Bond University
ePublications@bond

Library Services and IT Services papers | Library Services

5-5-2009

Engaging with 'Web 2.0' technologies: Implementing enterprise content management at Bond University

Peta J. Hopkins
Bond University, peta_hopkins@bond.edu.au

Follow this and additional works at: http://epublications.bond.edu.au/library_pubs

Part of the Management Information Systems Commons

Recommended Citation
Peta J. Hopkins. (2009) "Engaging with 'Web 2.0' technologies: Implementing enterprise content management at Bond University" EDUCAUSE Australasia 2009: Innovate - Collaborate - Sustain. Perth, Western Australia.May. 2009.

http://epublications.bond.edu.au/library_pubs/21

This Conference Paper is brought to you by the Library Services at ePublications@bond. It has been accepted for inclusion in Library Services and IT Services papers by an authorized administrator of ePublications@bond. For more information, please contact Bond University's Repository Coordinator.

Engaging with web 2.0 technologies: implementing enterprise content management at Bond University

Peta Hopkins, Bond University, phopkins@bond.edu.au

Peta Hopkins

ECMS Project Manager

Information Services

Bond University, Qld.

4229

Phone: 07 55951519

Fax: 07 55951480

Email: peta_hopkins@bond.edu.au

The phrase 'Web 2.0' has been used as a popular label to describe web technologies with a focus on collaboration, interactivity, user-created content, information and knowledge sharing, and social connections. It indicates a transformation of the web environment from a one-way information delivery tool, to a multi-way information sharing platform. Its popularity as a catch-phrase has spawned other terms such as enterprise 2.0 wherein social media and supporting technologies are introduced into the corporate information environment thereby transforming the way the enterprise communicates, connects and shares information among its staff and with its customers.

In this paper, the author discusses how social media technologies are being introduced to the web environment at Bond University in a project to implement an enterprise content management system. The enterprise content management system is being implemented as a platform for both the university's website and its intranet with content being re-used and surfaced in both environments as appropriate. University staff use the Internet and web interfaces to numerous systems as an integral part of their daily activities. They have become accustomed to highly interactive and collaborative sites. It is no surprise therefore, that dissatisfaction has been expressed with the static and somewhat dated functionality of the existing intranet. Stakeholder feedback consistently focuses on making it a more dynamic and effective business tool. 'Web 2.0' features have been requested in the form of team web logs, collaborative spaces such as wikis, the ability to capture feedback by way of online 'conversations' in processes such as policy development and in RSS feeds for personalised subscriptions. These requests

indicate that staff is ready and willing to be engaged in information sharing, collaborative content sharing and knowledge management.
Similarly, in the public arena of the corporate website there is a need to present a dynamic, up-to-date and consistent image to the World. Some of the 'Web 2.0' features that have been identified as being able to support this include CSS for efficient and consistent look and feel, XML and XHTML for effective transformation of data and content, and RSS for enabling users to selectively source the web content they want or need to consume in places and applications of their choosing. This selection of content for consumption via RSS feeds presents an alternative, user-focused method for news dissemination to the existing reliance on email for pushing news to stakeholders.
The paper covers how social media and their supporting technologies were considered in the system selection process, how they are being implemented and the challenges being encountered. Additionally an account is given of how these technologies are introduced to web site and intranet users, and the consideration of how these technologies might contribute to Bond University's business needs.

INTRODUCTION

Technology developments in web services in recent years have moulded user expectations. The web browser as service delivery platform is well-accepted and is now utilised for tasks such as word processing, spreadsheet creation, reading and composing emails, managing calendars and sharing and collaborating on documents. Users now expect web environments to be dynamic, interactive, empowering and productive.

A project to implement an enterprise-wide content management system (CMS) for Bond University's website and intranet was launched early in 2008. This project followed on from an earlier project to implement a CMS for the website, and from a separate project to redevelop the staff intranet. The intranet had been orphaned some years before and with no leadership the quality of content had become inconsistent and its user interface very dated. Like the website, its contributors were required to use Dreamweaver, often with little training and rudimentary understanding of html. This publishing model was no longer adequate to meet the University's requirements. Stakeholder consultation, conducted as part of the project, identified major concerns around other types of content too. These were acknowledged by the project team in implementing a solution that would address immediate web requirements, and also lead the way for future improvements in content management.

