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BAGAN MURAL PROJECT – BUILDING A ROBUST DIGITAL LIBRARY ON WORDPRESS

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Abstract

With the advent of powerful computing devices, ubiquitous connectivity and affordable gadgets, a large amount of research data is produced every day. In the Bagan Mural project, a history professor had taken many photographs of the mural paintings in the temples of Bagan in the course of her field trips. These photographs are simply stored in her computer folders and are therefore not easily searchable or shareable. Ideally, these photographs should be made available online and come with descriptions to provide users with a perspective on the meaning behind the murals. Over one year, NTU librarians collaborated with the professor to design and implement a low cost solution to archive, organise, and search the photographs. Equally important, it will enable and promote access to this repository of photographs which may otherwise remain under-utilised. Leveraging on the internally hosted WordPress platform, the team encouraged user participation by integrating a number of social media tools. Now, the content is more easily shared and retrieved and user contribution is supported, leading to increased use of the site materials. The project suggests that: 1) WordPress is a suitable platform for storing digital content. This would lower the barriers for librarians who are keen to offer digital content management services but are deterred by the complexity of elaborate content management systems. 2) There should be adequate communication between the librarians and the faculty member involved so that a storage platform fully customized to his needs can be created. 3) In providing an alternative to traditional content management systems, it is important that the social media tools do not distract users from the main content but add value to the user experience.

Keywords

archive, content management, digital content, digital library, organise, social media, WordPress

Introduction

The digital universe may grow to 40 trillion gigabytes in 2020 with growth doubling every other year from now till 2020. Consumers will create and consume a majority of the information in this digital universe which refers to all information in digital form that is created, reproduced, and used. Much of this information is not stored anywhere or is subsequently replaced by new information produced (International Data Corporation, 2012).

Given the growth of the internet along with its related services, the fast rate at which content surfaces and replaces existing information on the web means that it is normal for content to disappear totally when we do not give much thought to permanently storing the information somewhere. For example, the world's earliest web page can no longer be found online. The same goes for The Economist's early web pages published just a couple of years ago ("Lost in," 2012). There is a need to archive, organize, and add value to digital content of significance.

This large amount of born-digital information produced today presents an opportunity for librarians to expand their roles. Outside of academic institutions, information overload coupled with unorganised content have prompted companies to seek the help of corporate librarians to curate their content for them in a bid to improve efficiency and effectiveness (Earley, 2011).

In an academic environment, some of the faculty would have created digital research materials and would require platforms to showcase them. However, they are frequently time starved and may lack the knowledge of setting up a basic online website, much less a database driven website with search features. As for those who have got as far as setting up a website, they may not have sufficient understanding of users' searching behaviour to design a website

that is user friendly in terms of how the digital objects are categorized, tagged, and can be accessed.

The school's IT department is one avenue the faculty may turn to for help. Although they can set up the basic infrastructure for the faculty to content manage, they may not be able to customise it suitably to meet the needs of the faculty. More often than not, the faculty would have to secure some funding to engage a company to design and develop a website for their project. Cost aside, this arrangement is usually unsatisfactory as there are little or no provisions for website maintenance or amendments for subsequent years.

Academic librarians should seize this opportunity and work with content providers in their community i.e. faculty members in coming up with platforms for content deemed valuable to be stored and shared before they are lost to future generations. If librarians do not step up to the plate and demonstrate to the faculty the value-add that they can bring to the table, they would lose this chance to engage the faculty.

Librarians are well-poised for this role as digital curation can be seen to be an extension of print content curation that librarians had been doing traditionally. They should, in fact, take a proactive approach in reaching out to potential partners for collaboration (Walters & Skinner, 2011). Their knowledge of cataloguing, indexing, and organizing information as well as experience with the creation and running of institutional repositories stand them in good stead (Martinez-Uribe & Macdonald, 2009). This same view was echoed by The Association of College & Research Libraries Research Planning and Review Committee (2012), which identified data curation as one of the top ten trends in academic libraries in 2012. It was of the opinion that librarians get to tap on their existing skills as well as carve out new roles for themselves when they assist users in describing, storing, managing, and reusing their data. It added that data curation is not new to librarians as data repositories with librarians as key stakeholders are already in existence.

For example, NTU Libraries had set up a digital repository in 2008 to archive the works of NTU staff and students so as to make them available for future use and reference. It was developed using the open source software DSpace. A subject taxonomy modified from the Library of Congress classification framework was used to facilitate information searching as it would allow for subject and keyword searching. DR-NTU was also integrated with the university's Research Information Management System so as to enable researchers to make submissions easily.

