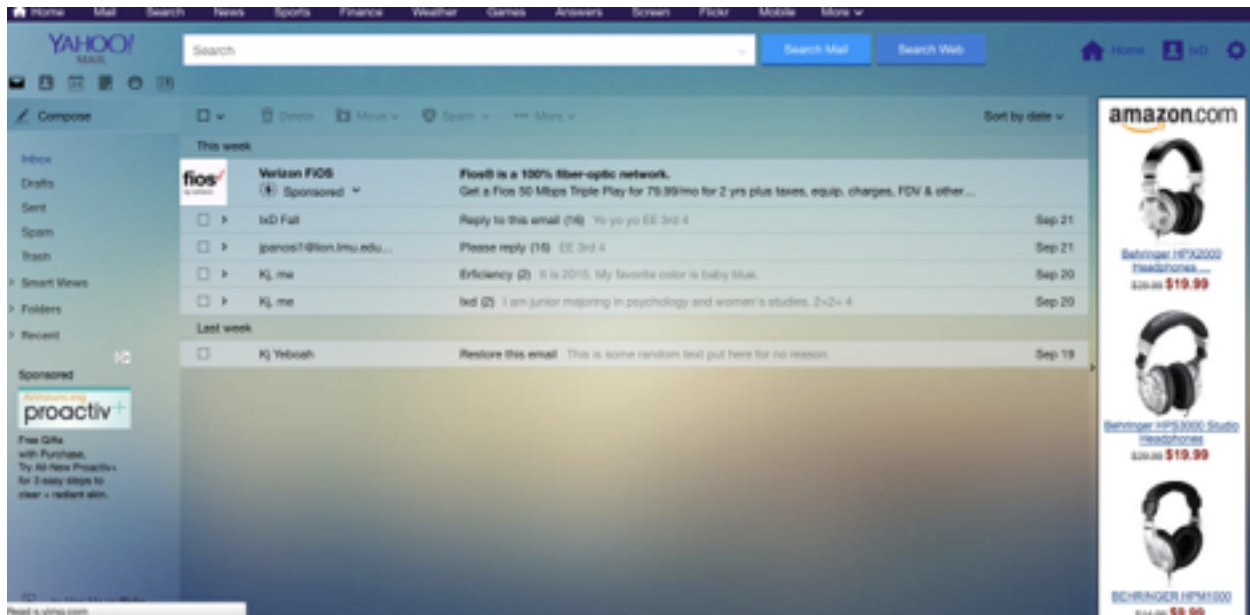
Yahoo Mail's interface, on the other hand, tries to give the best of both worlds (or maybe even more than 2 worlds) to its users. Its design includes buttons for checking the news, sports, the weather, the user's calendar, etc:

In contrast to Outlook, incorporating these other options to its interface allows the user to quickly check on those other activities without signing in to another application. The added features might be for the simple reason that Yahoo wants to be a toolbox filled with different tools relevant to keeping up to date with everyday activities. Following Yahoo Developer Network's style guidelines, its interface uses a navigation bar (located at the very top of the screen in purple in the picture directly above), for when "the user needs to locate content and features necessary to accomplish a task". Since this bar exists in the page, it was the developer's intention to allow the user to easily transition to the various content that they have to offer. Simply put, as they stated in their design guidelines for navigation, "use [the navigation bar] when the categories belong to a single product". Allowing these other options, though potentially can be distracting to some users, can actually help users (and might even be preferred) by allowing one-click actions. The downside, of course, as demonstrated by our experiment, is the intuitiveness and efficiency of its interface.

Looking at the two together, one can see that they possess similar features: the placement of their email folders, account options/settings, and even advertisements. However, thanks to Outlook's simpler interface, the users are not impeded with activities that do not focus or involve emails.

References
- Microsoft Dev Center (Context Menus): https://msdn.microsoft.com/en-us/library/windows/apps/hh465308.aspx
- Yahoo Developer Network (Navigation Bar): https://developer.yahoo.com/ypatterns/navigation/bar/topnav.html