

Drupal Usability Research Report

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I. EXECUTIVE SUMMARY

The following study was conducted in order to help achieve a better understanding of usability issues in regards to the administrative interface of the Drupal open source content management system. At this time, the Drupal community has user experience goals that focus on consistency, understandable language, simplifying the interface and providing informative feedback. Our study examines the following questions:

- ▷ What are the main challenges to new Drupal users?
- ▷ Is the language and terminology used in the administrative interface intuitive to users?
- ▷ Is the format and language of the proposed IRT node form accessible and intuitive to users?
- ▷ How long does it take users to perform basic web development tasks with no formal Drupal training?

Users knowledgeable in web development and of content management systems, but with no previous use or knowledge of Drupal were recruited for the study. A test script (*Appendix A*) was created to guide the participants in a typical web development scenario that included creating pages, posting content on the home page, creating site navigation, and setting permissions for special users. Brief pre- and post-test questionnaires were included to capture incoming and outgoing opinions on using Drupal.

Testing methods and conditions were standard for all participants. Throughout the test they were encouraged to “speak aloud” about their expectations and intentions while creating the website. Video and gaze data were recorded during the participant sessions using a Tobii 1750 eyetracker and ClearView software.

All sessions were reviewed and analyzed for common usability patterns. The results were recorded by interface object in a Usability Findings Matrix and grouped by task. Both severity and suggested solutions are included.

RESULTS

Welcome Page: Participants read the welcome page content and noted that they were most likely to begin by following the steps listed.

- ▷ Welcome page introduction: Participants consistently read the text on the welcome page and noted that they felt they had a sense of what they could do and where they could go from this page.
- ▷ Welcome page labeling inconsistency: Most participants noted inconsistency between the labeling of left-hand navigation links and the welcome page navigation links. The links performed the same function.

Creating Content : Users had a relatively easy time adding content to the site and were able to repeat the process primarily without hang-ups.

- ▷ “Create Content” admin link: Participants quickly and consistently found the *Create content* link on the left-hand navigation.

- ▷ Page and Story terminology: Participants were consistently confused by the “Page” and “Story” choices. They felt comfortable with the term page, but confused about what it meant to create a story. Despite having read the definitions of “Page” and “Story,” no participants demonstrated an understanding that they were two default content types.
- ▷ Create page body field: Participants expected to be able to manipulate the text (bold, bullets, italics, etc.) as part of the editor. In one case a participant was surprised that HTML tags could be used in the editor. With no indication that a WYSIWYG module can be downloaded (in the default Drupal interface), many participants stated they would be hesitant to use Drupal for their clients.
- ▷ Back button/lost data: While creating a page, participant navigated away from the editor to get “more information” on page formatting. The participant returned to the page he was creating using the back button and all the text on the page he was creating was lost.
- ▷ Split Summary at Cursor button: All participants were distracted and confused by the "Split Summary at Cursor" button.

Posting Content: When participants began to focus on posting their content, all became confused and disoriented about where the site lay. In the default Garland theme, Drupal provides no visual feedback to the user that administrative functions overlay the website itself, and this model appears to greatly challenge the user’s mental model of how a content management system functions.

- ▷ Administrative Overlay: Users were confused that the administrative interface was overlaying the web site. Their current mental model of CMS software is an administrative interface with a way to view the site outside of the interface.
- ▷ Publishing Options tab: A participant was dismayed that the tab defaults to “published.”
- ▷ Promote to front page check box (terminology): A participant was confused of the terminology to describe the web site’s main page. The participant expected to see Home Page used instead of Front Page. "Again, am not familiar with 'front 'page' except in the newspaper but, it works." (Participant 4)

Managing Content: Participants found it difficult and frustrating to find content once it had been created.

- ▷ Administrative menu/Create Content link: Participants had difficulty finding content once it had been created. Participants used the “Create content” link to find existing pages, however, the link only allowed users to create new content.
- ▷ Primary Links Landing Page: Participant expected a site hierarchy to be built while the site was being created and to be able to manipulate the hierarchy by adding links to pages, etc.
- ▷ Administer Landing Page: Too much information is presented on the Administer landing page. Participants tended to skim the top half of the page, missing important information on the bottom half. Many participants expressed a feeling of being overwhelmed, stating that there are too many options on this page. Some participants were confused due to similar content and definitions within sections.

Creating Navigation: All participants found creating navigational links difficult, and were typically unaware when they were successful in completing the task.