This paper examines how the gap between an outdated publishing model and user expectations of the web environment is being addressed in the implementation of an enterprise CMS at Bond University.

WEB 2.0

The phrase 'Web 2.0' is a popular label used to describe and promote web technologies and services with a focus on collaboration, interactivity, user-created

content, information and knowledge sharing, and social connections. In 2006, Tim Berners-Lee, inventor of the World Wide Web and director of the World Wide Web Consortium (Tim Berners-Lee, 2006) described it as a piece of jargon of which nobody really knew the meaning (developerWorks interviews:Tim Berners-Lee, 2006). 'Web 2.0' may have been a term in search of a definition, but it continued to be used to describe an array of web technologies including blogs, wikis, content sharing sites and social networking sites.

Lievriouw and Livingstone (2006, p.23-24) suggest that "new media are products of a continuous hybridization of both existing technologies and innovations in interconnected technical and institutional networks" and that the nature of new media development is essentially continuous. Breeding's (2008) view of web 2.0 and web 3.0 confirms that idea. "Notions that we are thinking about in web 2.0 and web 3.0 have been there from the very, very earliest articulations of what the web is ... we didn't get web 2.0 all at once. It evolved up to that and eventually it got a name." Many of the technologies that are now loosely sheltered under the web 2.0 umbrella existed in some form long before the term was coined in 2004. In this paper, the term is a convenient label to group social media and software features delivered in a web browser.

Regardless of the definition and whether it suggests an inherent change in the nature of the web or its standards, the idea has helped people think differently about the way they do business. Its popularity has spawned other terms such as business 2.0, government 2.0, library 2.0 and enterprise 2.0 wherein social media and supporting technologies are introduced to the organisation's information environment thereby transforming the way the enterprise communicates, connects and shares information amongst staff and with its customers.

ENTERPRISE 2.0

Web 2.0 approaches are mostly thought of as services for consumers with sites such as Flickr, Facebook and Wikipedia being iconic examples. However, the take up of web 2.0 and social media capabilities is now being discussed and implemented at the enterprise level. Although it is early days, the potential for major impact on the way organisations operate is clear. Jon Husband (2008) at the FASTForward blog, "a hosted discussion on enterprise 2.0", reflects on this potential for change in relation to knowledge management.

> "We have all been wrestling with the massive changes brought onto the scene by Web 2.0 technology and capabilities … changes that portend transforming the relationship between information technology, the nature of knowledge work, how organisations are structured and how humans operate when surrounded and penetrated by ongoing flows of information. It's doubly important to note and understand that we are in reality still only in the early days of these fundamental changes to both the processes of work and the capabilities of the electronic infrastructure of hardware and software, aluminum, silicon and logic that supports these transformations in behaviour in the digital workplace."

And in a recent IBM-sponsored ebizQ newsletter (IBM, 2008, p.1) it was argued that preservation of organisational knowledge and making more efficient and creative use of their talent pools, is proving easier for companies adopting web 2.0 capabilities. Such "capabilities represent a very powerful and cost-effective way for business to help make information relevant for employees, business partners and customers."

Breeding (2008) argues that taking web 2.0 to the enterprise level is about taking "existing ... infrastructure, moving it, and making it less based on ageing legacy components" and developing service oriented architecture-based applications, with a collaborative approach built into the core infrastructure instead of just added on. He contends that in the case of libraries, many web 2.0 uses are fragmented. For example, blogs and wikis are not closely integrated or linked with the organisation's website, but are separate entities that are not good at bringing users back to other organisational systems and services. Leading users back to services makes good business sense, whether it is via the organisation's own web sites and services, or via web presences in other sites such as Facebook or MySpace.

Utilising web 2.0 capabilities to produce business value is the key to enterprise 2.0, but before charging into implementation it is important to gauge the readiness of the organisation.

Are we ready?

Manchester (2007, p. 8) lists ten issues that should be considered in developing a social media strategy within an enterprise. The list is based on lessons learned at a range of organisations that have already implemented social media. The first of these is to assess the organisation's cultural readiness.

