



Application	Unix System Support Group (USSG) website		
Owners	Steve Simms, Rich Knepper, et al.		
Date	June 27, 2002		
Activity	Usability Testing		
Consultants	Todd Zazelenchuk, Abby Gonzales		
Participants	Role	UITTS	Non UITTS
	Unix Sysadmin	2	
	Unix Programmer	2	
	Unix Edcert students		
	Unix Sys Support	2	3
	Mac/Unix Admin	2	
	TOTAL	8	3

Executive summary

Testing of the USSG prototype website was conducted with 11 users to determine whether the proposed design posed any usability concerns for users. Participants completed 10-13 tasks requiring them to locate Unix related information and details specific to the Unix group at Indiana University.

In general, the proposed design fared very well with users typically locating the desired information with little effort. Aspects of the website that worked particularly well included a moderate number of redundant paths to information and the choice of top-level topic labels. Aspects of the website that posed some usability problems or that are anticipated to be a concern in the future included the current collapsible menu system, the requirement for scrolling in order to get to high priority information, and the use of organizational-specific language. This report presents a brief description of the study that was conducted, and summarizes the observations made during the sessions. Recommendations are made for the USSG team to consider as they proceed to refine their prototype and prepare it for release.

Purpose of Study

The purpose of this study was to evaluate the usability of the new prototype version of the Unix System Support Group (USSG) website. The primary usability goal for this study was to measure the effectiveness of the site's content organization and navigation features.

Method

Usability testing methodology¹ 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 protocol² 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 30 minutes. Following the last session, qualitative and quantitative data were analyzed and summarized and recommendations for redesign were made. Users were rewarded with a Usability Consulting Services water bottle in return for their participation.

Participants

Participants for this study were chosen based on their areas of experience with Unix. Eight UITS participants included system administrators, programmers, Mac/UNIX administrators, and system support personnel. Non-UITs participants included three students enrolled in the USSG certification program being offered at IU during the study. A pilot test with a non-Unix participant was conducted prior to the regular sessions to evaluate the clarity of tasks and approximate length of the test.

Tasks

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.

The tasks for the study were developed by the USSG team and refined with the assistance of Usability Consulting Services. Tasks were based on supporting data from existing usage patterns for the site as well as ideas and information gathered from people who had used the support group's services in the past. In addition to being presented with predefined tasks, users were asked to create their own task based on the last goal they had when visiting the site.

Procedures

Each session began with a brief explanation of the purpose of the study and of the protocol followed in usability testing in general. Following the introduction, participants were presented with a stack of randomized task cards and were asked to complete them one at a time. Following completion of the final task, participants completed a short post-test satisfaction usability survey (SUS) and responded to some open-ended questions about their likes, dislikes, and suggestions for improvements.

The first four participants in the study completed all 13 of the tasks. On the second day of testing, three tasks were removed from the test based on their observed ease of completion and the need to shorten the test for participants attending the certification course, leaving a total of 10 tasks for users to complete.

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

I. Task Performance

#	Task	Success	Success	Failure
		Easy	Difficult	
1	You are a member of the Linux Kernel Mailing List and remember reading a past message that you would like to revisit. What would you do if you wanted to locate that information again?	3	5	3
2	The USSG offers software for Unix users on campus. You are particularly interested in software for HP-UX. Use the site to find out what is available.	10	0	1
3	It is time to patch your aging Solaris system. Use the site to find out what patches are available for your system.	11	0	0
4*	You missed the meeting of the last Unix User's Group. Find out who the presenters were and what was discussed.	4	0	0
5	You are interested in using either Solaris or Linux for your next system. What are two basic differences between Solaris and Linux.	7	2	2
6	You would like to download the latest version of Red Hat Linux. How would you proceed?	11	0	0
7*	You would like to receive some onsite consulting from USSG. Find out how much they charge per hour.	4	0	0

