



<b>Application</b>	OneStart Portal
<b>Owners</b>	James Thomas
<b>Date</b>	June 6 -- 20
<b>Activity</b>	Usability Testing
<b>Consultants</b>	Chad Singer, Abigail Gonzales

<b>Participants</b>	<b>Role</b>	<b>Number</b>
	Undergraduate	1
	Graduate	2
	Staff	3
<b>TOTAL</b>		<b>6</b>

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### **Executive summary**

Usability testing of the OneStart Portal was conducted with six participants during the month of June 2002. The purpose of this study was to identify usability problems with the portal's design, compare the results to last year's usability study, and suggest design strategies to improve OneStart. Participants performed 10 different tasks during a 45 to 90 minute session in the UITS usability lab at Indiana University.

Results of the study suggest that users are more successful in overall task completion than they were with the Fall 2001 design. However, users still experienced considerable difficulty in distinguishing between pages and channels during actual use. Additionally, users had difficulty with the personalization screens. *Personalize Channels* remains the most cumbersome screen for users. Links to supporting video clips appear inside the report and on an HTML index page ([videos.html](#)).

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## **Purpose of Study**

During September 2001, a full-scale usability study was conducted on the OneStart portal. Since then, many changes have been made to the portal addressing the usability issues identified.

The purpose of this round of usability testing was to assess the changes that occurred during the last year. Specific attention was given to the effectiveness of the tutorial, and the usability of personalization features and the bookmarks channel.

Specific design recommendations are made in Part Two of this report. A general design strategy is outlined in the conclusion.

## **Method**

Usability testing methodology<sup>1</sup> was used to evaluate the website. This approach involved having authentic 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<sup>2</sup> to help the evaluators understand their behaviors and gain insight into the design of the website. Sessions were performed on an individual basis with each session lasting approximately 60 minutes. Following the last session, qualitative and quantitative data were analyzed and summarized and recommendations for redesign were made. Users were rewarded with a \$5 water bottle in return for their participation.

## **Participants**

Participants for the study were identified and recruited by Usability Consulting Services (UCS). An effort was made to include members from various user groups, such as undergraduate, graduate and staff, and to include people with and

without exposure to the OneStart Portal. In total, six people participated in the study (3 students, 3 staff) none of whom had used the portal previously.

## **Procedures**

Participants were read an introductory protocol to begin the session. Tasks were completed one at a time and were recorded as either 1) success with ease, 2) success with difficulty, or 3) failure to complete the task. Following the session, the users were asked to rate their satisfaction with the system using the Survey of User Satisfaction (Digital Equipment Corporation). All sessions were performed at 1024x768 using Internet Explorer 5.5 on the Windows 2000 operating system.

## **Tasks**

The OneStart and UCS teams collaborated on the development and refinement of the tasks used for the study. Tasks around bookmarks and personalization features from last year's study were included. Task development was based on existing functionality the portal offers, not on what users report they would like to do with the portal. As adoption of the portal increases, tasks should be derived from frequently-used features.

Following the pilot session, a couple of tasks were removed due to time constraints. A few were revised to clarify issues around wording. The final version of the task list is presented in the Results section that follows.

## **Results**

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

1. Task performance (e.g. successes and failures)
2. Observations and recommendations
3. Post-test satisfaction ratings and comments

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<sup>1</sup> Dumas, J. S., & Redish, J. C. (1993). *A practical guide to usability testing*. Norwood, NJ: Ablex.

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

Task	Success		Failure
	Easy	Difficult	

1. Log into OneStart and spend a few minutes exploring the system. Tell us what OneStart is and how you might use it.

4                      0                      2

2. If you would like to find information about how you would begin to use OneStart, what would you do?

6                      0                      0

3. Use the OneStart Tutorial to answer each of the following questions:

3                      1                      2

A. Explain the difference between a page and a channel. (Facilitator to tell user to demonstrate this on the screen)

B. Explain the difference between *My Pages* and *Group Pages*.

C. Given what you've read, how might you use OneStart?

4. A. You frequently check show times at Kerasotes Theatres and would like to display this information inside the portal. How would you proceed?