At Bond University, Rees and Hopkins undertook an informal review of social media usage and web 2.0 tools being used by the Bond community. Mostly, this use has been ad hoc, with individuals identifying and using tools to meet their particular purposes. They reported at the International Conference of Computer Mediated Social Networking (2008) that university staff was using a variety of social media including wikis, blogs, shared documents and presentation sites, social bookmarking and social citations, social networking sites, instant messaging and chat services (Rees & Hopkins, in press). In each case, staff had found their own preferred platform for supporting their use of social media. There was no enterprise-wide coordination of activities. Most of these endeavours can be considered job-related or professional, but not "corporate" uses of social media. However, there were some that were clearly university business eg. the university library publishes a blog (The L files) for students and staff. Its content covers news, events, new resources, tips and tricks, useful resources and digital rights.

Since the Rees-Hopkins paper, a wiki to support the Law Faculty administrative staff in their daily tasks has also come to light. This wiki was created in response to a need that was not met by either the intranet or by provision of other tools. The wiki is a collaborative effort to document faculty-specific information about administrative procedures. It uses a free, remotely hosted service. In the absence of such a

platform on campus, the risk of using a third-party, free service was deemed low enough to proceed and the result is a simple, but useful collection of 'how tos'.

Information Services at Bond University is undertaking a small project to evaluate the suitability of a wiki for a knowledge-base for front line staff. One of the challenges facing this unit is the integration of a library service point with an IT service desk come the long-awaited library extension and refurbishment in 2009. The nature of questions and support that will be sought at this service point will be very different to what staff is currently accustomed. Part of the evaluation will be to discover if a wiki will cater for both library and IT questions. The project's goals demonstrate that considerable thought is happening about the corporate objectives for the pilot wiki. Thinking about the business purpose of the tools is another of the issues that Manchester identifies for a social media strategy (2007, p.10). It is clear then, that Bond is not being driven by *technolust*, but by organisational goals, in adopting some web 2.0 capabilities.

These activities demonstrate that staff at Bond is not only ready, but using web 2.0 features in the absence of an enterprise solution. Further evidence that the University is culturally ready is found in the University's ICT strategic framework (2007, p.8). Two specific goals relate to collaborative technologies. The first clearly indicates that this should be a university-wide approach.

1. "To create an enterprise-level collaborative learning environment that supports multilevel collaborations between students, instructors and other academic partners

2. To track, assess, integrate and support emerging collaborative and sharing technologies to enhance the collaborative learning environment."

ECMS PROJECT

In a recent report from the Aberdeen Group (Customer 2.0, 2008, p.19), a survey of companies indicated that only 8% of high performing businesses were either not using a CMS and/or had no plans to implement one. The report stated that "by integrating web 2.0 functionality with a core content management solution, particularly a web content management solution, Best-in-Class companies are hoping to build and manage web sites that incorporate all the necessary information and collaboration tools to improve the customer's online experience".

In Bond's case, implementing a CMS was considered overdue, not just for the corporate website, but also for the intranet.
In early 2008, two separate projects were merged. A project to implement a CMS for the corporate website and another project to redevelop the intranet were in progress. The Information and Communication Technology Governance Board (ICT GB) identified potential for the two projects to be combined and the Enterprise Content Management System project was born in February. The focus of the project is initially web content. However, the stakeholder consultation conducted in 2007 for the intranet redevelopment identified concerns surrounding internal content generally. These included dissatisfaction with shared network drives and heavy

reliance on email for collaboration. This reliance on email results in multiple versions of documents existing as attachments to messages and copies on shared drives being difficult to find and 'conversations' about documents being buried in inboxes. Inappropriate direction of email messages was also contributing to key participants being left out of collaborative discussions and all staff being subjected to messages they considered to be *spam*, albeit officially sanctioned spam.
The consultation outcomes demonstrated that there were bigger issues to be resolved than just web content management. Document management, collaboration, and communication methods needed to be considered to achieve a more effective, enterprise-wide information platform. Nevertheless, it was acknowledged that this would be a major undertaking and that the project should initially focus on web content and address document management only to the extent that documents were already being shared on the intranet, while keeping options open for future projects to address these critical areas.

The intranet consultation process demonstrated that staff has a much greater expectation of 'web sites' and want more than just static information pages. Conversations went beyond simple web content to cover ways of working in groups, sharing and consuming news without email and managing documents all via a web browser.

