

# OneStart Portal Usability Report

## Electronic Prototype Test Results and Recommendations

Tested November 2000  
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### Executive Summary

In November 2000, a usability study was conducted to test the OneStart portal prototype. Nine participants, comprised of students, faculty, and staff members each participated in 60-minute sessions that were conducted both in the UCS lab and over the network via Microsoft NetMeeting. Participants successfully completed all tasks and gave the portal high scores overall on the Questionnaire for User-Interface Satisfaction (QUIS). Positive QUIS scores worth noting included: *Overall Flexibility*, *Consistency of Terms*, and *Position of Terms and Links*. Satisfaction ratings that suggest attention included: *Clarity of Terms* and the portal's *Ability to Accommodate Experienced and Inexperienced Users*. Results of the study have been divided into four categories: *Functional Issues without Recommendations*, *Functional Issues with Recommendations*, *Form Issues*, and *Positive Features that Work Well*. The report concludes with considerations for the next phase of the portal's design.

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## **Purpose of Study**

- 1 The November usability test was the second of two efforts. The first, conducted in August 2000, was a test involving 3 commercial portals (MyYahoo, MyExcite, and MyFidelity) in an effort to identify the strongest features of each system, as well as features we should avoid. The findings were in turn used to drive the design efforts of our own prototype. The November round of sessions was the first attempt at testing the usability of the OneStart portal prototype.
  
- 2 One of the goals was to specifically look at the portal's personalization features. Although usability is defined by the International Standards Organization (ISO #9241) as design comprised of efficiency, effectiveness, and satisfaction, this test primarily concentrated on effectiveness and satisfaction. Efficiency may become more of an issue for future design iterations. Overall scenario times were recorded, but future redesigns will prevent comparisons between various designs since the tasks will have to be changed along with the designs.

## Participants

3

All of the participants for the study were members of the OneStart advisory council and volunteered to take part in the sessions. Nine volunteers were tested; one faculty member, four staff, two students, and two student/staff members (see Table 1). Members were mixed both in age and gender. All of the members were highly experienced on the web, but had different portal experience.

**Table 1: Participant Distribution**

Order	Gender	Category	Age	Web Experience	Portal Experience	Browser (IE )	OS
1	F	Faculty	26-35	5+	none	5.01	NT
2	M	Staff	36-50	5+	none	5.01	NT
3	F	Student	0-18	5+	some	5.01	NT
4	F	Staff	36-50	5+	some	5.01	NT
5	F	Stdnt/Stf	36-50	5+	some	5.5	Win98
6	M	Student	19-25	5+	some	5.5	Win98
7	F	Staff	50+	5+	none	5.0	Win98
8	F	Stdnt/Stf	26-35	5+	some	5.01	NT
9	F	Staff	36-50	5+	none	5.5	NT

## Method

- 4 A formal usability test approach was used to evaluate the OneStart portal. Five of the nine tests took place at the UCS usability lab, while the remaining four tests were conducted at a distance over the network. All sessions were scheduled for and completed within 60 minutes. Users performed the tasks individually with the facilitator in the next room and all sessions included at least one observer in addition to the facilitator. Sessions were recorded onto videotape and user comments were recorded on computer.
- 5 The four remote usability sessions were conducted via NetMeeting, a Microsoft product that allows users separated by distance to connect over the network. Users performed the tasks as they normally would on their computers while their actions and comments were recorded onto videotape. The sessions were facilitated via speaker phone.
- 6 Participants were introduced to the observers and an introductory protocol that was initially distributed to participants via email in advance of the session was reviewed (see Appendix A). Participants were given a username and password and asked to log in to the OneStart home page. They were then asked to make their on-screen portal look exactly like a printout of a model portal. A total of three model portal pages (scenarios) were given, each comprising a series of personalization tasks. Participants were free to change the colors, content, channel and column layout, etc. in any order they saw fit. Once the user was convinced that the on-screen portal looked the same as printed scenario, he or she was directed to move on to the next printed page. Participants were asked to think-aloud and to make suggestions as they went along.
- 7 At the end of the third scenario, participants completed an online Questionnaire for User Interface Satisfaction (see Appendix B) along with a series of open-ended questions designed to assist the OneStart team with the next design iteration. Participants' comments and suggestions for redesign are available in Appendix C.
- 8 It should be noted for future sessions that the method used to create the scenarios was somewhat non-traditional. Typically, users are given specific tasks (usually on paper) and asked to complete them as best as possible. In this case, since the use of particular terms and instructions for each task could have assisted users with its completion, the decision to use a model scenario page was seen as a means of removing any "coaching" effect. The approach seemed to work well as participants demonstrated a variety of strategies in completing each scenario and commented that the experience was an enjoyable one.