#	Task	Success	Success	Failure
		Easy	Difficult	

8	You are interested in taking the Summer Unix Certification course. What are the dates you will need to set aside?	7	1	3
9*	You want to add a new user to your machine and would like to ask someone at USSG about the process. What would you do?	2	2	0
10	The USSG offers a number of different mailing lists. You would like to receive all list information to do with Unix administration. Sign up for what is appropriate.	6	1	4
11	You are interested in learning more about Unix, but the courses offered don't fit your schedule. Are there any other options?	10	0	1
12	You have signed up for a Unix course and would like to know where the lab is located. Use the site to find directions.	10	1	0
13	Think back to the last time you had a question about Unix related information (whether it was at IU or not). What was the question and how would you proceed to find an answer using the site?	8	0	3

II. Observations and Recommendations

Topical Organization		
<p>Users commented about scrolling to bottom of Flavors screens to get to important content in Resources (such as software, patches, mailing list, etc).</p>	<p>There are many ways of ordering information (abc, order of importance, date, etc...). With a relatively short list of subtopics on the content pages of this site, the order of importance based on frequency of use will improve efficiency for users.</p>	<ol style="list-style-type: none"> 1. Reorder the subtopics within each Flavors page to ensure that the most frequently used items are closest to the top. See Appendices: Screen1. 2. Reduce the amount of detailed content presented on these screens by condensing the 'fluffy' information into links followed by descriptors with (...) to indicate more detail. See Appendices: Screen1.
<p>Users easily chose <i>Users Group</i> when looking for the archives for that group, but they also frequently chose it when looking for mailing list archives.</p>	<p>Given the current default "collapsed" approach to the left side navigation, users are not able to compare <i>Users Group</i> to the other options under <i>Services</i>. If the collapsed menu is retained, it may be easier for users to choose between <i>Users Group</i> and other available services by grouping them all together under the <i>Services</i> category.</p>	<ol style="list-style-type: none"> 3. Re-evaluate the relative importance of <i>Users Group</i>. If it continues to be seen as a level I topic, then perhaps some reordering of the level I topics might be appropriate. If <i>Users Group</i> is found to be more appropriate as a level II topic, place it alphabetically under <i>Services</i>. See Appendices: Screen1.
<p>One user commented on being uncertain as to whether 'email' consulting demanded a fee.</p>	<p>The current organization of consulting topics combines methods of consulting and cost structures. It is not clear that email and walk-in consulting are free. Nor is it clear, what type of consulting requires payment (chargeback).</p>	<ol style="list-style-type: none"> 4. Simplify the current menu structure by reducing the consulting options to two: <i>Chargeback</i> and <i>Free</i>. Additional detail may then be provided on the type of consulting for chargeback, and the rules associated with email and walk-in consulting. See Appendices: Screens 1&2.
<p>Navigation</p>		
<p>Users frequently made good use of redundant links to locate desired information.</p> <ul style="list-style-type: none"> - Most users (10 of 11) located specific software in one of two ways (<i>Flavors</i>: <i>HPUX: Software</i> or <i>Services</i>: <i>Software: HPUX</i>) - All users (11 of 11) found the Solaris patch using one of two ways: (<i>Flavors</i>: <i>Solaris: Patches</i> or <i>Services</i>: <i>Patches: Solaris</i>) - Users looked for directions to Unix classroom in <i>Education</i>: <i>EdCert</i> (6 of 11) or <i>Contact Us</i>: <i>Directions</i> (5 of 11) 	<p>While too much redundancy of links can make it difficult for users to develop a 'mental model' of a website, some redundancy (if used consistently) can help different users follow different paths to get to the same destination.</p>	<ol style="list-style-type: none"> 5. Maintain a redundant path approach to content that belongs under both Flavors and Services (e.g. software, patches, documentation, etc...). 6. Maintain a redundant path approach to location information (campus map) from all areas where this information is relevant (e.g. Contact us, EdCert, Consulting-Walk-in, etc.)
<p>Several users had difficulty and/or failed to locate the Linux Kernel Mailing List (8 of 11 difficulty: 3 failed). Commonly looked under <i>User Group</i> or <i>Services: Mailing List</i>.</p>	<p>Users seemed to want to look for mailing lists or group as primary topic rather than specifically Linux. The redundant path approach mentioned above may work nicely here as well.</p>	<ol style="list-style-type: none"> 7. Include a link to the Linux Kernel mailing list on the current mailing list page under (<i>Services: Mailing List</i>). See Appendices: Screen2.