Requirements for the website had also evolved from static html content to dynamic, up-to-date and interactive content to present a consistent image to the world. The University had outgrown its publishing model reliant on the few Dreamweaver-proficient staff members. It was time for a CMS that would harness technologies such as cascading style sheets (CSS), extensible hypertext markup language (XHTML) and extensible markup language (XML) including really simple syndication (RSS) to enable social computing within the web environment and an efficient content publishing model involving content experts without requiring them to learn a complex web editing application.

Selecting a CMS

Two reference groups were established for the project. The technical reference group comprised mostly Information Services staff and its focus was hardware, security, system architecture, network and integration with other systems. The user reference group comprises representatives from organisational units across the campus, most of whom are currently content publishers using Dreamweaver. This second group was concerned with usability, features, functionality and content.
Website CMS requirements had already been partially collated before the projects were merged and this became the starting point to formalise a request for proposal that would meet the needs of both the web site and intranet. At this early stage it was not clear that a single system would meet the needs of two sites that have quite different audiences and objectives, but the selection process would determine if one could be found. The reference groups had a critical role in formulating the functional requirements. Web 2.0 technologies and features were included in the request for proposal.

Blogs and wikis were identified as being desirable, although not mandatory features. Provision was made for respondents to discuss how third-party products might be integrated within the CMS-driven site. All responses indicated that integrating third-party blogs and wikis was supported. Some, including OracleUCM, indicated that blog and wiki functionality existed within the product itself.

2.23. Blog & Podcast functionality
- 2.23.1. Solution offers blogging capabilities suitable for internal and external blogs
  - 2.23.1.1. Multi-author blogs are supported
  - 2.23.1.2. Blog entries can be categorized
  - 2.23.1.3. Blog entries can be tagged
  - 2.23.1.4. 3rd party services such as Feedburner can be integrated
  - 2.23.1.5. Enclosures are supported for podcasting of audio and or video content
- 2.23.2. Solution enables integration of 3rd party blogs into site

2.24. Wiki functionality
- 2.24.1. Solution offers wiki capabilities suitable for internal collaborative spaces
  - 2.24.1.1. Wiki has WYSIWYG editor
  - 2.24.1.2. Wiki supports inclusion of multimedia
- 2.24.2. Solution enables integration of 3rd party wikis into site

1.1 Excerpt from RFP - Blogs & Wikis

Requirements for RSS support included both the ability to publish content such as news, job opportunities and events in RSS format, but also to be able to consume, or redisplay content from external sources that was published in that format.

2.8. Content Syndication (RSS)
- 2.8.1. Content should be syndicatable via RSS, XML
  - 2.8.1.1. News, Events
  - 2.8.1.2. New Pages, Most popular pages, Changed pages
- 2.8.2. Solution must also be able to 'consume' feeds for displaying external content

1.2 Excerpt from RFP - RSS

Commenting was also included in the RFP as a feedback mechanism that would support a variety of interactions on the site. Policy development was a key target for using this type of functionality.

2.16. Feedback Mechanism
- 2.16.1. A commenting feature can be incorporated into relevant pages to support these types of activities:
  - 2.16.1.1. Gathering feedback during policy development
  - 2.16.1.2. Gathering feedback from staff on intranet content
  - 2.16.1.3. Reporting errors on pages
  - 2.16.1.4. Inviting public comment when appropriate
- 2.16.2. Feedback mechanism can include a CAPTCHA to stop spamming agents
- 2.16.3. Comments/Feedback can be displayed according to authorization rules

1.3 Excerpt from RFP - Commenting

OracleUCM, previously known as Stellent, was chosen on the basis that it not only met immediate web content requirements for both the public website and the intranet, but it was capable of addressing more of the concerns raised in stakeholder consultation including document management needs and better information-sharing tools. The product includes both blog and wiki components, which were briefly demonstrated during the selection phase of the project. It was agreed that the out-of-the-box (OOTB) blog and wiki features would be initially trialled in pilot uses before a decision was made as to whether they would meet the requirements for enterprise blogging and wikis. At time of writing, these features have not been closely examined. Getting a complex and large website built and migrated in the new system is the first priority. The biggest challenge to deploying web 2.0 features may prove to be the scale of the project. Even a small university such as Bond, can have a complex array of content types and a list of data sources needing integration. Establishing priorities for the website launch may see social features being pushed back to a later date.