## Results and Recommendations

9 The results of the study have been summarized in the following manner:

1. Completion Times for Scenarios 1-3
2. Summary of QUIS Satisfaction Scores
3. Functional Issues (without recommendations)
4. Functional Issues (with recommendations)
5. Form Issues
6. Positive Features that Worked Well

### ***Completion Times for Scenarios***

10 Although efficiency was not a major goal for this round of prototype, times were recorded for each user to complete each of the three scenarios in the event that they might serve as useful benchmarks for future sessions (see Table 2). Although the mean time per task actually increased for Scenario 2 (possibly due to some new tasks being introduced), by the time participants began work on their third scenario, they appeared to demonstrate an increased familiarity with the portal's features and were able to complete the individual tasks much more quickly.

**Table 2: Completion Times for Scenarios (in min:sec)**

User	Scenario 1 (12 tasks)	Scenario 2 (10 tasks)	Scenario 3 (7 tasks)
1	08:24	10:30	03:10
2	10:20	10:15	06:15
3	06:20	10:30	02:20
4	09:30	08:40	04:30
5	12:10	08:30	05:20
6	19:20	11:30	02:20
7	05:00	07:00	02:30
8	12:15	12:30	03:40
9	11:05	06:05	04:10
<b>Mean Time</b>	10:29	09:30	03:48
<b>Mean Time per Task</b>	00:52	00:57	00:33

### Summary of QUIS Results

11 On the post-test Questionnaire for User-Interface Satisfaction (QUIS), users ranked the system from 1-9 according to the following criteria: *Overall Reactions, Terminology and System Information, and Ease of Learning*. The responses to these items are presented in Table 3.

12 The scores show that the users had a generally positive attitude toward the prototype while expressing a few concerns. Positive feedback worth noting includes the *Rigid to Flexible* category (Mean=8.00, SD=0.82), the *Consistency of Terms* (Mean=8.33, SD=1.0) and the *Position of Terms and Links* (Mean=8.0, SD=0.87). However, while users felt that although the terms were consistent and in the right places, they gave them lower scores in the *Clarity of Terms* category (Mean=5.56, SD=1.33). These scores are consistent with many of the comments made during the sessions which reflected a confusion with terms like “pagemarks” and “activities”.

13 In addition to the Likert Scale items, users responded to three open-ended questions asking them if they would use the site in the future, what they would like to see improved and if they had any additional comments or suggestions. Responses to the open-ended questions are presented in Appendix C.

**Table 3: Questionnaire for User Interface Satisfaction (QUIS) Results**




QUIS items	1 - 9	Mean	SD
Your overall reactions to the web site:	Terrible - Wonderful	6.67	1.41
	Difficult - Easy	6.89	1.45
	Frustrating - Satisfying	6.56	1.81
	Rigid - Flexible	<b>8.00</b>	<b>0.82</b>
<b>Terminology and System Information</b>			
Clarity of terms used in system	Inconsistent - Consistent	<b>5.56</b>	<b>1.33</b>
Consistency of terms used in system	Inconsistent - Consistent	<b>8.33</b>	<b>1.00</b>
Position of terms and links	Inconsistent - Consistent	<b>8.00</b>	<b>0.87</b>
<b>Ease of Learning</b>			
Learning to operate the system	Difficult - Easy	7.67	1.00
Exploring new features by trial and error	Difficult - Easy	7.89	0.93
Tasks can be performed in a straight forward manner	Never - Always	7.22	1.09
Experienced and inexperienced users' needs are taken into consideration	Never - Always	<b>6.00</b>	<b>2.00</b>

### **Functional Issues (without recommendations)**

14

These issues posed functional problems for users and will require attention from the entire OneStart project team. Comments have been made for consideration by the team, but no specific recommendations are provided.