The repository allows for two types of access options - open and restricted. Anyone can access DR-NTU (Open access) which contains conference papers and journal articles submitted by the NTU faculty and researchers while only the NTU community can access DR-NTU (Restricted access) which stores student submissions. By showcasing the university's research output, DR-NTU raises the visibility of university staff and increases the impact of faculty research.

Other than providing a digital repository, NTU Libraries had also sought to offer the faculty alternatives to storing digital content. In 2010, in line with NTU's "Classroom of Tomorrow" initiative, NTU Libraries took the lead in pioneering Blogs@NTU, a campus-wide social networking platform. Blogs@NTU is managed by NTU Libraries and supported by the school's IT department. Using Blogs@NTU platform, NTU Libraries set up a variety of blog-based websites to promote library services as well as support the faculty in their teaching and research work (Wilcox & Chia, 2013). The Bagan Mural Project is one of these blog-based projects.

Creating a low cost online digital collection of Bagan mural photographs

The idea of creating a digital collection of photographs online was birthed when librarians at NTU learnt that a History professor had a collection of photographs in her hard disk in various folders. These were photographs of the mural paintings in the temples of Bagan which the professor had taken during the course of her field trips.

Keeping photographs in a hard disk is hardly a safe way of storing photographs as the content can be easily lost due to accidental file erasure or IT obsolescence, not to mention that it would be a waste not to make a valuable, informative, and useful content available to the public.

The librarians thus initiated an online solution i.e. a digital photo library with the aim of helping the professor to organise her photographs better (improved searchability) and to make them shareable. The project would be completed in a few stages.

During stage one i.e. the prototyping phase of the project, the librarians would develop the basic infrastructure for managing the photos for the professor. One batch of photographs would be archived. A first level brief record for the photos would be created. Content will be made shareable with tools such as Facebook, Twitter, and email.

More photographs would be archived at stage two and the librarians would also work with the professor in providing descriptions to the photographs so that users can understand the meaning behind the murals. Improvements to the scale and functions of the site would be considered beyond stage two.

Gathering the project requirements

Platform. The librarians held meetings with the professor to find out more about her ideas for the online library. Considerations included the type of content for storage, desired features of the platform for archiving the photos, and target users of the library. It was decided that the main content of the library would be photographs with text providing explanation for the photographs. There may also be a small number of videos. The professor had requested that the online library provided for easy searching of the photographs by users. Users would include the general public as well as the NTU community.

To facilitate the discussion, the professor was shown examples of websites and digital libraries featuring photographs and videos and with similar features to what the professor had in mind. This helped the librarians to clarify expectations of the professor and decide on a platform most suited for the professor's needs.

For example, the professor had expressed that "…for the Bagan mural blog, the… example… represents a good example of what I would like to feature on the blog, though I would very much like to add an image in addition to the text in the popup window. This could be used for the larger map on Bagan, Burma, where clicking on one of the interactive icons brings forth a popup window containing an image of the exterior façade of the temple, and a short description of the temple which contains a hyperlink. By clicking on the hyperlink, the user is taken to a web page which contains an image of the temple layout plan, which also contains clickable icons. By clicking this, the user can view the murals on the walls…" (personal communication, December 21, 2011)

It was clear that the professor had wanted an interactive digital library which was user-centric. Users should be able to decide for themselves the level of detail they wish to view via their choice of the hyperlinks. Taking into consideration the trend for digital libraries to encourage interaction and sharing instead of being merely a content-centric static collection (Chowdhury, 2009), the librarians proposed taking the interactive element a step further. They suggested capitalizing on readily available social media tools to actively push content to potential users instead of passively waiting for users to chance upon the digital library online.

Getting started – preparation work

The photographs submitted came in large file sizes and were of high resolution. All photographs were resized to around 1.5MB and below for optimal viewing online. Due to non-flash photo taking, the details of the photos did not show up very clearly. As such, Pixlr was used to enhance the photos before they were placed onsite. The enhancement brought out details of the paintings more clearly. The original set of photographs was stored separately and an excel sheet helped reference the edited images to the original files.

Implementation

As an initial prototype, it was decided to leverage on the blogs@NTU platform which was an internally hosted WordPress setup. There were several other important advantages to this approach.