What web 2.0 features will be implemented?

Plans for introducing social media at an enterprise level include moving the existing library blog, The L files, into OracleUCM. It is currently remotely hosted, using Google's Blogger service. It uses tags for categorisation, has moderated commenting and uses Feedburner to publish the feed and provide an email subscription service. A review of these features will be conducted once the OOTB functionality is understood, to evaluate the OracleUCM offering against future needs.

Future needs may include a blog service for staff and students in alignment with the ICT strategic framework. Blogs and wiki functionality is offered within the Blackboard Learning Management system, but these are locked down within the context of subject sites. This does not foster wider collaboration, does not encourage students to think about their global online presence and is not the preferred option for at least one academic at Bond who requires that his students create public blogs as part of their assessment (Rees, 2007 and 2008). One of his reasons is that these "secure" blogs are not accessible to web-based feed readers, thereby ignoring the efficiencies of exploiting RSS content syndication (Rees 2007). Monitoring and assessing a number of class blogs without an RSS feed reader would be time-consuming indeed.

A key area of the intranet is the policy library. This has been identified as an area to use commenting and feedback features. Policy development currently involves notifications being sent to staff that policies are in "draft exposure" and feedback is requested. To provide such feedback, the respondent clicks through to the intranet to view a document, compose their feedback on one or more documents into one or more emails and send it to an individual. The feedback then must be manually extracted from several emails and collated for the Quality Task Force (QTF) to consider. Commenting features built into the intranet would enable feedback to be attached to the specific draft policy it was meant for, staff would be able to consider other's feedback in formulating their own comments and a more conversational approach could be taken. This is a practical, simple application of social computing to an existing business process to make it more efficient. An added benefit is the

encouragement of community values around day-to-day business duties. A feedback mechanism is planned for all content pages on the intranet for quality control and to acknowledge the role of the intranet user in continuous improvement.

Discussions for wiki implementation on the intranet are continuing. It is likely that the Law Faculty wiki and/or the Information Services knowledge-base pilot will be used to evaluate the wiki functionality of OracleUCM. The merits of establishing a single enterprise wiki instance or multiple team wikis within departmental areas of the intranet are being considered. The latter would be ideal if staff gravitate towards departmental sections of the intranet. They would not have to go elsewhere to find the wiki, but there are some case studies of organisations successfully establishing enterprise-wide wikis. Manchester's examples (2007, pp.90 - 97) include BTpedia (British Telecom), ING and the National Research Council Canada (NRCC). Both BT and NRCC indicate the importance of setting ground rules for corporate wikis. The scope of the ECMS project includes the establishment of a web governance framework and this is exactly the kind of challenge to be addressed in that framework.

To remedy stakeholder dissatisfaction with email being used as a news channel, the intranet will include a news feature. Currently, any staff member can address news to an all staff email group. All messages are moderated to reduce the number of messages that were filling inboxes, and which were often not relevant to the majority of staff. There were also some examples of inappropriate messages, but according to stakeholder feedback, workers are mostly unhappy about the quantity of unsolicited emails they are receiving (even with moderation in place). By providing a news feature it is envisaged that even if there is more news it should be less disruptive as users can choose whether to read it or not. With emails, even if they ignore them, they still must do something, that is - delete them. All-staff emails will not be dropped altogether, but policy and procedures for dissemination of news to staff will be reviewed and it will be essential to promote the news feature. The web governance framework will also need to address moderation requirements for intranet news. If it is deemed essential, an electronic work flow will be designed within the CMS. However, all staff will be able to contribute news via a link on the news page to a simple web form. This does not require elaborate technology, it will make use of basic CMS functionality, but by allowing all staff to contribute it meets the web 2.0 characteristics of user-generated content. Nortel (Manchester, 2007, p.25) introduced a similar feature to their intranet, turning over company news to the employees. The more personal news accounts "get far better readership .... than a repurposed press release, or a Q & A on strategy" according to their Director of Corporate Strategic Programs. It is thought that these messages from employee to employee are more engaging than 'top-down' messages from management to employee.