- ▷ Parent Item drop down menu: Lack of a top home page and the administrative menu links confused participants.
- ▷ Primary Link (term): Participants were not sure what a primary or secondary link is.
- ▷ Garland theme navigation links: The garland navigation links were consistently not “seen” by participants after creation. It typically took at least several minutes before it was acknowledged (and often after the participant had moved on to another task). One participant eventually located the navigation links, but noted in frustrations that they were automatically listed in alphabetical order across the top of the page. Another participant never looked in the upper-right corner of the screen.
- ▷ Blocks: Some participants noticed “Blocks” under Site Building and indicated they thought the terms were of potential importance. Without a definition that made the terms clear to them, and unsuccessful in figuring them out through trial and error, participants ended up avoiding the sections. "Assigning a block to a region (whatever that means)...seems like if you're going to learn to use Drupal, you need to learn their terms." P7

User Management: The task, “set up a special log in account for board members so that they can edit and create new content but not play with the structure or design of the site,” was time consuming for participants. Most participants chose a path that led to some confusion; however it was the most successfully completed task out of the six.

- ▷ User Management landing page order and terminology: User Management provides few clues or feedback as to the differentiation between the options offered on the page. For a task that necessitated a “role,” participants typically started under “user,” which lead to confusion as to how to constrict permissions and assign a role to the user they created.
- ▷ Permissions Page: The Drupal terminology used on the Permissions page was unfamiliar to participants (“I’m not sure what nodes are...” P1), and the page was overwhelming to users who chose it before visiting other option under User Management.
- ▷ Assigning permissions to new users: Participants were able to quickly create a new user; however they were unclear how to give permissions to the newly created user account. One participant looked for permission options on the Create User page; the concept of the "role" was not clear to him and he never clicked the "Roles" menu to add a role. Other participants were familiar with the concept of users, roles and permissions, but were not clear of the order the tasks should be completed in.
- ▷ Weak Password Warning: When participants create a new user account and set a password, a red alert box is displayed that indicates the password is weak. Some participants typed in a new password, often multiple times, as the warning changes from red to orange to yellow to green. No guidance is provided on screen to indicate the characteristics of a strong password; also, some participants thought that the red color of the warning was an error meaning they could not create the user account with the weak password.

RECOMMENDATIONS

Welcome Page

- ▷ Users appreciate the welcome page. Consider incorporating such content throughout the site more permanently.
- ▷ Create consistent contextual links on the Welcome page.

Creating Content

- ▷ Create more task oriented distinguishers between the various content types, and allow the user to choose between them within the node form. Beware of user conceptions of a *page* as distinct HTML file or an additional page on the website. Most participants read the explanatory text, however did not comprehend what it was or the result.
- ▷ Use more action oriented links such as *create content* in the primary administrative menu.
- ▷ All participants expected a WYSIWYG editor out of the box (vs. it being add-on functionality). If this is not a possibility at this time, consider focusing more on defining and linking to modules from the welcome screen.
- ▷ If a node form must be saved before navigating away from the page, remove any links that will take a user to additional information.

Posting Content

- ▷ Provide visual feedback to distinguish the administrative menu and pages. Choose a default Drupal theme that does this.
- ▷ Rethink the term *front page*.
- ▷ Make more node form options visible (rather than hidden under tabs), especially important defaults such as published.

Managing Content

- ▷ Add a link to the Content page in the administrative menu with an action oriented label such as *manage content*.
- ▷ Consider lumping together various categories on the Administer page into larger groups. Use typical task flows of your users as guidance.

Creating Navigation

- ▷ Rethink the term *parent item* to something more intuitive to a new user.

- ▷ Distinguish between administrative parent item links and website parent item links within the node form.
- ▷ Rethink the term *primary link* to something more intuitive to a new user, such as *navigation link*.
- ▷ Some users expected primary links to appear on the left hand side of the screen. Consider using a default template with a more conventional navigation layout.

User Management

- ▷ A more hierarchical, task oriented labeling scheme can help new users on the User Management landing page. Try also to group as many options as possible under one category.

II. DRUPAL: THE OPEN SOURCE CONTENT MANAGEMENT PLATFORM

Drupal is open source web publishing software freely available to any user looking to manage content on the web. The software is maintained and developed by a thriving international community. Drupal's mission statement is as follows:

By building on relevant standards and open source technologies, Drupal supports and enhances the potential of the Internet as a medium where diverse and geographically-separated individuals and groups can collectively produce, discuss, and share information and ideas. With a central interest in and focus on communities and collaboration, Drupal's flexibility allows the collaborative production of online information systems and communities.