Observations

Interpretations

Recommendations

<p><i>Services: Mailing List.</i></p> <p>No users were observed to make use of the text link navigation at the bottom of each screen (Main, Services, Documentation, Software, About us).</p>	<p>nicely here as well.</p> <p>Given that the primary navigation menu is available on the left side of the screen, users tend to begin using it to navigate the site and return to it from then on. The inconsistency between the bottom text links and the left side menu may introduce more confusion and clutter than provide actual help to users.</p>	<p>8. Remove the text links at the bottom of each screen. CAVEAT: On very long pages, either a footer of text links that match the main headings on the left side menu OR a Return to Top link should be included. See Appendices: Screen 4</p>
<p>The left side menu navigation was responsible for some common comments and behaviors from users suggesting that an alternative approach is warranted:</p> <ul style="list-style-type: none"> - Most users (9 of 11) either preferred the menu default to be expanded, showing all subtopics at a glance, or had no preference. - A few users expressed concern about the navigation tree working across all platforms and browsers. - Several users were observed to click the + and – icons, rather than the label itself, thereby preventing themselves from seeing the content associated with the major headings - Users were occasionally uncertain where they were within the site and could not tell from the status of the menu tree 	<p>The current menu presents several concerns.</p> <ul style="list-style-type: none"> • First and foremost is its ability to work across all major platforms and browsers. • Its ability to cue users as to their current selection or place within the site. • Its abrupt shifting of topics after a user chooses a new primary topic...this can be disorienting for a user. • The + and – design of the menu tree adds little value and extra clutter (possible confusion) in that every menu item has subtopics, therefore, the signs don't really differentiate between menu items • Although users were not compared using this menu design vs one whose default mode was expanded, it is anticipated that an expanded menu would be much more efficient for users as long as the number of topics remains similar to its current state. 	<p>9. Present the left side menu in its expanded form as the default view. A collapsible menu could be considered in the future if the menu structure grows in size. See Appendices: Screen 1</p> <p>10. Include a visual cue to indicate what the current topic being displayed is (e.g. colored link, special bullet, etc.) See Appendices: Screens 1&2</p>
<p>Only 1-2 users seemed to recognize and use the USSG home icon. Several clicked the BACK button multiple times instead when they wanted to return to the home page.</p>	<p>While the company logo is often used to double as a <i>Home</i> link, many users continue to look for a home link when wanting to reorient themselves to the website.</p>	<p>11. Include a <i>Home</i> link at the bottom of the left side menu bar. See Appendices: Screens 1&2</p>

