From information chaos to usability: Using a content management system to manage information and connect with users

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INTRODUCTION

Information professionals are constantly seeking new ways to reach users and turn the astounding amount of information available into a usable form for the clients of their organizations. In the 21st century, as technology and web 2.0 begin to infiltrate the institutions in which information professionals' work and shorten their client's attention spans, the need to provide the most relevant information in a timely and easily digestible manner is more important than ever. The use of content management systems, blogs, and wikis aid the information professionals' ability to manage the abundance of information and connect with users in new and diverse environments and over different platforms. The University of Southern California's Norris Medical Library implemented LibGuides to deal with the problem. LibGuides is a web 2.0 content management and information sharing system designed specifically for libraries and librarians.

The Norris Medical Library uses LibGuides to create targeted resource pages for every department on campus included in the library's liaison program. Using the content management capabilities of LibGuides, along with the traditional library website, has many benefits to both the library and its users. Individual librarians serving as liaisons are able to create targeted resource pages for their respective departments without having to do any coding or have previous web development experience. From a user's perspective, the pages have an interactive feel, and users can comment and suggest resources to include. The following text will highlight the implementation and customization of LibGuides, the benefits of it's use and any disadvantages, and methods for measuring impact.

Background

In the summer of 2008 the webmaster at Norris created portals on the website for the following groups: clinicians, researchers, educators, and students. The student section was further broken into the following student groups: graduate, health promotion and disease prevention, medical, occupational therapy, physical therapy, physician's assistants, and pharmacy. The portals were

created using a JavaScript application available in Adobe Dreamweaver beginning with the CS3 release in April of 2007.[1] The portals consist of resources specific to each user group, which makes it easier for these groups to find what they are looking for and lead them to other resources of interest. The library website utilizes a narrow and deep navigational structure (Figure 1) meaning resources are more difficult to find for a casual user of the site. The narrow and deep navigation structure is characterized by having a few items on the top-level, and many more options layered underneath. [2] The portals make resources easier to find by leading users to them rather than having them try to find them. After launching the portals in July of 2008, usage of the resources included in them increased 25% (Figure 2) between the 6 months prior to launch and 6 months post launch.