To best enable current and potential Drupal users to “produce, discuss and share information and ideas,” we recommend addressing some of the most severe interface issues. An intuitive, user centered administrative interface can best serve both experienced and new Drupal users.

III. METHODOLOGY

The Drupal usability evaluations were conducted as individual test sessions, which were unobtrusively observed by a moderator and note takers.

A total of eight participants were tested. While eight representative users does not meet the criteria for a true experimental test (10-12 participants minimum), four to five participants have been shown to reveal up to 80% of usability issues in products (Rubin, 128).

Testing sessions took place in the University of Baltimore User Research Lab. Each participant worked in the lab's observation room. Both video and gaze data using Tobii 1750 eye tracker and ClearView software was collected, as well as a brief pre- and post-test questionnaire. Team members observed the sessions from behind the lab's one-way mirror.

Upon arrival, each participant was ushered into the observation room and before beginning the test process, they were asked to fill out a consent form and short questionnaire for demographic purposes. At this time they were reminded that the session would be recorded and observed. The moderator introduced the test and the test process to the participants and asked if they had any questions before beginning. Participants were then introduced to the Drupal welcome page, asked general familiarization questions, and were presented with a brief preference questionnaire based on their initial overview. The moderator then excused themselves to the observation room and began task testing. Participants were read a scenario and asked to work through common tasks that users would need to complete to set-up a basic web site using Drupal. Upon completion of the tasks, participants were presented with a second preference questionnaire and asked a few concluding questions about their experience. The scenario and test script was read verbatim for consistency; however, follow-up questions varied based on the participants' actions.

The structure of each session was as follows:

- Introduce the test and test process

- Probe the participants on the purpose of the Drupal welcome page
- Have participants complete typical tasks using Drupal
- Ask the participant about their experience using Drupal

IV. PARTICIPANT SUMMARY

A total of eight participants participated in the Drupal usability study. Participants were selected based on their experience using content management systems and their lack of knowledge of Drupal.

Potential participants were screened by answering the following questions:

- Do you use, or have you used, a content management system as part of your job?
- Have you ever used the open-source content management system, Drupal?

Several participants had heard of Drupal, but none had actually used the CMS.

Participant	Job Title	Estimate of how long participant has worked in web development.	Estimate of how long participant has used content management systems.
1	Webmaster	Eight years	Four years
2	Internet Information Architect	Twelve years	Five years
3	Manager	Ten	Seven years
4	Database Marketing Analyst	Two years	Two years
5	Consultant	Ten years	Eight to ten years
6	Web Administrator	Ten years	Nine years
7	Web Developer	Six months	One month
8	Manager of Technical Services	Ten years	Five years

V. DRUPAL SET-UP

Drupal was pre-installed for each participant using the Garland default theme and was set up with the IRT node form with vertical tabs layout (<http://drupal.org/project/nodeform>). During the familiarization section of the test, the Welcome screen was introduced to the participant. Users did not receive any training or view any Drupal websites.

Members of the Drupal community have performed one formal usability study, conducted at the University of Minnesota, and are formulating plans for additional usability testing. This study uses a similar set of participants, however takes from lessons learned in the first study and simplifies the user task set.

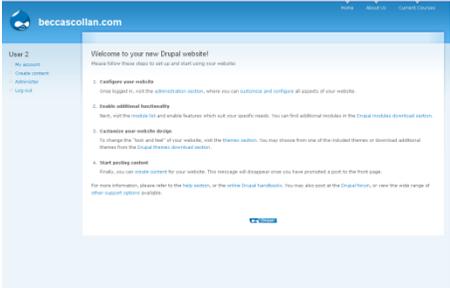
For more information on the University of Minnesota Usability Study:

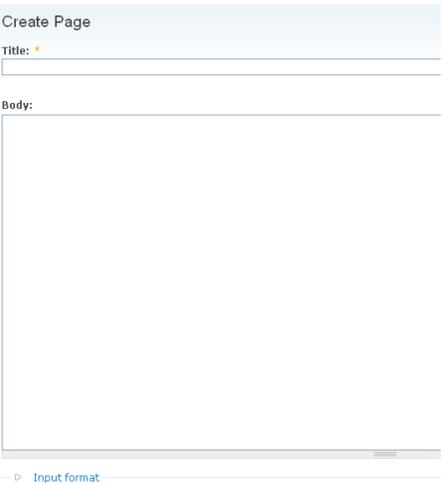
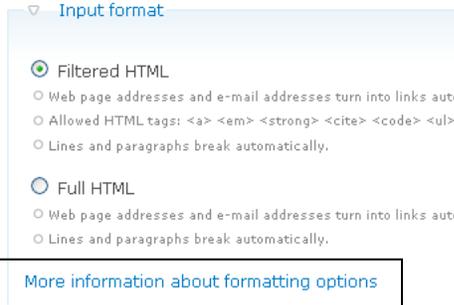
- ▷ Results presentation: http://docs.google.com/Presentation?id=ah55sxcd9fmq_13ch7z5sd7
- ▷ Eye tracking video: <http://vimeo.com/743223>