Terminology (self-explanatory links & terms)		
<p>Multiple users commented on uncertainty over the terms used in certain sections of the website:</p> <ul style="list-style-type: none"> - What is NetDist? USAL? Tutorials? <p>Users expressed some uncertainty when multiple options were presented without sufficient explanation:</p> <ul style="list-style-type: none"> - Why are there two FTP links for downloading patches? - Media vs. Software 	<p>The use of organizational language on a website places visitors who are unfamiliar with the organization at a disadvantage. Efforts must be made to identify what terminology fits the category of organizational language and alternative terminology used and/or sufficient explanation provided.</p> <p>Possible examples of terms not specifically tested include: Sunsolve, Support Plus, Scholar Pak, Walk-In Consulting...</p> <p>When users are presented with multiple options for reaching their goal, they must be given enough information to proceed with confidence. While too much information can slow a person down, too little can also reduce people's efficiency and effort as they try to decide how they might proceed.</p>	<p>12. In the left side menu, use more general terms to refer to the Education options available, followed by the appropriate details on the specific content pages. See Appendices: Screens 1&2</p> <p>13. For organizational terms such as NetDist, Scholar Pak, etc. that appear on individual content screens, consider a "link – short descriptor" approach to presenting these terms. Ideally, this would involve a bulleted list approach. See Appendices: Screen 3.</p> <p>14. Refrain from presenting full URLs as the actual link on the screen and use instead a descriptive label for what the link represents. See Appendices: Screens 1&2</p> <p>15. Retain the <i>Unix Flavors</i> terminology in the menu.</p>
<p>The label <i>Unix Flavors</i> worked very well and met with verbal approval from many users.</p> <ul style="list-style-type: none"> - all users (11 of 11) chose <i>Unix Flavors</i> when looking for specific OS info 	<p>None.</p>	
Content Details		
<p>A few users felt that a comparative table would have been a helpful link off the individual Flavor pages. One user mentioned the possibility of a FAQ handling this requirement.</p>	<p>The task wording may have caused users to believe such a table existed when it does not. Based on discussions with users and the USSG team, however, this comparative table feature is deemed to have value for visitors to the site who are trying to understand how the different <i>Unix Flavors</i> relate in terms of purpose, strengths, weaknesses, etc...</p>	<p>16. Consider developing a table that compares the various <i>Flavors</i> of <i>Unix</i> for visitors to the site. Include a link to this table from the Overview section of each Flavor screen.</p> <p>17. Consider whether a FAQ page has merit for handling general <i>Unix</i> questions. NOTE: it should not interfere or overlap too much with the information already contained in the <i>Flavors</i> section.</p>
<p>A few users expressed that they appreciated the small permanent, contact details in the top right corner of every screen.</p>	<p>None.</p>	<p>18. Retain the contact details in the top right corner.</p>

<p>A few users expressed that they expected to see “the usual biographies” of the USSG team by clicking the individual links on the <i>About Us</i> page.</p>	<p>On the one hand, the <i>Email Consulting</i> page states that USSG does not want messages sent to individual team members, but rather to USSG@indiana.edu. If this is the case, then perhaps just names and titles are appropriate on the <i>Contact us</i> page?</p>	<p>19. Determine whether personal email contact is desired or not for consulting questions and if not, then remove the option from the <i>Contact Us</i> page.</p>
Consistency and Formatting		
<p>For some tasks, users did not locate information that was embedded in paragraph form.</p> <ul style="list-style-type: none"> - e.g. two major differences between Linux and Solaris 	<p>The current labeling of content headings is inconsistent at times...e.g. <i>Linux: What is it?</i> and <i>Solaris: Overview</i>. Such inconsistency can increase the difficulty for users who are trying to understand similarities and differences between related topics.</p>	<p>20. Settle on a consistent label for the introduction to each Unix Flavor (e.g. <i>Overview</i>, <i>About Linux</i>, <i>What is it?</i>). See Appendices: Screen 1.</p> <p>21. Present related information across the different flavors in a consistent format (i.e. bulleted, tabular, etc.) to allow for easy scanning and comparison.</p>
<p>The presentation of certain content caused some users to make errors in their interpretation of the information.</p> <ul style="list-style-type: none"> - a few users (3 of 11) failed to identify the correct schedule for EdCert as it was unclear that the course consisted of all three sessions. - A few users (4 of 11) made errors when subscribing to the online mailing lists by unintentionally signing up for more than they really needed 	<p>The visual design principles of proximity, alignment, repetition, and contrast (PARC)³ are extremely valuable in helping users interpret information on a website. The ineffective use of proximity and alignment in the examples mentioned may have been a major reason for the errors observed.</p>	<p>22. Present the schedule details so that it's clear there are three parts to the certification program. See Appendices: Screen 4.</p> <p>23. Simplify the current mailing list screen by reducing the number of available lists to two (UUG Info and UUG Admin) based on their frequency of use and the goals of USSG.</p>

³ Williams, R. (1994). *The Non-Designer's Design Book*. PeachPit Press, Berkeley, CA.