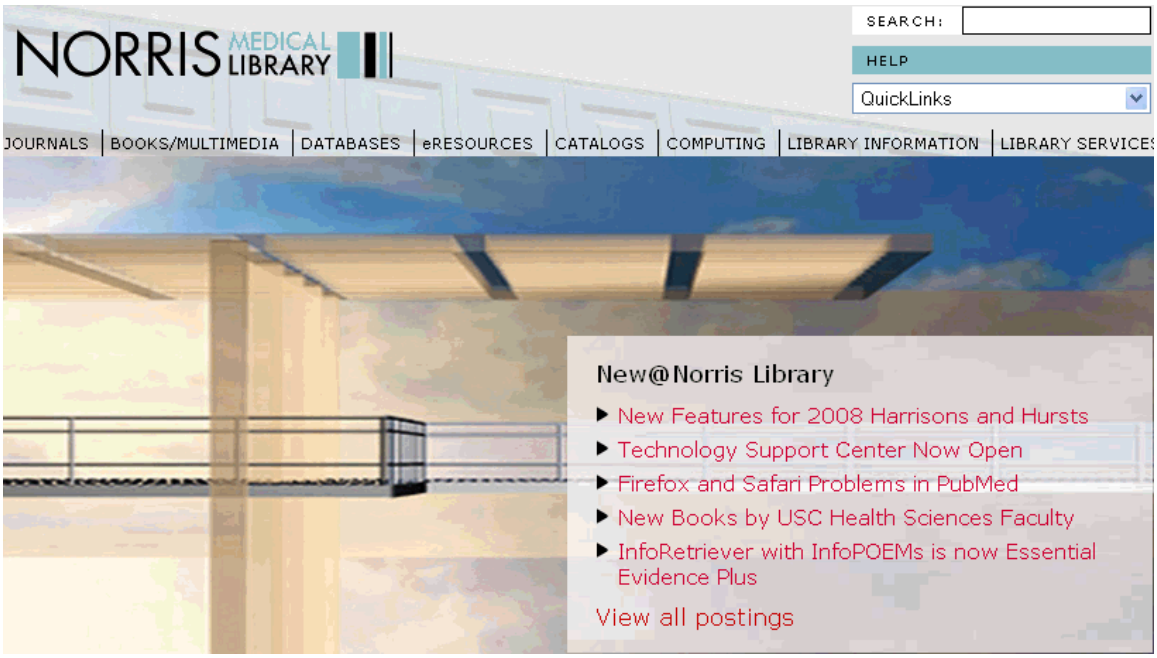

Figure 1

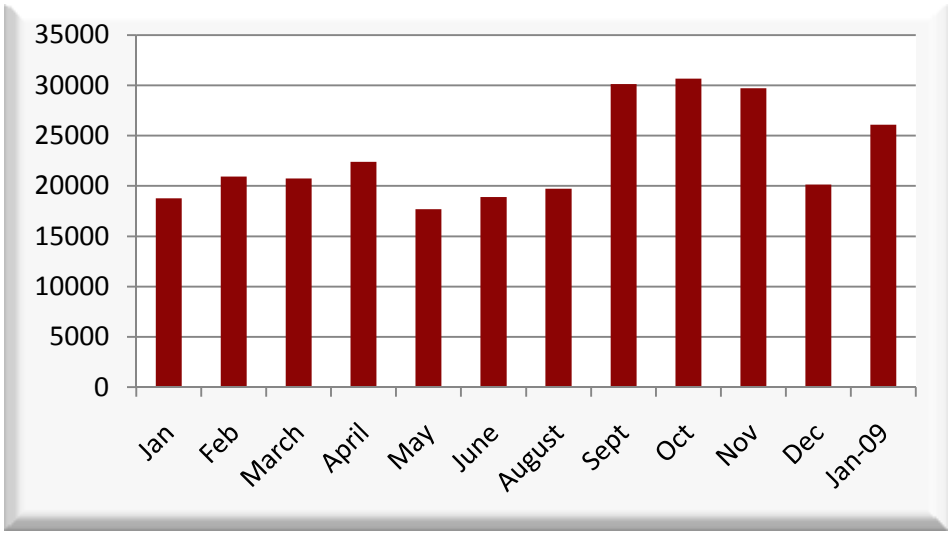

Figure 2

As a result of the successful portals project the webmaster sought more ways to improve the site, and felt that a content management system in which all of the subject specialist librarians could provide input would be effective. Norris's website as is functions as a content management system in with all of the work funnels through the webmaster who tasks jobs and projects to the other two members of the team. Dreamweaver is predominantly used as the editing interface for the website. The website header and footer are include files (.inc) pre-linked into each page on the site, so the only part of a page that is being edited is the content table in the middle of the page. This makes it easy to apply changes to the header and footer and also prevents errors, since a user is only editing one specific part of the page. Because work occurs on the same local folder on the local area network housing the files, changes are made in real-time and changes previously made are not over-ridden by someone uploading a different file to the server.

The aim of this initiative is to promote the library's liaison program both internally and externally. The groups that were created for the liaison program serve as the subject guides which encompass all or most of the disciplines from the various health science schools and programs of USC. The liaison program that has existed at Norris for a number of years was reorganized at the behest of this project to try and breathe new life into it. The groups that are to serve as the subject guides were rethought and divided up amongst the reference librarians at the library. The different librarians put together resources for the guides with the help of the webmaster and organized them with a universal look and feel for all the guides.

The goals for the guides are that they will increase the usage of resources included within them (the same as the successful portals project) as well as increase the visibility of the liaison program on campus. The project provides a fresh starting point for the librarians to meet and make connections with members of their assigned departments. Gathering input on what type of resources users would like to see in the guides will also help to make them stronger. Any feedback gathered will be positive.

To place new emphasis on the program a content management system (CMS) was purchased. A CMS can be defined most simply as a process of collecting, organizing, categorizing, and structuring informational resources of any type and format so that they can be saved, retrieved, published, updated, and repurposed or reused in a desirable way.[3] The function the CMS serves for Norris is as a medium for presenting electronic resources in a more straight-forward way on the website, much like the highly successful portals project. The CMS creates a more usable website out of the plethora of resources offered by the library. In addition to increasing end-user usability the following benefits of a CMS were also sought:

- The creation of templates that maintain a consistent design throughout the site.
- The convenience of adding, updating, and deleting information from a single, online location.
- The implementation of a simple editing interface that eliminates knowledge of extensible hypertext markup language/hypertext markup language (XHTML/ HTML) by library staff. [4]

The CMS capabilities of LibGuides accomplish all three of the CMS benefits that were sought. The system allows for a system administrator to control the template design for how the interface will look and function. All of the editing occurs over a web interface that can be accessed from any internet connection, allowing authors to work on their guides from anywhere. The web interface is an essential feature for Norris because some of the librarians work remotely. Lastly, only the system admin is required to have any knowledge of web development to work on the guides. The technical skill required to author a guide is very low, which makes everyone feel less intimidated. There is an HTML editing mode feature available for use by individual authors if they feel comfortable enough with XHTML/HTML to edit the code.