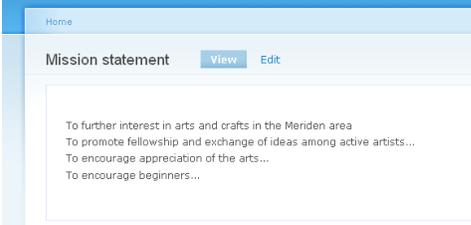
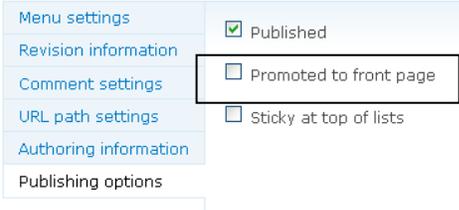
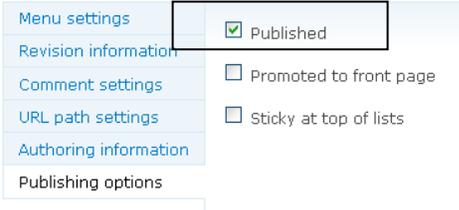
VI. USABILITY FINDINGS MATRIX

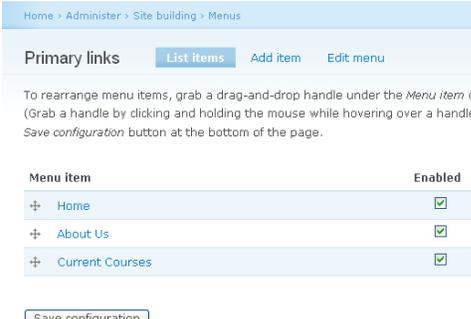
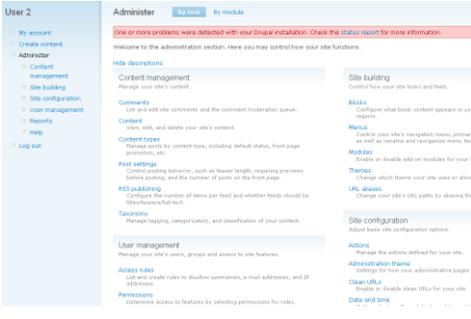
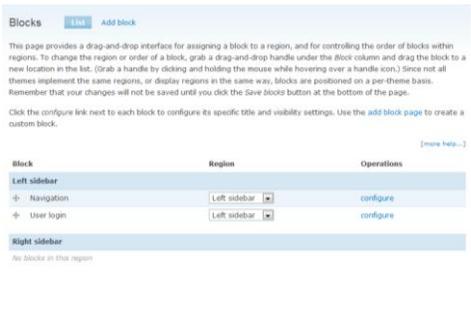
The table below lists and defines the severity levels used to classify usability issues that were uncovered. The second table, “Usability Findings Matrix” groups the usability issues by category and includes an object with an image, a description of the issue, a severity level and a recommendation for improvement.

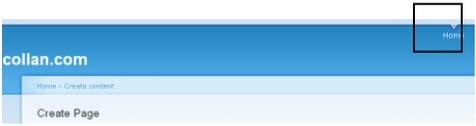
Table: Error Level Severity	
Good	Indicates that an object is well designed.
Minor	Minor nuisances that encumber the user during the task, such as users having trouble finding the correct command or controls to complete the task. They leave the user frustrated and dissatisfied with the product.
Moderate	Significant problems caused for the user. A common type of this error includes using an incorrect control, or using the correct control, incorrectly. These errors typically account for a high incidence of support requests.
Major	The most critical level, where the user is unable to correctly complete their task. A common type of this error is when the user simply cannot determine which controls, information, or sequence is necessary to complete the task. Products should never be delivered with any critical level errors.