2                      3                      1

B. Use the Kerasotes website to find out what is playing this Saturday at the College Mall Theatre. (Facilitator will ask participant how s/he would get home when finished with the task).

5. You frequently use the following websites and would like to display them in a new page in your portal. Create a new page called "My Stuff" and add the following websites to the "My Stuff" page. Arrange the websites as shown on the diagram below.

1                      2                      3

Task	Success		Failure
	Easy	Difficult	

6. You would like to print out a copy of the Arts & Entertainment Calendar from the Calendar of Events Channel. How would you proceed?

Removed this task

7. You no longer wish to view the IUB Calendar of Events in your portal. How would you remove it from your *My Stuff* page?

5                      1                      0

8. Use the Bookmarks channel on the "Front Page" to create a bookmark for "Amazon.com" Store this bookmark in a folder called "Online Stores". Your channel should look like the diagram below when you are done. Once you have completed this, check to see that the Amazon.com bookmark works properly

5                      1                      0

9. Using the Bookmarks channel on your "Front Page", rename the "Amazon.com" bookmark to simply "Amazon", and transfer it to a new folder called "Books". Your channel should look like the diagram below when you are done

3                      2                      1

10. You want to store your Favorites from Internet Explorer in OneStart without removing your current bookmarks. How would you proceed?

3                      0                      3

11. On your IUB Student or Staff Group page, imagine that there is a problem with the My Community channel. How would you find out whom to contact for support

5                      1                      0

Mapping between the Task and the System		
<p><b>Adding channels</b></p> <p>When trying to add a website to the portal, users frequently went to <i>Add a Page</i> and entered the website URL in the text box on the <i>Personalize Pages</i> screen. (3 of 6). See <a href="#">Adding Channels</a></p> <p>On the <i>Add a Page</i> screen, users were uncertain of what the <i>Homepage</i> and <i>Greeting</i> fields were used for.</p>	<p>Many users aren't clear about what Channels are. They expect <i>Add a Page</i> to allow them add channels to the current portal page. In this context, greetings and homepages may serve to confuse the user more.</p>	<ol style="list-style-type: none"> <li>When a page is empty, insert instructions for adding a channel in the body.</li> <li>Include the pages/channels diagram from the tutorial on the <i>Personalize</i> screen to remind users of the difference between pages and channels. This diagram may be clickable to enlarge.</li> <li>On <i>Personalize</i> screen, change <i>Pages</i> to <i>Pages: Add &amp; Edit</i>." Rewrite information under the <i>Pages</i> label to include "Pages hold multiple Channels (web content)."</li> <li>Change information under <i>Channels</i> to something like "Search our list of channels to add web content to a OneStart page."</li> <li>Change the <i>Add a Page</i> screen that is accessed via the dropdown to include only information relevant to adding a page.</li> <li>Remove <i>Greeting</i> from the <i>Personalize Pages</i> screen.</li> <li>One <i>Personalize Pages</i> screen, change <i>Homepage</i> to <i>Default Page</i>. Group <i>Default Page</i> dropdown with the list of pages. Add instructions under <i>Add a Page</i>.</li> <li>On the <i>Personalize</i> page, move <i>Themes</i> to the bottom of the list.</li> <li>Consider adding examples to description of <i>Pages</i> and <i>Channels</i>.</li> <li>See #4</li> <li>Under <i>Custom Channels</i>, change information to "Select this if you can't find the content you're looking for in the list of Channels."</li> <li>Simplify instructions in <i>Explore</i> so that use of explorer and <i>Personalize</i> feature are the only items listed. Remove instructions about the dropdown and search box so that this distinction</li> </ol>
<p>Users added web content by going to <i>Custom Channels</i> even when content was present in portal channels (2 of 6)</p> <p>Users initially tried round-about ways of adding channels. (eg, go to <i>Explore</i> and open a channel, copy its URL into a custom channel; or find the desired site in the IUB channel, right click in page body, copy URL into custom channel) (2 of 6).</p>	<p>It wasn't obvious to users where to go to find channel content or how you might add it. Users expect to be able to add channels in a more direct fashion. Need multiple ways to add channels.</p> <p>Description of channels on <i>Personalize</i> screen may be inadequate.</p>	