**Table 4: Functional Issues and Comments**

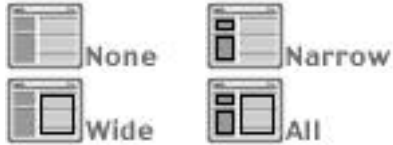

	<b>Functional issue (without recommendations)</b>	<b>Comments</b>
4.1	Several users demonstrated difficulty in locating desired topics on the content screen. Users' commented that the location of topics did not always make sense given the headings provided.	<p>Consider a variety of content organization methods for users to choose from (e.g. Big List, various scrollable fields of items to reduce space requirements).</p> <p>Perform future UCD methods to design content architecture (e.g. card sorting exercise)</p> <p>Perform future testing dedicated to content design.</p>
4.2	The majority of users demonstrated initial difficulty with the concept of Pagemarks vs. Bookmarks. Once defined for them, the majority believed that it would be a useful feature.	Consider different treatments for maintaining the functionality that will also improve users' understanding of the feature. This includes possible naming options as well as functionality.
4.3	<p>The majority of users did not know what to expect from the Detach Channel icon. They either expected it to resize the existing channel or to maximize the window.</p>  <p>One user commented that the order of buttons conflicts with the Windows convention:</p> 	Consider an alternative icon for the Detach Window function that will be more representative and will not conflict with the Maximize function.
4.4	<p>2-3 users expressed uncertainty over the label "Activity Links", suggesting it could be mistaken for clubs, hobbies, etc...</p> 	<p>We need to consider how this label might work in conjunction with the Bookmarks &amp; Pagemarks concepts.</p> <p>We might also consider whether allowing the user to personalize the label itself has merit and if so, what limitations (if any) will be required for label lengths.</p>

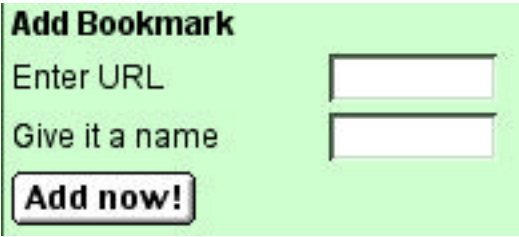
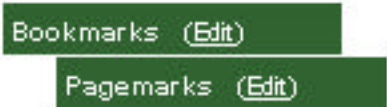
### Functional Issues (with recommendations)

15

These issues posed functional problems for users, but recommendations have been provided to overcome the observed difficulties. Issues have been prioritized in order of “quick-wins” or solutions that require the least effort to overcome the issue described.

**Table 5: Functional Issues and Recommendations**

	Functional issue (with recommendations)	Recommendations
5.1	2-3 users demonstrated some difficulty with entering a name for a new page in the Add/Delete Pages screen. They tended to want to click on the name column, rather than in the open field column.	<p><b>Recommend:</b> Eliminate the Name column and rebalance the remaining two columns on the screen in order to reduce the uncertainty over how to add or edit a page title.</p> <p>Title new column “Add/Edit Page Name”</p>
5.2	4 users expressed uncertainty over the Channel Border icons. They weren’t sure what they did, or if they had chosen the correct one.	<p><b>Recommend:</b> Include a text label for each icon in the same manner as for the Column Number icons. Also, stretch out the new icons so as to extend across the entire width of the Color window with the Channel Border label left justified and above the leftmost icon.</p>  <p><b>Recommend:</b> Include the channel borders in the screen preview feature to provide users with visual feedback on their selection.</p>
5.3	<p>The directional arrow approach to moving content channels and columns in the Layout window caused 4-5 users some initial hesitation, although all users discovered how to proceed following experimentation.</p> <p>Several users attempted to drag and drop items before they realized the system did not allow for it.</p>	<p><b>Recommend:</b> Add a 2<sup>nd</sup> 2 Column icon to permit easy switching between NW and WN layouts. While not representative of all layout options, these three are anticipated to be the most common.</p>  <p><b>Recommend:</b> Providing that resources and timeline allow, explore a drag and drop strategy for the Layout screen as we make the move to Uniface. A drag and drop interface combined with scrollable content fields may also allow both content and layout to be combined into a single personalize window.</p>