Firstly, it gave librarians more control over the design of the digital library and storage considerations for the project. As an open source system, librarians could work with the professor to design a mutually accepted template to meet the design considerations for the library. It was envisaged that the design would have to go through several iterations over time as more photos were uploaded to the digital library. With a self-hosted solution, changes could be implemented more quickly without incurring costs.

Secondly, the blogs@NTU platform can go beyond being just a collection of reverse chronologically ordered posts and pages. By tweaking the web design, users could run more complex searches, beyond retrieving a mere listing of posts by categories or time. By offering more search options, it would greatly enhance its usefulness as a robust database of images. For instance, users would be able to run a keyword search on images belonging to a particular category and within a certain time period as well as restrict search results to images appearing in posts, pages or both.
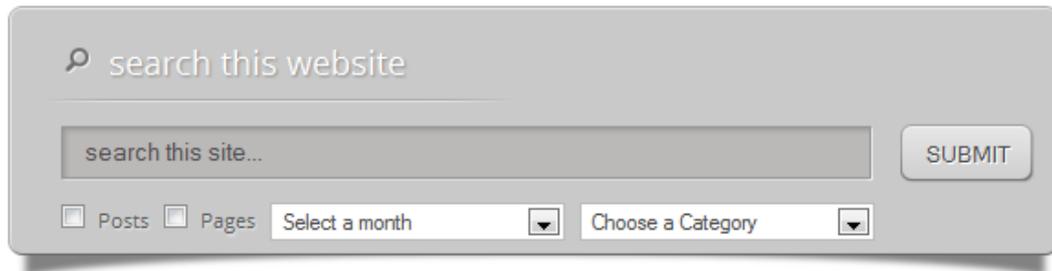

Figure 1. This is an example of a search box that can be inserted onto the blog platform to facilitate more in-depth searching.

The homepage features a clean layout with drop down menus leading to five main sections - Home, Bagan History, News, The Gallery and About The Photographer. Here users can get a brief background about Bagan and an introduction to the project. In addition, an interactive map has been designed to visually show the locations of the various Bagan temples. When users mouse over the temple icons, descriptions of the temples would pop up, giving concise information about the history and significance of the temple selected. Clicking on the embedded links would lead to more detailed information about the temples.

To ensure that images can be retrieved effectively from a database, a key requirement is to add meaningful metadata consistently to describe the images. Together with the professor, an appropriate taxonomy structure was adopted to describe and tag the photos in a logical manner. With the release of WordPress version 3.1, it is possible to organise content by creating custom taxonomies. For instance, as there are many temples in the Bagan region, a custom taxonomy called "Location" was created to group the photos according to their locations. During this prototyping phase, the focus was on the Loka Hteik Pan temple, involving the tagging of 354 photographs – 152 photos of the North Vestibule, 111 photos of the Main Shrine, and 91 photos showing clearer details of the mural paintings. A first level brief record for all the photos includes – Place / Temple / Location. For example, an image may be tagged with Bagan / Loka Hteik Pan / North Vestibule, accompanied by a short description.

With a large collection of images, it would be very useful to organise them into galleries so that they can be browsed easily according to selected parameters (such as date or locations). Other desirable features include presenting the images as animated slideshows or thumbnail albums, with user friendly options for controlling the styling and timing of the slideshows or albums. Fortunately, these features could be added conveniently by integrating a couple of plugins developed and offered for free by the WordPress community.

Besides utilizing WordPress as a content management system to organise the photos, its social and multimedia features provided the necessary user interactivity at almost no extra cost. One aim of the project was to encourage greater collaboration with the users. Allowing users to add comments to the photos was a popular way to crowd source contributions. In addition, users could also share the photos to their Facebook, Twitter and other popular social media platforms, which greatly facilitated interaction between the content provider and users and helped to promote the digital library.

More importantly, it was a system which many users were familiar with. Many users have used similar social media platforms and could adapt to the workflow easily. As a

standalone project without additional funding and limited manpower support, it was necessary to operate within the existing technical infrastructure while trying to meet the project requirements and make realistic trade-offs where necessary.

During the next phase of the project, photographs of other temples would be uploaded to the digital library. The professor would also be logging into the NTU WordPress platform and providing descriptions to the photographs. To enhance searchability of the photographs, the librarians would provide a more detailed level of tagging of the photographs. With a successful prototype, it would be possible to source for some funding to take the project further.