<p>On the <i>Personalize</i> page, users mentioned that they were uncertain of the difference between <i>Channels</i> and <i>Custom Channels</i> (2 of 6).</p>		<p>is as visible as possible.</p> <p>13. Move Custom Channels folder to top of the Channel list and change its color to indicate that it is different.</p> <p>14. On <i>Personalize</i> screen, combine <i>Custom Channels: Add</i> and <i>Custom Channels: Display &amp; Edit</i>. Maintain consistency between bookmarks.</p> <p>15. Add help (FAQ) on how to add a channel.</p>
<p><b>Logging in</b></p> <p>Users were successful using search from IUB Page to locate OneStart (5 of 5)</p> <p>Users chose guest login instead of IU Login (2 of 6)</p> <p>Users went to OneStart login page and thought they were already logged in (1 of 6)</p> <p>CAS worked properly with all participants.</p>	<p>Users are uncertain whether they are currently registered to use the portal.</p>	<p>16. Minimize information on the Login screen to emphasize its purpose as a login and general information screen.</p> <p>17. Inform the user that all they need is a network ID and password to use OneStart.</p>
<p><b>Visual Design</b></p> <p>Several users spontaneously mentioned liking the portal icons, especially the <i>Personalize</i> icon (3 of 6).</p> <p>Users commented on secondary pop-ups (<i>Bookmarks Edit</i>, and <i>Personalize</i>) as being unnecessarily long.</p>	<p>Portal icons add personality to the portal.</p> <p>Lengthy pages are more difficult to parse. Options should be given in order of frequency of use.</p>	<p>18. Maintain use of icons in the portal.</p> <p>19. Consider tightening the <i>Bookmarks</i> and <i>Personalize</i> pages by combining the Add and Edit features into one link (see #14).</p> <p>20. Maintain layout consistency between similar features in <i>Bookmarks</i> and <i>Custom Channels</i>.</p>
<p>In several instances, users tried resizing the I-frames by clicking and dragging on them (3 of 6).</p>	<p>Users would like to be able to resize the columns while viewing content inside channels.</p>	<p>21. Allow users to resize frames by dragging on them while on a portal page.</p>
<p><b>Language Used</b></p> <p>After completing the tutorial, users explained channels and pages incorrectly, reversing the two (2 of 6). Users who did not understand these terms correctly performed worse with the system than users who identified the items correctly.</p>	<p>Despite attempts to depict and explain channels in the tutorial, users may persist in their reference to websites as pages.</p>	<p>22. Use the tutorial diagram to remind users of what channels and pages are at key points (see #2).</p>
<p><b>Interaction with Objects and Features</b></p> <p><b>Usage styles with the tutorial</b></p>		