5.4	4 users expressed uncertainty over what to expect from the Delete button located on the individual channels. They did not expect the deleted channel to be permanently deleted from the page, but rather temporarily removed for that session and available again upon their next login to the portal.	<b>Recommend:</b> Include a short statement on the warning dialog box that follows the Delete button – “Deleting this channel will remove it from your page. At any time, you may return the channel to this page by visiting the Content screen and reselecting the channel.”
5.5	When entering multiple bookmarks (pagemarks), 2 users entered URLs without entering a name for the bookmark. They only realized their error once they had entered in the last of the bookmarks and found that they had to start over again.  	<b>Recommend:</b> Provide feedback if Add Bookmark (Pagemark) is selected without both a name and URL entered... e.g. “Your bookmark requires both a name and URL.”
5.6	One user commented that she and others in her workplace normally use 640x480 resolution.	<b>Recommend:</b> Include a notice on the Login screen that outlines the optimal system requirements for the portal... resolution, browser
5.7	2 users demonstrated difficulty in understanding the difference between Pagemarks and Bookmarks even after reading the explanation in the Help sections.  	<b>Recommend:</b> Ensure that definitions are short and to the point with discriminations made early on. In this case, the difference between Bookmarks and Pagemarks should be highlighted early in the description.  <b>Recommend:</b> Include a brief definition and discrimination between the two concepts on the Edit page for both Bookmarks and Pagemarks.
5.8	2 users selected content channels for placement in a column that they were not designed for (e.g. Bookmarks in a Wide column). The result was a system error and confusion for the user when all their content disappeared.	<b>Recommend:</b> Whether the system maintains its current form or changes to a drag and drop style, certain actions must be made unavailable to users to prevent them from making incorrect selections.
5.9	3 users demonstrated difficulty when trying to edit a page name in the Add/Delete screen. When they clicked on the text field, the cursor did not allow them to erase the existing contents in the normal fashion.	<b>Recommend:</b> Allow users to click anywhere within the text field to edit the existing label.




5.10	3 users commented that the detached browser window for individual channels would only be useful to them if they could print the contents of the window.	<b>Recommend:</b> Include a <i>Print this Window</i> button inside the detached channel window. Alternatively, make the browser print options available for this window.
5.11	2 users demonstrated that the new browser window for personalization could be opened multiple times. This may cause problems if users are unaware of multiple open windows. This is definitely an issue for visually disabled users.	<p><b>Recommend:</b> Clicking on one of the Personalize link should activate an existing window rather than open a duplicate window that results in two or more of the same windows open at the same time.</p> <p><b>Recommend:</b> Conduct some informal usability testing on the current prototype with users at the Center for Adaptive Technologies at the IU Main Library.</p> <p>Consider designing a parallel interface for aspects of the current prototype that pose difficulties for disabled users. If the two designs can be largely database driven, issues around maintaining two systems may be minimized. The alternative option could be available from the Login screen. Subsequent logins could remember the users' interface preference.</p>
5.12	<p>As an individual's portal workspace develops, the need to accommodate a high number of bookmarks is probable.</p> <p>3 users commented on their desire to import bookmarks into the Bookmarks channel.</p>	<p><b>Recommend:</b> Determine a method for organizing bookmarks in the Bookmarks channel. Some form of hierarchy structure seems appropriate, but constraints associated with the narrow channel must be considered</p> <p><b>Recommend:</b> Once the structure has been determined to accommodate numerous bookmarks, an import function will be necessary.</p>

## Form Issues

16

These issues posed no functional problems, but their form should be addressed in future iterations of the portal's design to ensure a visually pleasing interface.