III. Post-Test Satisfaction Ratings and Comments

Satisfaction User Survey (by task)	1 strongly disagree	5 strongly agree	Median	Mean
I think that I would like to use this system frequently.	5 5 3 5 5 2 4 4 4 5 4	4 4 4 4 5 4	4	4.18
I found the system more complex than necessary	2 1 2 1 2 3 1 1 1 1 2	1 1 1 1 2	1	1.55
I thought the system was easy to use.	4 5 4 5 3 4 5 4 5 5 4	4 5 4 5	4	4.36
I think that I would need the support of an experienced person to be able to use this system.	1 1 1 1 2 3 1 1 1 1 1	1 1 1 1 1	1	1.27
I found the system visually appealing	4 5 5 5 1 4 4 4 3 3 4 3	4 3 4 3	4	3.73
I thought there was too much inconsistency in this system.	1 1 3 2 3 1 1 1 1 1 2	1 1 1 1 2	1	1.55
I would imagine that most people would learn to use this system very quickly.	4 4 4 4 5 4 4 5 4 4 5 4	4 4 5 4	4	4.27
I found the system very cumbersome to use.	2 1 2 1 2 2 5 1 1 1 2	1 1 1 2	2	1.82
I felt very confident using the system.	4 5 5 5 5 4 4 4 5 5 3	4 5 5 3	5	4.45
I needed to learn a lot of things before I could get going with this system.	1 1 4 1 1 2 1 1 1 1 2	1 1 1 2	1	1.45
Satisfaction User Survey (Total SUS by participant)	SUS (0-100)			
User 1	85			
User 2	97.5			
User 3	72.5			
User 4	97.5			
User 5	70			
User 6	67.5			
User 7	82.5			
User 8	85			
User 9	90			
User 10	97.5			
MEAN	84.5			

Users' Previous Questions about Unix (Task 13)

I wanted to find out install software for Solaris, and I wanted to know which I should install. On solaris page -- doesn't look like it's here. KB link, searches "Unix and software installs" "Education, tutorials.

"can't remember I was receiving a weird error that I had never seen before. I tried looking , finding documentation, I just resorted to google." "I would probably go to users group thinking someone else had the same error I had." "I don't know that I would think consulting because I think I would be charged for it. Under services, documentation -- this is where I would first start.

I had an error message when installing redhat 7.2 A wierd error. I'd email them the question because I've gotten very good answers from them. I'd first like under documentation to try to find my own answer if I can.

Search "SSH Config" and I would see if it would hit the options in the ssh config. I would hope that it would come up with options.

I was looking for overview of incremental backup, "education, usail, tells me to visit the old usail page. The answer was there when I needed it. Probed about OSX I typically wouldn't look for information from here. BSG isn't supported here and not OSX.

what is the current release of the Linux kernel", Unix flavors, linux; If I wanted to contact them directly I'd do consulting, email. Services, In the past there was just general information about the system not vendor specific. I hope they have that general unix guides--checks out Services documentation. I thought they had others like USAIL on their old website. Would want a link to KB at top level so click once and have that resource. Maybe put it under services, under documentation. rather than dividing it up like this, there are several generic unix stuff as well.

I had a path question about red hat path. "What is the path that I need for a linux red hat in stall from USSG's server" Search "network linux install". Unix flavors, Linux, linux software. Beyond that I would try documentation but it doesn't make sense to me.

I typically search google right away. If it is related to IU then, I normally go up into the search box and find it from there. I would enter "File-max"

My mind constantly has Unix questions. "Where would I find the GCC compiler" Services, Software, Solaris, This is just a link to the vendor software. Things like GCC and other software..." UNIX flavors, solaris, sunvendor links, freeware, finds it." When I get to the software, don't just want to see vendors but like to see apache, gcc, something that points to other software that is used. e.g. gnu archives, apache, Vendor stuff should stay but be supplemented. Under security--a link to the security archives at Purdue would be nice. They have it divided by vendor but having a category Generic, security web servers, gnu archives.