Observation	Interpretation	Recommendation for redesign
<p>After reading the tutorial, users correctly described the functionality of the portal – customization and personalization aspects as well as content (4 of 5).</p>	<p>The tutorial is effective in giving an overview of <i>what</i> the portal does, but needs some work in conveying <i>how</i> to use it.</p>	<p>23. Consider developing a guided tour using Flash that leads the user some of the key functionality of the portal.</p> <p>24. Add information about Custom Channels in the tutorial.</p>
<p>Users tried to complete tasks that were shown in the tutorial. The first thing the tutorial asks the user to do is to click on a title. When users did this, nothing happened. It was cumbersome to switch between the tutorial and the portal. (3 of 6). See <a href="#">Try It</a></p>	<p>Users expect the tutorial to allow them to learn by trying. However, the tutorial isn't set up well to do that since the user must toggle between the tutorial and the portal.</p>	<p>25. See #23</p>
<p>All users looked at and seemed to understand the diagram of a portal page in the tutorial, but commented that they weren't sure what other illustrations (such as <i>Personalize Pages</i> fields and <i>Channel Explorer</i>) were.</p>	<p>The portal page diagram is something that users were already familiar with, but many had not gone to explore other areas such as <i>Explore</i> or <i>Personalize</i>. In the tutorial, elements from these screens are not displayed in the full context, which made it harder for users to understand and remember that information.</p>	<p>26. Rework diagrams used in the tutorial to make them more like the Pages &amp; Channels diagram.</p>
<p><b>Using the bookmarks channel</b></p> <p>When moving bookmarks to another folder, users clicked the pencil to edit the bookmark.</p> <p>One user found it easier to create a new bookmark in the folder than to go through the steps of moving a bookmark to another folder.</p>	<p>Allowing users to select a folder to display the bookmark on the <i>Add Bookmarks</i> page will streamline the movement of bookmarks.</p>	<p>27. Allow user to select which folder bookmarks and folders go in via dropdown list on the <i>Edit Bookmarks</i> page.</p>
<p>Users failed to successfully import bookmarks due to difficulty with instructions and pop-ups (3 of 6). See <a href="#">Bookmarks</a></p>	<p>Instructions in several different places are difficult to follow. Organization of instructions could be improved by chunking IE and Netscape separately. The number of pop-up windows also added to the difficulty of getting through the process.</p>	<p>28. Combine instructions into a single place. Consider a wizard approach to this functionality. Chunk instructions by browser type rather than by step.</p>
<p>Users didn't immediately click the pencil to edit the bookmark (3 of 6). Other choices included clicking the bookmark itself.</p>	<p>Having a pencil icon for every bookmark adds to clutter and reduces visibility of edit functionality.</p>	<p>29. Remove the pencil icon, allowing users to click the bookmark link itself to edit it. Add instructions at the top of the page about how to edit and move bookmarks.</p>
<p><b>Using the Personalize Channels page</b></p> <p>On the <i>Personalize Channels &amp; Layout</i> screen, users tried to drag the channels back into the list of channels in order to delete them. (5 of 6). See <a href="#">Remove Channels</a></p>	<p>The initial approach to undoing something is to repeat the steps in opposite order. Users also don't see the trashcan at first, and frequently when they do see it, it takes them several tries to drag and drop items there.</p>	<p>30. For discussion with OneStart team.</p>

Observation	Interpretation	Recommendation for redesign
Users had significant difficulty manipulating the drag & drop interface. Users missed dragging objects to their targets (3 of 6).	The drag & drop functionality in the portal is not as seamless as application functionality and may involve some practice on the part of the user.	31. For discussion with OneStart team.
On the <i>Add Channels Accessible</i> version, users did not use the arrows to move channels from one column to another (2 of 6). See <a href="#">Columns</a>	There are no instructions on the page to draw attention to the arrows. Nor was there any way to get additional help.	32. For discussion with OneStart team.
<b>Using Help</b> For help on the <i>Campus Community</i> channel, only one user went to the specific channel help icon. The rest went to portal help or feedback.	<i>Help</i> icon in the channel may not be visible, or users may not expect to go to help to report a problem with a channel.	33. For discussion with OneStart team.
While trying to get help on adding channels, one user noticed the video game titles and wondered aloud what they were for. Later, when returning to help even more frustrated, he mentioned that these video games were annoying. See <a href="#">Games</a>	<i>Help</i> added to the user's frustration because the system "wants me to play games" while looking for the answer to a question.	34. Remove these items from the <i>Channel Help</i> section.
Users went to help for adding channels, but were not able to locate anything.	The help system still does not address some of the core functionality of the portal.	35. For discussion with OneStart team.
<b>Bugs</b>		
<i>There are currently no new channels available</i> appears below the list of channels in <i>New Channels</i> .		36. This message should only appear when there are no channels listed in <i>New Channels</i> .
Search button on <i>Personalize Channels</i> page does not have focus.	Users have to tab to the <i>Go</i> button or click on it to initiate a search.	37. Give the <i>Go</i> button focus when the user clicks on the <i>Search</i> text field.
When a user logged in as guest, then logged out and logged in again, options were still guest-oriented.	Could not duplicate this bug...	38.