**Table 6: Form Issues**



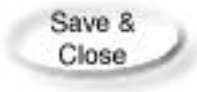
	Form issue	Comments
6.1	OneStart logo redesign. 	The <i>Welcome to OneStart</i> logo will require a new treatment that accommodates all campuses involved (both color and text). We must also consider the legibility of the text (cursive text may not be easily read by all users).
6.2	Save and Close buttons. 	While these buttons worked well, their appearance may be refined to produce a more polished look.
6.3	Color themes.	The current color themes should be revisited by the team's graphic artist to ensure an optimal set of color combinations.
6.4	Color flags. 	The current horizontal orientation of colors within the flags may be revisited to consider a vertical orientation that is better mapped to the way that colors appear within the portal.
6.5	Login screen.	The current login screen will need to accommodate a generic portal logo to meet the needs of all users, regardless of their campus. Once logged in, the individual's preferences will be displayed accordingly.  The visual treatment of the Login screen should be consistent with the portal itself and the logout screen.
6.6	Logout screen.	The visual treatment of the logout confirmation screen needs to be consistent with the Login screen and the portal itself.  *Brainstorming of what additional or appropriate elements might be included in the logout screen should be discussed by the OneStart team.

### Positive Features that Worked Well

17

These aspects of the design worked well in testing and should be maintained and monitored in the event of any future design changes.

**Table 7: Positive Features that Worked Well**

	Positive features that worked well	Comments
7.1	<p>Redundancy worked well.</p> <ul style="list-style-type: none"> <li>- Personalize channel and Personalize link at the top of each page</li> <li>- Edit links on channel bar and in Content window</li> <li>- Delete option on channel bar and in Content and Layout windows</li> </ul>	<p>Redundant options were used extensively. Different users used different options, demonstrating that the multiple methods were effective. This was further reflected in the high QUIS scores for flexibility.</p>
7.2	<p>The Delete, Maximize and Minimize buttons were all accurately defined and used.</p>  <p>The one exception to this was the slight confusion over the effect of the Delete button and whether a channel would be removed temporarily or permanently.</p>	<p>Though there is some debate over the blurring of the lines between using the Operating System and using the web, the Windows conventions used appeared to leverage users' previous experience with these features.</p>
7.3	<p>The personalize labels of Content, Layout, Color and Add/Delete a Page appeared very clear to users.</p> 	<p>In a few cases where users were uncertain about where a particular feature was located, they were able to easily explore the screens and later demonstrated that they remembered where the features resided.</p> <p>A possible future change might occur if Content and Layout are able to be effectively merged into a single window. In that event, the new label for that screen will need to be carefully considered to reflect its dual nature.</p>
7.4	<p>The preview feature in the Color and Layout windows was anticipated and appreciated by users.</p>	<p>In the case where channel borders were not reflected in the preview feature, users specifically commented that they expected to preview the results of their selection.</p>
7.5	<p>The Save and Close button, combined with the ability to cross-tab within the Personalize section worked well.</p> 	<p>The lack of a Cancel or Ignore Changes button did not cause problems in early testing. Rather, the simplified approach seemed advantageous. As the portal grows in size and complexity, this feature may have to be considered for inclusion.</p>

## Next Steps

The results of usability testing revealed that overall user satisfaction was positive and that the majority of the prototype's personalization features are highly effective. In addition to the recommendations made in the previous section, we feel that there are three key areas to be addressed prior to beginning the next phase of design and development. These include:

1. **ADA compliance**
  - Test the current prototype with low-vision users to identify what features may require attention.
  - Determine whether a single portal design can work for everyone or if an alternative design treatment is necessary to allow disabled users to effectively manage the portal.
  - Thoroughly review the W3 Consortium guidelines for interface design to ensure an acceptable level of compliance. See <http://www.w3.org/TR/WAI-WEBCONTENT/>
2. **Content**
  - Confirm the intended content for the first release in March 2001 in order to help guide the next phase of design regarding “content organization”.
  - Anticipate content for future releases (August 2001) so that initial design is flexible enough to accommodate it.
3. **Campus specific details**
  - Confirm those issues pertaining to individual campuses (e.g. logos, local applications, etc.) that hold an impact for the visual and interaction design of the portal.
4. **Continued involvement of users**
  - Arrange for user participation in design of content organization.
  - Plan for ongoing usability test sessions during next design phase.

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## **Appendices**

- A     Introductory Protocol
- B     Blank QUIIS Form
- C     Summary of QUIIS Questions #1-3

## **Appendix A**

### **Introductory Protocol**

Greetings OneStart participants!