Table: Usability Findings Matrix				
#	Object	Observation	SL	Recommendation
Welcome Page				
1	<p>Welcome Page</p> 	Participants consistently read welcome text and noted that they felt they had a sense of what they can do and where to go.	Good	
2	<p>Welcome page labeling inconsistency</p> <ol style="list-style-type: none"> Configure your website Once logged in, visit the <i>administration section</i>, where you can <i>customize and configure</i> all Enable additional functionality Next, visit the <i>module list</i> and enable features which suit your specific needs. You can find Customize your website design To change the "look and feel" of your website, visit the <i>themes section</i>. You may choose fr themes from the <i>Drupal themes download section</i>. Start posting content Finally, you can <i>create content</i> for your website. This message will disappear once you hav 	Most participants noted inconsistency between labeling in left-hand navigation and welcome page links.	Moderate	Develop a set of consistent, standard labels to be used throughout the CMS and any manuals. Ensure that contextual links reflect navigation labels throughout.
Creating Content				
3	<p>"Create Content" admin link</p> 	Participants quickly and consistently found <i>Create content</i> link.	Good	Participants wanted to start by posting content, and the task oriented label was helpful for this.
4	<p>Page and Story terminology</p> <p>Create content</p> <p>Page A <i>page</i>, similar in form to a <i>story</i>, is a simple method for creating and displaying website. By default, a <i>page</i> entry does not allow visitor comments and is not fe</p> <p>Story A <i>story</i>, similar in form to a <i>page</i>, is ideal for creating and displaying content the announcements, and informal blog-like entries may all be created with a <i>story</i> i initial home page, and provides the ability to post comments.</p>	Participants were consistently confused by the "Page" and "Story" choices. They clearly understood what it meant to create a page, but didn't know, or really care to know, what it meant to create a story.	Minor	It's not even clear that users understood the term "page" – consider making content type an option within the node form itself.

<p>5</p>	<p>Create page body field</p> 	<p>Participants expected to be able to manipulate the text (bold, bullets, italics, etc.) as part of the editor. In one case a participant was surprised that you could use HTML tags in the editor.</p>	<p>Moderate</p>	<p>Users have expectations that a WYSIWYG editor will be included in a CMS, and it's important to provide one. If this cannot be done at this time, a clearer message as to why and access to editor modules must be available (however, we did not explore the term modules with the participants).</p>
<p>6</p>	<p>Back button/data lost</p>  <p>[the link a participant followed]</p>	<p>A participant navigated to "more information..." while creating a page, and lost his page text when navigating back using back button. (This really increased frustration.)</p>	<p>Moderate</p>	<p>Include important information about formatting options on the page itself, and do not post links that will take people away from the page within the node form.</p>
<p>7</p>	<p>Split Summary at Cursor</p> 	<p>All participants were distracted and confused by the "Split Summary at Cursor" button.</p>	<p>Minor</p>	<p>Make the appearance and location of the Split Summary at Cursor less prominent on the page, and consider using unobtrusive, contextual help or renaming the function to more clearly indicate what it does (for example, "show a preview of page entry").</p>

Posting Content				
<p>8</p>	<p>Administrative overlay</p>  <p>[Viewing a page]</p>  <p>[Home page]</p>	<p>Users were confused that the administrative interface was overlaying the web site. Their "mental model" of CMS software is an administrative interface and a separate interface to view the site.</p>	<p>Major</p>	<p>Despite the nature of the administrative site overlay, there needs to be some form of visual feedback to let users know they are on administrative pages only offered now that they are logged in to Drupal.</p>
<p>9</p>	<p>Promote to front page check box (terminology)</p> 	<p>A participant was confused of the terminology to describe the web site's main page. The participant expected to see Home Page used instead of Front Page.</p>	<p>Major</p>	<p>Rethink the term front page. Consider using a more conventional term such as home page.</p>
<p>10</p>	<p>Publishing Options tab</p> 	<p>A participant was dismayed that the default is "published." Participant wants greater control over making content live.</p>	<p>Moderate</p>	<p>Any important defaults should be visible without having to expand a tab.</p>