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**Success rate comparisons:**

In general, users were more successful in completing tasks with the current version of OneStart than with last year's version.

However, since there is only data from six users for the current version, the current measures may be less reliable than those from 2001, which had 45 users.

Task #	Fall 2001		Summer 2002	
	N=45		N=6	
4	Add a channel	75%	84%	
5	Add a page	85%	100%	
5	Create Custom Channel	85%	84%	
5	View Custom Channel	45%	50%	
8	Add Bookmark	78%	100%	
9	Edit & Move Bookmark	52%	66%	

**Satisfaction Survey Results**

After completing the task portion of the usability test, participants were asked to complete the Survey of User Satisfaction (Digital Equipment Corporation) to rate their experience using OneStart (See Appendix I for results).

In general, the users' ratings reflected their success using the system, users 1, 3 and 4 having considerably more difficulty than the pilot user, user 2 and user 5. These scores suggest that improvements need to be made to the portal if it is to be widely adopted.

**Conclusion**

The results of this study suggest that efforts made in the last year have improved the usability of the portal somewhat. Some key features responsible for this are increased feedback for adding custom channels, improved content in the tutorial regarding channels and pages and an improved bookmarks interface.

However, there is still room for improvement especially in the area of personalization (tasks 4 and 5), where users experienced

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considerable difficulty completing these tasks. Non-technical users seem to have trouble modeling the system due to confusion about pages / channels, task flow and difficult individual screens (e.g. *Add Channels* page).

In order to continue to improve the usability of OneStart, the following general approach should be taken:

- 1) Streamline the workflow of the customization and bookmarks features, 2) further improve instructions on pages, and 3) further revise some key screens (e.g. *Personalize Channels*).

Appendix I User Satisfaction Data

Satisfaction User Survey (by question)	1 strongly disagree	5 strongly agree	Median	Mean
I think that I would like to use this system frequently.	3 2 4 3 1 4	3 1 4	3	2.8
I found the system more complex than necessary	2 3 2 4 5 2	2	2.5	3
I thought the system was easy to use.	4 1 5 2 1 4	1 4	3	2.8
I think that I would need the support of an experienced person to be able to use this system.	2 3 2 4 5 1	4 5 1	2.5	2.8
I found the system visually appealing	4 5 5 5 1 4	1 4	4.5	4
I thought there was too much inconsistency in this system.	2 3 1 3 3 2	3 2	2.5	2.3
I would imagine that most people would learn to use this system very quickly.	4 2 4 2 2 4	2 4	3	3
I found the system very cumbersome to use.	2 4 2 4 1 2	1 2	2	2.5
I felt very confident using the system.	4 1 4 3 1 4	1 4	3.5	2.8
I needed to learn a lot of things before I could get going with this system.	2 5 2 5 5 1	5 1	3.5	3.3
<b>Satisfaction User Survey (Total SUS by participant)</b>				
Pilot	72.5			
User 1	32.5			
User 2	82.5			
User 3	37.5			
User 4	17.5			
User 5	80			
Average:	54			

## Appendix II User Comments

### What other functionality or information would you like OneStart to provide?

Seems really extensible. I can even get secure sites and Ftp from personalize section. Nice to have someone update the content. The monitor or what's occurring in my department as a student is nice to have.

Probed about channel icons, "I never even saw that ? In the channel I never focused on those at all. Title bar clicking on it thinks that it would maximize it and minimize it. Clicks on it says "I would expect something." If got deep into site how get home?