LibGuides Background

LibGuides is a product of the SpringShare Company. At the time the abstract for this paper was submitted in December of 2008, LibGuides was being used by over 350 institutions worldwide. As of April 8th, 2009 that number has climbed to 579.[5] The growth of LibGuides can be attributed to its ease of use and web 2.0 look and feel. There are many web 2.0 technologies available within LibGuides like widgets, a Facebook application, Twitter updates that users can subscribe to for individual guides, streaming video, and downloadable toolbars to name a few.

LibGuides primary audience is academic, public, special, and K-12 school libraries. There are different pricing and hosting options available depending on the needs of the institution. LibGuides' pricing model is based on the size of the full-time student body that the library/information center serves. For example at USC the cost was cheaper for Norris than the main campus libraries because the size of the student body on the health sciences campus is much smaller. Other cost considerations include whether or not the subscribing institution wants a custom url and chooses to host the platform locally or on LibGuides' servers.

The support for the product overall is pretty good. The LibGuides Community Site lets users browse and search guides at other institutions that are using LibGuides. This is a good way to gauge what other users are doing and to incorporate best practices into guides at your own institution. The company also has Twitter alerts that let you know of product updates. The system admin receives email updates whenever Springshare makes changes or comes out with new customization options for the interface. There is also a support blog and a discussion forum for users to connect with each other and discuss any issues that they may have.

Setting up the System

A point person (in Norris's case the webmaster) from the institution is selected as the system administrator. The system admin account could be shared amongst different people, but Norris felt it was best to have the account handled by the webmaster. The system admin has a much deeper set of tools available to them than a regular user. This person is in charge of customizing the interface and creating accounts for everyone from the institution that will be creating guides. Both usernames and passwords are assigned for each user. To keep it simple the email address

was used for the username and a generic password was given to each user with the intent that they would change it after their first login.

The system admin has control of some system wide options like the color scheme, header, footer, and assigning a default catalog among others. Figure 3 shows how the Norris customized interface looks. When Figure 3 is compared with Figure 1, you can see that the guides fit in very well with the rest of the website. The system admin controls the look and feel for all of the guides that individual account users will be creating. This means that things like box, tab, hyperlink, and text color will be uniform across the system. Individual account holders can add, edit, and rearrange the content on their pages, but cannot affect design elements.