Managing Content				
1 1	<p>Administrative menu/Create Content link</p> 	<p>Participants found it difficult to find content once it had been created.</p> <p>Participants attempted to use the <i>create content</i> link to try and find existing pages - expecting more from the link.</p>	Major	<p>Create both a quick link to manage content and surface Content Management in the left-hand administrative menu.</p>
1 2	<p>Primary Links Landing Page</p> 	<p>Some participants expected a site hierarchy to exist without having identified any primary links. They also expected to manipulate the hierarchy by adding links to pages, etc.</p>	Minor	<p>(See comments on administrative overlay problems.)</p>
1 3	<p>Administer landing page</p> 	<p>Too much is offered on the Administer page. Participants tend to just skim the top portion of the page and miss information - one participant began reading through page, but then looked back to administrative menu to orient himself and make a decision.</p>	Moderate	<p>Look for similarities between categories and use typical task flows as guidance to group as many of them as possible together.</p>
1 4	<p>Site Building > Blocks</p> 	<p>Some participants noticed “Blocks” under Site Building and indicated they thought the terms were of potential importance. Without a definition that made the terms clear to them, and unsuccessful in figuring them out through trial and error, participants ended up avoiding the sections.</p>	Moderate	<p>Consider adding a mini-diagram of the page, with areas of the screen outlined as "regions", and the block content within the region outlined, to demonstrate that blocks are pieces that go inside regions.</p>

Creating Navigation																																											
1 5	<p>Parent Item drop down menu</p> <p>Parent item:</p> <p><Primary links> </p> <p>The maximum depth for an item and all its children is would exceed this limit.</p>	Lack of a top home page and the administrative links confused the participants.	Major	Separate out the website hierarchy from the administrative menu primary links.																																							
1 6	<p>Primary Link (term)</p> <p><Primary links> </p>	Participants didn't understand the primary link label.	Major	Rethink the term itself.																																							
1 7	<p>Garland theme navigation links</p> 	Links were consistently not "seen" by participants after creation	Moderate	Consider using a default theme with a more conventional navigation layout scheme.																																							
User Management																																											
1 8	<p>Permissions page</p> <p>Permissions</p> <p>Permissions let you control what users can do on your site. Each user role (defined on the user roles page) you could give users classified as "Administrators" permission to "administer nodes" but deny this power to use permissions to reveal new features to privileged users (those with subscriptions, for example). Permissions administrative burden of running a busy site.</p> <table border="1"> <thead> <tr> <th>Permission</th> <th>anonymous user</th> <th>authenticate</th> </tr> </thead> <tbody> <tr> <td colspan="3">block module</td> </tr> <tr> <td>administer blocks</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>use PHP for block visibility</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td colspan="3">comment module</td> </tr> <tr> <td>access comments</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>administer comments</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>post comments</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>post comments without approval</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td colspan="3">filter module</td> </tr> <tr> <td>administer filters</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td colspan="3">menu module</td> </tr> <tr> <td>administer menu</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Permission	anonymous user	authenticate	block module			administer blocks	<input type="checkbox"/>	<input type="checkbox"/>	use PHP for block visibility	<input type="checkbox"/>	<input type="checkbox"/>	comment module			access comments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	administer comments	<input type="checkbox"/>	<input type="checkbox"/>	post comments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	post comments without approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	filter module			administer filters	<input type="checkbox"/>	<input type="checkbox"/>	menu module			administer menu	<input type="checkbox"/>	<input type="checkbox"/>	Terminology was unfamiliar to participants and the page was overwhelming.	Minor	Consider including unobtrusive contextual definitions (for example, for the headers on the page).
Permission	anonymous user	authenticate																																									
block module																																											
administer blocks	<input type="checkbox"/>	<input type="checkbox"/>																																									
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1 9	<p>User Management landing page terminology</p> <p>User management</p> <p>Access rules List and create rules to disallow usernames, e-mail address</p> <p>Permissions Determine access to features by selecting permissions for n</p> <p>Roles List, edit, or add user roles.</p> <p>User settings Configure default behavior of users, including registration r</p> <p>Users List, add, and edit users.</p>	<p>User Management provides little feedback as to differentiation between user management tasks that make sense to the participants.</p> <p>For a task that necessitated a "role" participants started under "user" most often, which led to confusion as to how to constrict permissions and assign a role.</p>	Moderate	Try grouping similar categories together, and using more task oriented labeling.																																							