RSS is one of the key technologies supporting the growth of web 2.0 services. In the ECMS project, RSS will initially be used in two ways. Firstly, suitable content for syndication will be published in RSS as well as on regular web pages. Users will be able to subscribe to content they want using whatever RSS reader or application they prefer. Content to be syndicated includes the library blog, news and events.

Using these technologies will enable the University to syndicate the content into other web spaces. For example, if the University established a Facebook business page, then news could be displayed in that environment without requiring any intervention, or duplication in the publishing process. Similarly, using XML and XHTML will enable effective transformation of content to be repurposed, or displayed differently in new contexts. The other way that RSS will be used is within the intranet environment. A personalized feature being planned is to enable individuals to subscribe to a number of feeds. The intranet home page will become a basic RSS reader. Users will select external or internal feeds and have the headlines of posts displayed whenever they visit the intranet. While there is a growing number using RSS readers, the value of this technology is little-understood by many. This personalized list of feeds is likely to be an introduction to RSS for many.

Collaboration 'spaces' for project teams is also planned for the intranet environment. Initially, this will make use of a standard OracleUCM collaboration piece providing a set of standard folders accessed via webdav folders that can be adapted by a project team to meet specific needs of their project. A limited view of project content will be provided via the intranet web interface. This will automatically push key project documentation to the web view for all university staff, while the project team has access to the entire body of project documentation via a folder view. It is hoped that this will address some of the problems articulated about collaboration being carried out predominantly via email and email attachments.

The concept of broadening the contributor base by implementing a solution with a WYSIWYG (what you see is what you get) editor very clearly echoes a web 2.0 trend. Users are being given the tools to collaborate on the construction and maintenance of the website and intranet while the barrier of technical skill is being removed.

Introducing new features to users

The project communication plan includes training, awareness and promotional activities as part of the implementation. Some of the features will need little in the way of training for users. Commonly, web 2.0 and social media are designed to be user-friendly and self-explanatory. This should be true of the intranet news, commenting and feedback features. Links on the pages will be clearly labelled to indicate what a click invokes, and users will be presented with basic web forms that are commonly encountered in daily activities on the Internet, for contributing news, events and comments. Promotion of the intranet, is more likely to be an issue given the very low level of usage and knowledge that an intranet exists. However, as it is a complete overhaul from the existing intranet there is likely to be considerable interest in the new content and features. This will create an opportunity to introduce features to those who have not yet embraced web 2.0 capabilities.

Education for staff on the use and benefits of RSS readers has been previously offered as workshops in the Teaching & Learning seminar series. The Library website includes information about keeping current with RSS feeds. The corporate website will include a page listing all the RSS feeds available and some information

can be included there on how to make best use of this technology and links to resources can be provided. At present, there is no application provided in the standard operating environment for aggregation of RSS feeds apart from the limited functionality included within Internet Explorer version 7. Given that RSS subscription is a highly personalised activity with a wide variety of content types, it may be best for staff to individually choose a news aggregator from the number of free, feature-rich software as a service (SaaS) options or the wealth of free desktop versions to match their needs. More training in the use of RSS will be offered.

The Information Services wiki project will include an informal workshop for staff. The purpose of this workshop is to introduce wikis to those who have never used one before and to demonstrate the collaborative possibilities. It would be unusual if an Information Services staff member had never looked at a wiki, given the prevalence of Wikipedia use amongst students, but it is much more likely that many have never edited a wiki page. For many people, editing wikis is now a simple learning experience, especially as WYSIWYG editors have become more common, but there are some who prefer to learn with others and have guidance at hand. Offering different ways to learn about technologies helps to increase acceptance and use. The workshop will be an informal, fun activity that does not focus on work-related content. A topic or theme may be chosen that supports team-building and getting to know colleagues.

MEASURING EFFECTIVENESS

To measure the effectiveness of these new features, research will be undertaken as part of the continuous improvement of the website and intranet. By referring back to the project's aims, and the goals of the website and intranet, criteria for measuring effectiveness will be derived. As well, there may be other strategies which are supported by the new features being introduced, such as the University's move towards sustainable operations.
Methods for measurement will include the use of web analytics to track usage of content and gathering feedback from site users and more specifically, conducting a similar survey of intranet users that was used in the very early stages of the project to gather stakeholder expectations. The types of questions to be looked at may include:

- Does the new website and intranet appear to be up-to-date in terms of functionality seen on popular sites?
- Has the email congestion from news and events been mitigated by the intranet news & events features and RSS content publication?
- Has the publishing model and wysiwyg editor empowered more staff to contribute more easily?
- Does the wiki functionality provide better sharing and documentation of procedures, than existing practices with print or shared network drives?
- Has the improved intranet contributed to reduced printing?