Post test comments

On the current navigation bar...

Good to have them expanded as long as there isn't too much clutter. I didn't mind them collapsed because they are distinct by their titles. It's a balancing act. It is fine either way--collapsed or open.

I'd make sure that the color and expanding of the navigation works in unix. I would like it closed because it takes up less screen real estate. Also if the nav bar expands in size, it will be hard. Make sure that the navigation bar effects work on other browsers.

I don't recall that there was a menu structure on old site. I like that it expands and you can follow the menu through. the old one looked pretty good but the navigation was difficult--e.g. the back button. For me it would be easier to just look at them all, but then it's nice to have them closed so that it isn't a huge overwhelming block if you are exploring. I'd prefer it all open because I know what I want.

For the number of choices here, I like them expanded. If zillions, I want them compressed. Ability to navigate further faster.

Highlighting of nav bar to show where you are. Coloring the widgets. Likes things underlined because more prominent.

Like the drop down menus however it would be nice to have them expanded as a default. Makes it clear what the site contains Much better than the old site.

Easier if open. For now if it stays this size leave it open, it just makes it faster.

Likes either way, collapse or open. Doesn't like v link changing colors. I think I would like to have them open so that I can go right to it.

Open vs collapsed Menu -- Like it closed.

Likes the menus open.

I like the menus they were pretty easy to navigate. Caveats mentioned earlier apply.

Rather have things closed, when I don't need information, I don't want to have to see it.

On reordering the subtopics...

"I'd swap ussg linux news with what is linux used for. You go from something broad to more specific. Probe--resources at bottom." I expect to find information at the top and links at the bottom. Probe--nav bar What feel if it was presented expanded like that. "Perfer it expanded because there were numerous times when I had to bounce back and forth on a complete items. I walso wouldn't have to guess. It's a small enough list that it could all fit.

I use this site to find software so I would rather have links to where I can go get stuff first rather than where solaris is used at IU. That doesn't seem like pertinent information. The fluffy information isn't what I need. I want to see the resources first.

This is especially ideal for someone coming to the site for the first time. I would have the links bookmark. This is the meat and potatoes of the section (resources) have bar across the top that has that info.

In my mind linux software is pretty important. The news I would put at the top and What is linux used for would be close to that. Vendor links would probably be the least important, you want people to say on your site. Linux resources moved up. Somehow showing those resources more prominently.

Probably do more on the overview information. If I wanted to compare or know what it was. I don't even know what sunsparks are as a novice. News is good. That's probably dynamic. I like latest sun promotions. If text gets bigger, I want to see a top level table so that I can hit news and have an easy way to get back. Vendor links at bottom, Resources--probably want to see it at the top. Solaris at IU that's great but I don't care--put it last. Vendor links second to the bottom.

Likes the what is at the top. What used for at IU--put it to the bottom. New order could be: What is Linux-->Linux Resources at IU (rename title)-->News-->bottom vendor links and how used at in.

If just for me, I'd put the resources at the top. I know what it is. the What used for at IU goes at bottom, Vendor links--I don't need that, Kind of a round about way to get to vendor links why not go there directly. Mostly be interested in consulting and education because I go directly to the home sites that have the flavor information

Post test comments (cont'd)

In general...

Like the fact that it is clear and well organized. It is much easier to find things the way it is now.

Like the design..easy to find things.

Like how it is organized and the contact information is there IMMEDIATELY. Often it is too hard to find and hidden at bottom. Like difference in font size of text verses title.

Like long information on one page rather then information scattered across pages--because it facilitates searches/find.

Like overall design, and navigation bar I like search at the top.

Looking for topic sentences in paragraphs. Looking to see if that is true in this case that they are terrible. E.g. User group--tells me when it meets but it doesn't tell me about it. Tell me what it is rather then describe it.

I would take out the system names (on Solaris at IU), because of hacker issues. No advantage to putting in names maybe have overall services. Don't know if the names are important to have. not want to list it Imap 1,2,3,4.