<p>20</p>	<p>Assigning permissions to new users</p> <div data-bbox="207 256 682 567"> <p>User management</p> <p>Access rules List and create rules to disallow usernames, e-mail addresses</p> <p>Permissions Determine access to features by selecting permissions for roles</p> <p>Roles List, edit, or add user roles.</p> <p>User settings Configure default behavior of users, including registration requirements</p> <p>Users List, add, and edit users.</p> </div>	<p>Participants were able to quickly create a new user; however they were unclear how to give permissions to the newly created user account. One participant looked for permission options on the Create User page; the concept of the "role" was not clear to him and he never clicked the "Roles" menu to add a role. Other participants were familiar with the concept of users, roles and permissions, but were not clear of the order the tasks should be completed in.</p>	<p>Moderate</p>	<p>Determine typical use cases and organize tasks according to them. For example, links such as "add a new user" and "create a new user type" may better fit how a user thinks of the task, rather than breaking it down to system functions like "users," "permissions" and "roles."</p>
<p>21</p>	<p>Weak Password Warning</p> <div data-bbox="224 814 662 997"> <p>Password: * ***** Password strength: Low</p> <p>Confirm password: * *****</p> <p>The password does not include enough variation to be secure. Try:</p> <ul style="list-style-type: none"> • Adding both upper and lowercase letters. • Adding numbers. • Adding punctuation. <p>Provide a password for the new account in both fields.</p> </div>	<p>No guidance is provided on screen to indicate the characteristics of a strong password; also, some participants thought that the red color of the warning was an error meaning they could not create the user account with the weak password.</p>	<p>Minor</p>	<p>Consider adding contextual help with characteristics of a strong password, and changing the "low" color to something other than red (due to associations of red with errors).</p>

APPENDIX A: TEST SCRIPT

Upon arrival, each participant will be asked to fill out a consent form and short questionnaire for demographic purposes. At this time they will also be reminded that the session will be video taped and observed. The moderator will usher the participant into the observation room, make them comfortable and read the introduction and process sections of the moderator script. At this point the participant will be introduced to the Drupal welcome page, asked the familiarization questions from the moderator script and be presented a brief preference questionnaire. When finished, they will be read the scenario and work through the tasks. Upon completion, they will be presented with a second preference questionnaire and asked a few concluding questions.

Notes on moderating:

- The scenario should be read verbatim for consistency, however follow up question are flexible and can be improvised by the moderator.
- Drupal terminology should be avoided at all costs.

During the test, observers will watch for errors, elapsed time for each task, and any problems regarding terminology.

Documents:

- Consent form
- Background Questionnaire
- Pre-Test Questionnaire
- Post-Test Questionnaire
- Test Materials (website content)
- Moderator Script

Present demographic questionnaire and consent form first, also make sure they have the website content

Moderator Script	Respondent Notes
<p>Introduction</p> <p>Drupal is an open source content management system developed by a large, international community. The Drupal community would like to make the CMS more useful and easy to use for site administrators such as yourself. We know you're very capable and familiar with working with such applications, but please feel open to letting us know whenever something seems confusing or you're about to hunt around for an answer, and talk aloud any issues as they come up. We're testing the CMS, not your abilities, so don't feel uncomfortable with pointing out anything that makes your work difficult. Anyway, we're not Drupal developers ourselves, so we won't take it to heart.</p>	
<p>Process</p> <p>Tell me about your process for:</p> <ul style="list-style-type: none"> - - choosing a content management system [Is it determined by someone else? What do they usually look for? How do you feel about their decision - what matters to you about it?] 	
<p>Familiarization</p> <p>Take a moment to look at the main site administration page. Before taking another step:</p> <p>How would you start?</p> <p>What is your sense of where you can go, and what you can do from this page?</p> <p>What is your overall impression of the page - do you feel like you can do what you need to do?</p> <p>[provide pre-test questionnaire]</p>	
<p>Tasks</p> <p><i>Introduce scenario:</i></p>	

Lets pretend your client is the non-profit art gallery and education center Gallery 53.

You've chosen Drupal for the CMS. You've uploaded Drupal to the server, configured the database and completed all of the initial installation steps.

The staff at Gallery 53 want to see their mission statement on the home page, an "about us" landing page, and a course schedule page. They would also like their board members to be able to log in and create or edit any of the content on the site, but not play around with anything else.

Task 1:

Put the *mission statement* text on the site. [Please say aloud when you've completed the task.]

[Let them know they don't have to type in all the text]

Follow up questions

- - review key choices participant made - why did you choose _____ ?
- - where did you expect to find _____ ?
- - what expectations do you have for locating and editing this content now that it's up?

Task 2:

Gallery 53 would like an "About Us" landing page. Create this page with the *history* and *current board members*. It's URL should read /about

Follow up questions

- - review key choices participant made - why did you choose _____ ?

Task 3:

Create a global navigation link on the home page to the About Us page.

- - make sure the link reads "About Us"

Follow up questions

- - review key choices participant made - why did you choose _____ ?