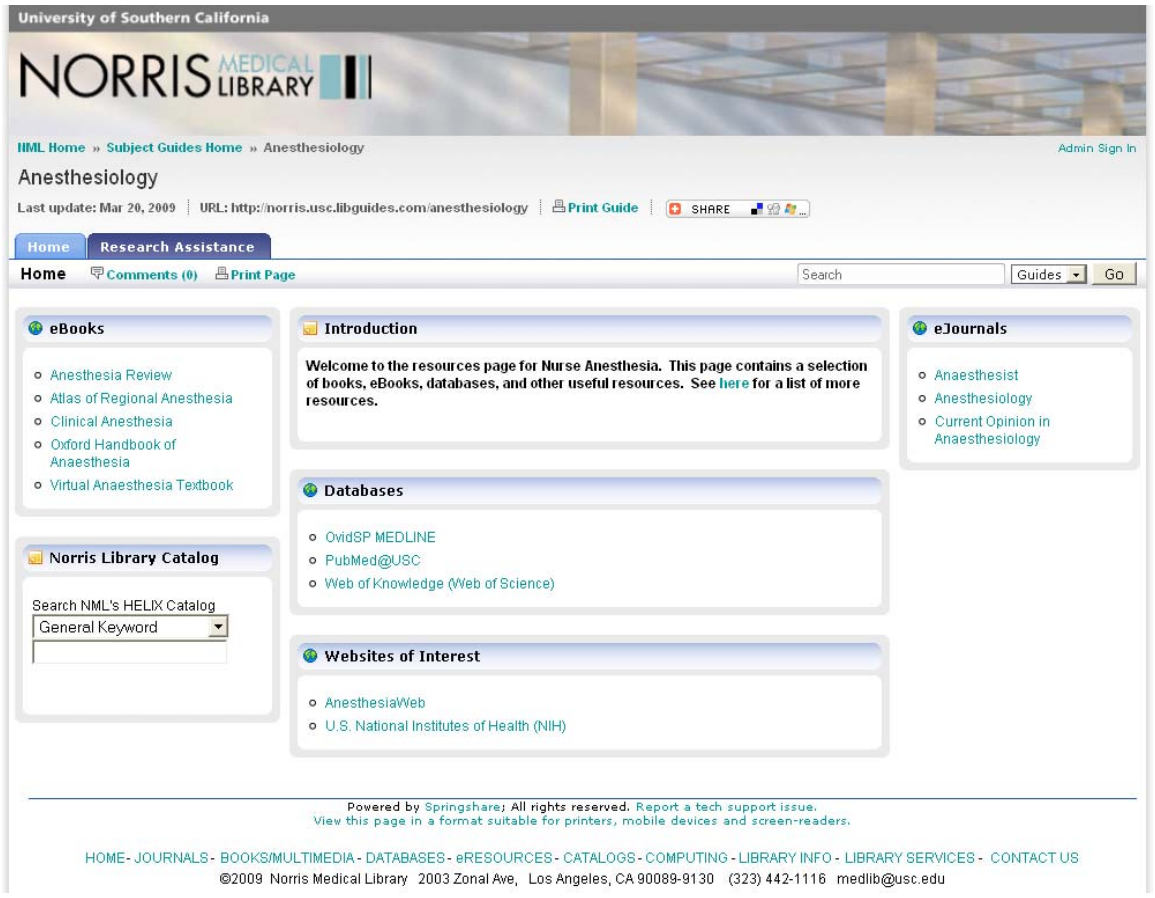

Figure 3

Getting Others on Board with the CMS

Once the system is set up, customized, and individual accounts are generated the real work of creating the guides begins. One of the nice features about LibGuides is that individual boxes can be copied from any guide within the system, as well as entire pages if necessary. The copy feature saves a lot of time by eliminating the process of having to create the same boxes time and time again. The webmaster at Norris created a template guide in the system with a number of

boxes for librarians to copy over to their guides, including a widget to search the library's catalog.

When the project was ready to get off the ground the webmaster scheduled a meeting with all of the librarians to demo the product, provide instruction on how to use the CMS, and discuss the guidelines for what types of resources should be included. A guidelines document was created for the system which includes information on how to create, edit, and publish guides. At Norris the librarians wanted to keep the guides simple enough to maintain usability, but still include as many relevant resources as possible. Usability is accomplished by keeping the list of resources in each category to around five. For example, for databases, the most relevant ones are chosen, and a link to search all databases is provided at the end of the list. Only 2 to 3 boxes are placed in each column to protect against users having to scroll down on a page.

The most difficult part of any project is to take that initial plunge of diving into the real work. To speed up the process the webmaster created a guide for each subject group and assigned them unique url's before transferring ownership to the subject librarian. LibGuides automatically assigns each new guide a url by an id number. The id number can be customized to provide a more descriptive url. For example a guide could be created for the subject surgery and Libguides would assign a url like http://norris.usc.libguides.com/856785. Instead of the generic id number that url can be changed to http://norris.usc.libguides.com/surgery, to provide a more accurate description of what subject the guide covers.

Once ownership of the guides was transferred to the individual librarians they began to populate them with resources including eBooks, links to hardcopy books from the catalog, databases, eJournals, RSS feeds, and embedded video to name a few. The nice thing about LibGuides is that many popular web 2.0 applications can be placed in the guides like RSS feeds, podcasts, and even Del.icio.us tag clouds. The webmaster received relatively few calls for assistance from the librarians during the creation of the guides, which is a testament to the intuitiveness of LibGuides.

Measuring Success

To promote dialogue, LibGuides has the option of gathering user feedback via the comment option on each individual guide. The comments work the same as comments on a blog, and can be controlled by both the system admin and individual guide creators. The system admin has the following settings to choose from:

- Enabled: Visitors can post and view comments without approval,
- Moderated: Comments posted by visitors are hidden until approved by the page owner/editor.
- Disabled: Comments cannot be viewed or posted anywhere in the system.

The comments option can also be turned on or off by the guide creator for individual content boxes, or the entire page.

LibGuides supplies some very detailed web statistics within the interface itself. Statistics are given for overall system (homepage) hits as well as for individual guides. Reports can be viewed in the internet browser or downloaded as plain text or a Microsoft Excel file. The system statistics show things like the number of pages, number of content boxes and type of boxes, number of guides, and the number of copied boxes.