Conclusion

The ECMS project has offered the University an opportunity to engage some web 2.0 capabilities in an enterprise-wide framework. An advantage is that University content that has been fragmented in its locations and management will start to move back into the enterprise environment where security and permissions for content can be managed by internal systems, rather than ad hoc permissions being managed in external sites. The timing is also advantageous. Despite the CMS being overdue, implementing in 2008/2009 has allowed the University to learn from the experiences of other organisations that have employed social media at the enterprise level - and not only from the technical perspective. An understanding of the cultural and social impacts of this activity can be garnered from the experiences of other sites.

Several challenges are unfolding in the project. Not least of which is the sheer scale of the project for a small project team. Other challenges are expected as the project continues into 2009, including policy revisions, expansion and definitions of the governance framework, and style guide modifications to accommodate a more dynamic web environment.

APPENDIX

List of web 2.0 features and technologies planned:

- Blogs
- Wikis and other collaborative spaces
- WYSIWYG editor and web forms for content creation
- Improved publishing model where more users can contribute content without requiring special software or technical expertise
- RSS - integration of external RSS feeds into the intranet, use of feeds for displaying local weather
- RSS - publishing content in RSS for user to consume with feed readers eg. new jobs, news, podcasts
- Commenting & feedback mechanisms built into the sites

References

1. Breeding, M. (Presenter) (2008, June 13) Beyond web 2.0: taking the social read-write web to the enterprise level. Provo, Utah: SirsiDynix Institute. Podcast retrieved October 3, 2008, from http://www.sirsidynixinstitute.com/seminar_page.php?sid=103
2. Bond University (2008) Enterprise Content Management System (ECMS) request for proposal & requirements specification.
3. Bond University (2007) *ICT strategic framework*. http://www.staff.bond.edu.au/information-services/documents/ICT_Strategic_Framework.pdf
4. Customer 2.0 : the business implications of social media (2008) Boston, MA:Aberdeen Group. Retrieved October 7, 2008 from: http://www.awarenessnetworks.com/resources/5195-RA-Customer2-0-AJ-07-NSP.pdf

5. developerWorks Interviews: Tim Berners-Lee (2006). developerWorks 22 August. Retrieved October 3, 2008, from: http://www.ibm.com/developerworks/podcast/dwi/cm-int082206txt.html
6. Husband, J. (2008), Retrospective on KM and the impact of web 2.0. FASTForward Blog, 11 April, http://www.fastforwardblog.com/2008/04/11/retrospective-on-km-and-the-impact-of-web-20/
7. IBM (2008, August) Web 2.0: ready for the enterprise. *IBM Smart Strategies for web 2.0 newsletter*, 1-2. Retrieved 7 October 2008 http://www.ebizq.net/white_papers/10161.html?uid=0x22248
8. Lievrouw, L. & Livingston, S. (2006) Introduction to the First Edition (2002). In L. Lievrouw & S. Livingstone (Eds.), *Handbook of new media : social shaping and social consequences of ICTs* (Updated Student ed.) London: Sage.
9. Manchester, A. (2007), *How to use social media to engage employees: strategies to improve communication and collaboration*. Melcrum Publishing, s.l.
10. Rees, M. (2007), Student blogging in 072. *Impressions Scholarcast*, 4 September, http://mrees.wordpress.com/2007/09/04/student-blogging-in-072/
11. Rees, M. (2008), Student blogging in semester 082, *Impressions Scholarcast,* 9 August http://mrees.wordpress.com/2008/08/09/student-blogging-in-semester-082/
12. Rees, M. & Hopkins, P. (in press) Towards the integration of social media with traditional information systems. *Proceedings of International Conference on Computer Mediated Social Networking 2008*, Dunedin, New Zealand. To be published in Lecture Notes in Computer Science (Springer).
13. Tim Berners-Lee. Wikipedia. Retrieved October 3, 2008, from: http://en.wikipedia.org/wiki/Tim_Berners_Lee