I am writing to remind you of your volunteer session this week for helping us test the prototype version of the OneStart portal. I am going to try to cover off a bunch of things in this single message so bear with me ☺ I encourage you to print out this message and read through it carefully **in advance** of your session.

First up is the protocol for the session. Normally, we spend the first 5-10 minutes of the session introducing ourselves and explaining the purpose of the session, etc. This time around, we have a number of people who are going to be participating at a distance over the network and our sessions are tightly scheduled in some cases so I thought I would try and cover off the introductory information in advance. By the time you are finished with this message, you should have a clear understanding of **what, why, where, when, and how** you will be doing things this week. If you don't, please contact me ([tzazelen@indiana.edu](mailto:tzazelen@indiana.edu) or 855.4499).

#### **What**

Just to remind you of what you signed up for, we are testing the first working prototype of the OneStart information portal. You have been selected because you expressed an interest in the direction of this new application and we are keen to have your input.

**It is important** to understand and remember that what you see is a prototype. That means that it will most likely look quite different by the time it has gone through future design iterations and gets released to everyone at IU. We are counting on you to tell us what you think works and what could be improved in order to benefit the final version.

#### **Why**

The focus of this round of testing is to see how the portal interface works. Because we are early in the design process and a university portal is a major undertaking, we do not yet have a lot of actual content available for you to use. You will find a small cross-section of content unique to student, staff and faculty categories as well as some general content that applies to all users. Following the session, you will have an opportunity to suggest additional examples of content that would be most important to you.

#### **Where**

We have a total of 10 volunteers scheduled to take part in this session including participants from IUB, IUPUI and IUN campuses. Those at a distance and a few from IUB will be connecting to the Usability Lab using NetMeeting videoconferencing software. The rest will be visiting the lab in person to participate in person. For directions to the UCS lab, visit our website at: [http://www.indiana.edu/~usable/about\\_where.htm](http://www.indiana.edu/~usable/about_where.htm)

#### **When**

The schedule for sessions is included below. Please try and arrive a few minutes in advance if you are coming to the lab. For those using NetMeeting, please be available at your phone number at the scheduled time and I will call you.

## How

**For NetMeeting users,** I will be sending you a MS Word document in advance of your session for you to print out and use during the session. It is 6 pages in length and contains the information you will need to complete the session. You will also need to have the following in place:

- a PC computer running Windows 95, 98 or 2000
- a speakerphone (if possible)
- MS Internet Explorer v.5.0 or later
- NetMeeting v. 3.01 (downloadable from <http://www.microsoft.com/windows/NetMeeting/download/>)

**For lab users,** I will provide you with a copy of the task document once you arrive at the lab.

Once we begin the session, you will be asked to follow the instructions in your printed document and complete a series of tasks using the portal. Although someone will always be present during the session, we ask that you complete the tasks as best as possible on your own.

During the session, you will be asked to **think aloud** in order to help us understand the decisions you are making, what is working well and what may need to be improved. The sessions will be videotaped for data analysis purposes only.

Following the session, you will be asked to complete an online survey about your experience with the OneStart portal\*. You will also be able to ask any questions that you may have about the current prototype at this time.

\*For those participants in the lab, you may be asked to complete this survey outside of your time block depending on the time that is available before the next session.

**Appendix B**  
**Blank QUIS Form**

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Location of session: \_\_\_\_\_

For each question below, please circle or underline the answer that best describes your experience.

**Category:**

Faculty                  Student                  Student/Staff

**Gender:**

Male/Female

**Age:**

<18 yrs                  19-25 yrs                  26-35 yrs                  36-50 yrs                  >51 yrs

**Web experience:**

<1 hr/wk                  1-2 hrs/wk                  3-5 hrs/wk                  >5 hrs/wk

**Portal experience:** (please describe any experience you have)

None                  Some

**Your overall reactions to the web site**

Terrible	Outstanding
1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
Difficult	Easy
1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
Frustrating	Satisfying
1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
Rigid	Flexible
1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9

**Screen Terminology and System Information**

Clarity of terms used in the system	Inconsistent	Consistent
	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
Consistency of terms used in system	Inconsistent	Consistent
	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
Position of terms and links	Inconsistent	Consistent
	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9