In addition to web statistics, the success of LibGuides at Norris is gauged by the input of members of the departments the liaison program serves. In the short time the project has been in effect a few of the librarians have already received some very useful feedback from members of their departments. For example the Schools of Physical Therapy and Occupational Therapy have supplied the liaison with a list of the core journals and books in each field. Feedback like this is crucial to making sure that the most relevant information and resources are provided on the guides. To make the LibGuides a focal point of the website like the portals, a link was installed on the homepage of the site (Figure 4).

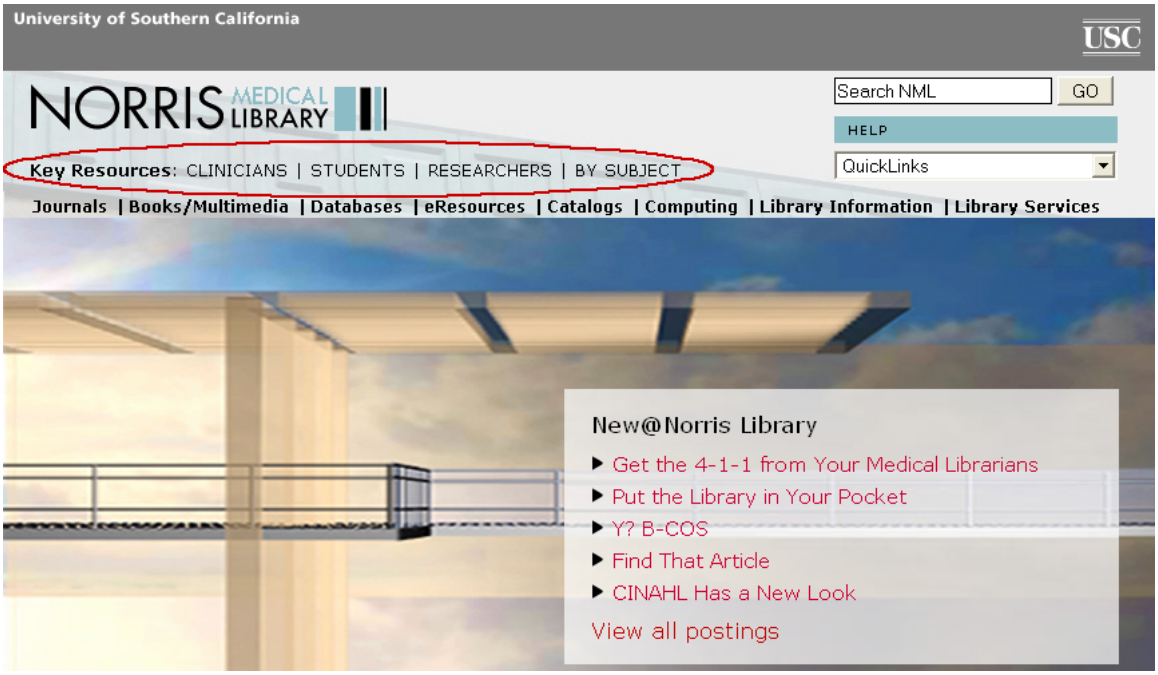

Figure 4

Conclusions

LibGuides has provided a valuable platform for the Norris Library to better serve its liaison groups on campus. The content management system allows subject specialty librarians to create resource pages for their liaison groups without any prior knowledge of web development technologies. This process allows for pages to be created and updated much quicker because content can be created, edited and uploaded without being funneled through the webmaster. The CMS capabilities in LibGuides have already proven their benefit to the staff at the library.

It is still relatively early to measure the impact that the guides are having on resource use within the library. Early feedback has been positive; there were over 200 views in the first week of the project launch alone. Journal and book lists supplied by the Occupational and Physical Therapy Departments on campus are a positive sign that these groups are interested in these pages and hopefully other departments will provide the same sort of data in the future.

Endnotes

[1] Adobe Systems Incorporated. http://www.adobe.com, (accessed April 6th, 2009)

[2] Wodtke Christina, *Information Architecture* (Berkeley: New Riders, 2003), 274.

[3] Yu, Holly, *Content and Workflow Management for Library Websites: Case Studies* (Hershey: Information Science Publishing, 2005), 277.

[4] Salazr, Ed. 2006. Content management for the virtual library. *Information Technology and Libraries* 25:170-176.

[5] Springshare, LLC. http://community.libguides.com/, (accessed April 8th, 2009)