Scroll bar is hard to see there. The channels seem kind of small. Was confused as to whether I could expand the column size. Probed click title bar, open it. A little house next to the text would help. I for sure didn't think that it would send me back to the homepage, If anything, I thought it would open up a new window. I didn't expect it to do two different things. If it expands a window, then it should hid it too.

Wants to be able to resize the frames by grabbing them within the page

### Now that you've completed some tasks with the system can you think of anything that could have been presented in the tutorial that would have helped you?

Importing bookmarks was hard to do. The tutorial was fine.

Pretty easy to use. The tutorial talks about the icons but not about what the channel name functionality.

The tutorial should have showed you how to do it...with everything that you do on it, it should then help you with the next part. Right now, it's a box of instructions and you are supposed to remember them all. That's hard.

### Describe three things you liked about the system.

Have more than one column, add on a column. Toolbar on side and then have the main pages that you want on the side. Nice to enter URLs. I think I like the personalize system. It seems clear cut. Doesn't make me wait a long time for things to happen. Probed custom channel. Suggests having a link on channels personalize page to add a custom channel rather than searching in quickmenu.

It is pretty ambiguous. It doesn't tell you exactly what is in there. Sure it's a menu it has an arrow but the name doesn't help. Suggests edit pages and channels.

Likes that you can see multiple channels, add your own websites  
Multiple channels, not channels, frames so that I can see many things.  
once you have it all set up everything is all there... but to get to that point is like pulling teeth

### Describe three things you disliked about the system.

Once you get to a level of breadth and depth it breaks down. For movies--do I click on Student life or Entertainment. I'm a student and movies are part of my life :) I'd go straight to search. It's okay but not great. Wants big column on left and smaller on right. Wants the flexibility to change that. I don't like that! Everything else is configurable, why would it be a big deal to add that feature. preference, summaries on left, and larger things on the right. Fits with the nav bars of webpages. Quick menu name is kind of ambiguous

Probed on returning home. Says wants a little house I con on channel bar.  
Realizes that reading a article, says I wantto expand this, clicks open window, gets sent to home page again. "That is nto a smooth ride. It's a bumpy way to get there." Didn't think that channel name would take to homepage. I'd expect that but didn't notice that it was something that was clickable. Wonders if feature to make the column bigger, rather than just opening a new window.

Expanding column width would be nice,

the explanations are not enough. Like in the personalize--I can learn things on my own--eg. Access, publisher without going through the tutorials--those are easier to use. This is really complex. The explanations there are not sufficient. Like it says "One column, two column and I couldn't figure out what they were saying. You spend a lot of time to organize it, if you see something has gone wrong, and you try to do it over and over again, you get very frustrated and you jst want to throw everything away. If this is going to be used by IU, I would advertise it at orientation. The explanations up there are not enough. I am an English teacher. I know the words, and I had a hard time. I don't think that it is very user friendly. I thought it would be more helpful as an IU system. Probed about instructions and increase--Yes, that would help me. I'm more visual--it there is too much writing I will skim it or skip it. Mentions SSF as easy to learn and not going through tutorial.

It was stressful trying to get through the I1 things. It was hard to figure out...that's the biggest thing

### Will you use the system in the future, why or why not?

Probably not, because I have my own homepage. For me, it is more responsive. Likes the Php/Ftp route rather than clicking personalize and everything else. If

## **Appendix II (cont'd)**

I were coming to IU it's great to have a lot of tiny bits to see throughout the day.

Probably, Nice that it is all just in one spot. Neat if it told me in a message that I have new mail or my teachers posted new information for me on Oncourse.

Yes, even though just finished courses. Yes because it was frustrating. I want to learn it and conquer it. Learn it and find a way to teach it so that it is easier for someone else.

Probably not. I don't really need it. I've got bookmarks and I can go grab what I'm looking for