Learning points

Using WordPress. WordPress has proved to be a suitable platform for archiving images as it is a popular social media platform with built-in support for multimedia assets. Any librarian who has knowledge of operating a blog will be equipped to start a simple digital library for users. Since the learning curve is not steep, it would help librarians overcome the anxiousness associated with offering digital curation services as they often bring to mind complex content management systems. Librarians could leverage on social media plugins to encourage interactivity and drive more traffic to the digital library.

As the project increases in scope, the existing platform must be able to scale up easily. As the blogs@NTU platform is a campus wide initiative, ample infrastructure and technical support have been already allocated. For instance, it would be fairly straight forward to request for additional storage space. As perennial issues such as regular version upgrades, bug fixes and helpdesk services, which could be energy sapping, are relegated to the blogs@NTU team, project librarians can focus on content creation.

Getting the faculty on board. It's important to touch base with the faculty members early on. At NTU, subject librarians are required to conduct an orientation briefing for all new faculty of the division they are supporting. Other than promoting awareness of basic library services during the briefing, librarians may take the opportunity to highlight past projects which the faculty and library have worked on together. This is so that the faculty would know that such collaborations are possible and that he should approach his subject librarian in future if he has an idea for collaborative work e.g. setting up of a course blog or working with the library on an exhibition. On some occasions, however, the faculty would already have something in mind and the orientation briefing would extend into a discussion of a project that can be done together. The Bagan Mural project is a case in point. The librarians knew about the collection of Bagan Murals when conducting the staff orientation briefing for the professor.

Communication is key. There should be adequate communication between the librarians and the faculty member involved so that a storage platform fully customized to his needs can be created. The librarians working on the Bagan Mural project had communicated with the professor face to face whenever possible. This is to minimize possible misunderstandings of the professor's needs. Sample websites and digital libraries were also shown to the professor to get a clearer idea of what the professor needs.

Prudent use of social media tools. There are a myriad of social media tools available today but not all would add value to the user experience. Librarians should revisit the aim of the digital library they are developing as well as the expected user behaviour so as to filter the desired tools from those that do not help to meet their aims.

Conclusion

As librarians look for ways to further engage the academia, they would do well to consider helping them archive and provide access to their research in digital form. This is a role which fills a demand gap and also ties in nicely with traditional librarian roles.

A main challenge faced during this prototype phase of the project is the labour-intensiveness of the entire process in terms of content required from the faculty and work needed from the librarians' end. As the project progresses, other issues are expected to surface. For example, should the librarians or the faculty member involved assume the role of maintaining the digital library? Should the faculty member resign from the school, what happens

to the digital library? Would it be possible for the digital library to be searchable on even more platforms? To what extent can WordPress be scaled up to accommodate the increased content?

The prototype nonetheless demonstrates that it is possible to archive digital images on WordPress, thus addressing the oft-heard worry that setting up a digital library is synonymous with complex content management systems which some librarians are not equipped to manage. WordPress is easy to learn, low cost, and allows for selective use of appropriate social media plugins to push content out. This effectively changes the nature of the archived collection to a user-centric one, thus offering even more value-add to users of the digital library.

References

1. ACRL Research Planning and Review Committee (2012, June). 2012 top ten trends in academic libraries. *College & Research Libraries News.* Retrieved from http://crln.acrl.org/

2. Chowdhury, G. (2009). From digital libraries to digital preservation research: the importance of users and context. *Journal of Documentation, 66* (2), 207-223. doi: 10.1108/00220411011023625

3. Earley, S. (2011, December). Content curation: Contributing to improved 'findability'. *Information Outlook, 15*(8), 14-16. Retrieved from http://search.proquest.com/

4. International Data Corporation (2012, December). The digital universe in 2020: Big data, bigger digital shadows, and biggest growth in the Far East. *An iView Published by IDC Analyze the Future.* Retrieved from http://www.emc.com/leadership/digital-universe/iview/executive-summary-a-universe-of.htm

5. Lost in cyberspace. (2012, September 1). *The Economist.* Retrieved from http://www.economist.com/

6. Martinez-Uribe, L., & Macdonald, S. (2009, December). A new role for academic librarians: data curation. *Edinburgh Research Archive.* Retrieved from http://www.era.lib.ed.ac.uk/

7. Walters, T., & Skinner, K. (2011, March). New roles for new times: Digital curation for preservation. *Association of Research Libraries.* Retrieved from http://www.arl.org/

8. Wilcox, E., & Chia, Y.B. (2013). Fostering a sticky relationship with academic library users. *Library Management, 34* (3), 175-187. doi: 10.1108/01435121311310879