**Ease of Learning**

Learning to operate the system	Difficult 1 2 3 4 5 6 7 8 9	Easy
Exploring new features	Difficult 1 2 3 4 5 6 7 8 9	Easy
Tasks performed in straight forward manner	Never 1 2 3 4 5 6 7 8 9	Always
Experienced and inexperienced users' needs are taken into consideration	Never 1 2 3 4 5 6 7 8 9	Always

*QUESTION 1: How often would you use this portal?*

*QUESTION 2: If you could change one thing, what would it be?*

*QUESTION 3: Other content items you would like to see available.*

**Appendix C**  
**Summary of QUIIS Questions #1-3**

**QUESTION 1: How often would you use this portal?**

Categories	# of Responses
All the time	3
Frequently	4
Sometimes	1
Rarely	1

**QUESTION 2: If you could change one thing, what would it be?**

- I think there should be an intro to portal terminology such as channels and "what is a page". In the layout section when you asked for 3 columns then you only specified wide and narrow. So it wasn't clear what would appear in the 3rd column.
- Nothing I can think of. It was very flexible.
- Perhaps a quick demo of the functions would help the first time user. Also, I wonder about security (no comments or information provided).
- For me I need it fully functional or I won't bother.
- I would add the option of adding personal graphics pictures to the page and a place for directly opening my book bag.
- Why only one thing?! When at WebDev2000 I saw a portal that had a few items that would help me use this frequently.
  - I would like to see a summary of vacation and sick time.
  - It also had budget summaries for accounts for which they were responsible.
  - I would like to have the IU calendar have a way to click something and add it to my calendar so I could schedule going to an activity.
- After selecting content, use drag and drop for layout
- In general I don't think students know about all the technology services that available to them as students. There may need to be more orientation for them.
- The current set-up is good for new users, although it could be a little more user-friendly. Once a person has been using it for a while, they may want to have more control of the actual layout of the page.
- The portal is rigid. There needs to be more freedom in design. There should be an option to move the windows the same way one could move windows in the Microsoft windows system. A user should be a able to place graphics and photos on the page wherever they wish. In other words, the wide and narrow thing is too constraining.

**QUESTION 3a:** Content items you would like to see available (scale of 1-5)

Content items	Mean	SD
News-IU Headlines	3.78	1.20
News-IU Local	3.33	1.22
News-IU Technology	3.89	0.93
News-World	3.44	1.13
Sports-IU	2.22	1.39
Sports-World	2.11	1.17
Entertainment-IU	3.44	0.88
Entertainment-Local	2.89	1.05
Entertainment-World	2.22	0.67
School-Bursar balance	3.11	1.76
School-View transcript	3.33	1.87
School-Browse class schedule	3.44	1.88
School-Change address	3.50	1.60
Job-Submit purchase requisitions	3.22	1.48
Job-View open jobs	3.11	1.54
Job-Review benefits	3.33	1.32
Job-Travel arrangements	3.67	1.41
Job-Change address	3.00	1.50
Weather	3.67	1.41
Calendar-Basic (IU events, holiday):	4.22	0.97
Calendar-Personal {appointments, schedule)	4.44	0.88
Email	4.56	0.73
Personal bookmarks	4.33	0.87
Announcements-Administrative	4.33	0.87
Announcements-Computer systems (UITS)	4.33	1.00
Announcements-Department related	4.44	0.73
Announcements-School related	4.22	0.67

**QUESTION 3b:** Other ideas for content submitted by participants

Road closings for "special events" weekends	Grant possibilities and proposals (2)
Make it compatible with Netscape!	A calendar with Outlook capabilities
book bag connection	Business info
video conferencing	Access to systems like the SIS
Insite connection	A place for photos
Oncourse connection (2)	Bookstores, IMU, bus info?
My vacation and sick time.	Section for student life/activities
My accounts summary.	Having books from the library delivered
Facilitate web publishing for students	FIS documents
Web Search engines	Local headlines for IUN, not IUB.
FDRS web application (IUIE?)	video conferencing
Choices of Big Ten and other conference information	