Task 4:

Ensure that the mission statement is available on the home page. If it isn't, please make it appear there.

<p><i>Follow up questions</i> - - review key choices participant made - why did you choose _____ ?</p> <p>Task 5: Create a current courses page and link to it from the home page.</p> <p><i>Follow up questions</i> - - review key choices participant made - why did you choose _____ ?</p> <p>Task 6: Set up a special log in account for board members so that they can edit and create new content but not play with the structure or design of the site.</p> <p><i>Follow up questions</i> - - review key choices participant made - why did you choose _____ ?</p>	
<p>Conclusion</p> <p>[provide post-test questionnaire]</p> <p>Did Drupal work in a way you expected it too?</p> <p>What are your thoughts on the terms used?</p> <p>What do you think about the experience of using Drupal?</p>	

APPENDIX B: PARTICIPANT BACKGROUND

	Participant 1	Participant 2	Participant 3	Participant 4
Test Date	4/9/2008	4/22/2008	4/23/2008	4/26/2008
Name	Jason	Aaron	John	Magda
Job Title	Webmaster	Internet Information Architect	Manager	Database Marketing Analyst
Education	Graduate degree	Graduate degree	Undergraduate degree	Graduate Degree
Estimate of how long participant has worked in web development.	8 years	12 years	10 years	2 years
Estimate of how long participant has used content management systems.	4 years	5 years	7 years	2 years
CMS's participant has used.	Joomla, "a really expensive commercial one (can't remember the name)," a "homegrown system"	Red Dot, Interwoven Team, a teeny bit of Site Executive 3.3.2	Site Executive, WordPress, MySpace, LinkedIn, Facebook, Automated Citizen Information System	Joomla, Textpattern, WordPress, Zope, Expression Engine

	Participant 5	Participant 6	Participant 7	Participant 8
Test Date	4/11/08	4/11/08	4/15/08	4/17/08
Name	Jeff	Andrew	Jack	Randy
Job Title	Consultant	Web Administrator	Web Developer	Manager of Technical Services
Education	graduate	college - 4 years	college - 4 years	graduate
Estimate of how long participant has worked in web development.	10 years	10 years	6 mo	10 years
Estimate of how long participant has used content management systems.	8-10 years	9 years	1 mo	5 years
CMS's participant has used.	internal systems by Verizon, Erickson	home-grown	custom-built one	custom; also: WordPress, Movable Type, Interwoven TeamSite

APPENDIX C: PARTICIPANT QUESTIONNAIRES

Background Questionnaire

Date:

First Name

Job Title:

Education (circle one): high school // college 1 2 3 4 // graduate // post graduate

About how long (estimate) have you worked in web development?

About how long (estimate) have you used content management systems?

Which content management systems do you have experience with?

Pre-Test Questionnaire

Before you actually use Drupal, please answer the following questions.

1. Drupal looks easy to use.

strongly disagree // disagree // neither agree or disagree // agree // strongly agree

2. The categories and words I see in the Drupal interface make sense to me.

strongly disagree // disagree // neither agree or disagree // agree // strongly agree

Post-Test Questionnaire

Based on your experience with Drupal, please answer the following questions.

1. Overall, Drupal was easy to use.

strongly disagree // disagree // neither agree or disagree // agree // strongly agree

2. The categories and words in the Drupal interface made sense to me.

strongly disagree // disagree // neither agree or disagree // agree // strongly agree

3. Drupal is similar to other content management tools I've used in the past.

strongly disagree // disagree // neither agree or disagree // agree // strongly agree

Pre-Test Questionnaire

Participant:	1	2	3	4	5	6	7	8
Drupal looks easy to use.	neither agree or disagree	neither agree or disagree	neither agree or disagree	agree	agree	neither	neither	-
The categories and words I see in the Drupal interface make sense to me.	agree	agree	agree	agree	agree	disagree	neither	-

Post-Test Questionnaire

Participant:	1	2	3	4	5	6	7	8
Overall, Drupal was easy to use.	agree	agree	strongly disagree	neither agree or disagree	disagree	disagree	agree	-
The categories and words in the Drupal interface made sense to me.	agree	agree	strongly disagree	disagree	strongly disagree	disagree	strongly agree	-
Drupal is similar to other content management tools I've used in the past.	disagree	disagree	strongly disagree	disagree	disagree	agree	disagree	-

BIBLIOGRAPHY

1. Rubin, Jeffrey. (1994). Handbook of Usability Testing: How to Plan, Design and Conduct Effective Tests. New York: Wiley