Some of the labels like USAIL. Edcert are a bit ambiguous. Say certification instead of edcert. Could call it Independent Learning, Self learning. How you differentiate that from tutorials. Independent learning sounds like a more arching genera category with tutorials and usail underneath.

Likes the new site -- more logical order. Likes search, info and email at the top.

The screenshot shows the USSSG website header with the logo and contact information: "Unix Systems Support Group Indiana University", a search bar, and the phone number "812.855.2627" and email "ussg@iu.edu". The main navigation menu includes "Unix Flavors" (DUNIX, HP-UX, IRIX, Linux, Solaris), "Services" (Documentation, Patches, Mailing lists, Security, Software), "Consulting" (Chargeback, Free), "Education" (Certification, Self-learning), "About Us" (Contact us, Get directions), and "Home". The "Linux" section is expanded, showing links to "About Linux", "Resources @IU", "News", "Vendors", and "About Linux @IU".

Screen 1 :

- reordering of screen's subtopics (about Linux, Resources, News, etc...) to reflect importance (Rec#1) and consistent labeling of subtopics across flavors (Rec#20)
- reduction of "fluffy" detail and number of options by providing "link – descriptor" strategy (Rec#2) and (Rec#14)
- removal of UUG as primary topic and rearrangement under Services (Rec#3)
- consolidation of Consulting subtopics (Rec#4) and Education subtopics (Rec#12)
- left side navigation menu presented in expanded form (Rec#9)
- visual cue in left side menu to indicate current topic (Rec#10)
- Home link included in left side menu (Rec#11)

The screenshot shows the top portion of the USSSG website. On the left is the USSSG logo. To its right is the text 'Unix Systems Support Group Indiana University'. Further right is a search bar with a 'Search' button and the contact information '812.855.2627' and 'ussg@iu.edu'. Below this is a 'Mailing Lists' section with three links: 'Linux kernel mailing list - subscribe to the list...', 'Linux kernel archive - browse or search the list's archives...', and 'USSSG mailing lists - subscribe to the Unix Admin and UUG info lists...'. At the bottom is a navigation menu with links for 'About Us', 'Contact us', 'Get directions', and 'Home'. A vertical list of services is also visible on the left side of the menu, including 'Unix Flavors', 'Documentation', 'Mailing lists', 'Security', 'Software', 'Users Group (UG)', 'Consulting', 'Chargeback', 'Free', 'Education', 'Certification', and 'Self-learning'.

Screen 2:

- include Linux Kernel mailing list and archive on the mailing list page (Rec#7)
- consolidation of Consulting subtopics (Rec#4) and Education subtopics (Rec#12)
- left side navigation menu presented in expanded form (Rec#9)
- visual cue in left side menu to indicate current topic (Rec#10)
- Home link included in left side menu (Rec#11)



Unix Systems Support Group
Indiana University

Search

812.855.2627
ussg@iu.edu

Solaris Patches

Solaris Sunsolve (patch) CDs are available for in three different ways:

- ussg@iu.edu - email us to request a copy of the media
- [NETDIST](#) - use our software distribution system
- [FTP](#) - transfer our patch files directly over the network

[Unix Flavors - Services - Consulting - Education - About Us](#)

Screen 3 :

- Home link included in left side menu (Rec#11)
- Removal of full URLs for links combined with "link – descriptor" strategy (Rec#13 and #14)

Screen 4 :

- present EdCert schedule and other similar information so that the relationships are clearly presented (Rec#22)
- on long pages, include a navigation footer that directly matches the left side navigation bar (Rec#8)

Instructor team: Corey Shields, Steve Simms, Rich Knepper, Dave Hancock, and Andrew Poland

Schedules:

9-Day Unix Certification Program (Summer 2002)		
June 18-20 Tue-Thu 8am-5pm	July 16-18 Tue-Thu 8am-5pm	August 20-22 Tue-Thu 8am-5pm

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