Macquarie University Research Online

IS YOUR LIBRARY WEBSITE OBSOLETE?

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Abstract

Macquarie University Library has endeavoured to create an environment that facilitates the integration of library resources into course specific content. This paper contains an overview of the creation of Macquarie University Library's portal prototype. We argue that a web presence composed of portlets is a user focused method of delivering dynamic content on demand and as such is far superior in a learning environment. The Library portal prototype combines the Library's need to be integrated into the wider University community with the changing expectations of our primary users.

Introduction

By adopting standards based portlets Macquarie University Library has attempted to integrate Library resources into the online presence of the wider University. Providing a method for the improved web-based delivery of resources and services for disparate courses has been one of the Library's primary goals for a number of years. The portal prototype and the portlets developed for it provide one way in which this goal can be achieved.

During 2004 Macquarie University Library worked on a number of components for the implementation of a comprehensive online environment to facilitate the integration of library resources into course-specific content. This paper contains an overview of the rationale and development of the Library's portal prototype including the creation of individual portlets explicitly based on course requirements.

What is a portal?

Over the past few years, the term 'portal' has been used to describe many kinds of web based functionality, from pathfinder web sites (sites with static links) to cross-searching tools. The approach to portals that we at Macquarie University Library are taking considers a portal a framework for providing an aggregation of web resources and services that is accessible to a user from a single point of entry. These portals also have the ability to provide personalisation allowing the user certain freedoms in tailoring the portal to suit their needs. They can select only the services they wish to use. In an ideal configuration, single sign on (SSO) would be available to these services.

What are Portlets and Channels?

Services within portals are usually known as either channels or portlets. Channels tend to be specific to a particular portal framework and are usually designed to work only within it. Portlets on the other hand, are designed according to a standard and work with any standards compliant portal framework. For example a channel designed to deliver library catalogue access for one specific portal could not be utilised by a different portal with a similar catalogue product. A standards compliant portlet could be used in both instances.

Portlet Standards and JSR-168

The standard for portlet development is known as the JSR-168 Portlet Specification and was developed via the Java Community Process (JCP). The JCP program is a participative process that aims to develop and revise Java technology specifications, reference implementations and test suites in cooperation with the international Java developer community.
For examples of portlet standards and JSR-168 developments for portlets see:
Java Community Process
http://jcp.org/en/home/index

JSR-168 Portlet Specification
http://jcp.org/en/jsr/detail?id=168

Having a standard from which to be able to develop portlets has changed the scope of what we can do with portals and portlets today. We are no longer constrained to developing applications for a particular portal framework. As portlets are now portable across multiple frameworks, the cost of developing them has been significantly reduced while increasing their feasibility. One of the greatest benefits the standard offers the ability to leverage off and contribute to the Open Source community in the development of portlets. An example is the Portlet Open Source Trading (POST) site http://portlet-opensrc.sourceforge.net/ that allows contributions to the open source community by submitting portlet applications and allowing the general public to download and use them.

Benefits of a Portal

We believe that portals are the key to the next generation of electronic service delivery. Currently, using a website, there is a lot of information that a user has to wade through in order to find something specific. The majority of this information is not always relevant to the user.

Our library website has to cater for many different kinds of users. We have academic staff, general staff, undergraduates and postgraduates just to name a few. Each of these user categories has different service entitlements. As a result, our website has become a superset of combinations of users versus services and as one can expect, not easily managed or maintained.

Portals offer a different view of the library world – a world where each user gets to see only the information that is relevant to them, without having to navigate through irrelevant information that was targeted at someone else.

The key benefits of portals can be summed up as follows:
- Personalisation – users of portals have the ability to select the kinds of information that they require and have it presented to them in the layout of their own choosing. This allows them a level of customisation that can maximise their productivity.
- Single Sign On – users should not have to login to portal services after their initial portal login. The credentials for the portal login are propagated to the portal services, which can then be used to authenticate a user to the service in the background.
- Aggregation – users can access a multitude of services from a single location. Instead of having to check out multiple pages on a web site, or even multiple web sites, a user can have the information they seek presented to them on a single page if desired.
- Information Management – management of the content that we distribute to users can be managed more effectively and efficiently, allowing us a much better level of reuse without duplication.
- Information Targeting - content can be targeted to specific groups of people such as Academic staff and/or Postgraduate students doing research or Library staff. This gives us a much more granular level of control for content distribution which saves users from being bombarded with irrelevant information.
- Multiple Device Delivery – because of the way portals are architected, they have the ability to be rendered independently of the data that they contain. What this means is that using a different 'stylesheet' for rendering can enable the same information and even similar functionality on devices such as PDA's and mobile phones.

Benefits for Forward Planning

The Library's presence in the university's online environment is important for the university community and enables the library to market and facilitate access to library services and resources.

The development of library related portlets and the ways in which these portlets are integrated into the University portal should enhance the Library's presence and allow the Library to be an integral part of a wider University web presence. This means making cross-university connections and partnerships. For example the development of the Macquarie University Portal to testing phase has required collaboration from the library and the provision of several portlets for library services.

Macquarie University's new Information Communications Technology (ICT) strategy also creates an environment where a library portal will be invaluable.

This strategy is designed to closely integrate ICT and e-learning so the more options the library can make available online the better able they will be to support the university community as a whole.

There are currently multiple one-stop-shop portals either in development or in use at Macquarie University including a student portal, a one-stop-shop help portal, a generic skills portal and individual department portals (or sites that call themselves portals). For the development of the Library portal we did not wish to maintain a separate portal, which could not interact with the rest of the University, as this would defeat the purpose of having a portal at all. An individual website would have been sufficient if all we required was a separate web presence.

Adding to the proliferation of one-stop-shops seemed counter productive and confusing. Therefore using a standards compliant portlet arrangement seemed ideal as it could feed into other portals without needing to compete with them. Our portlets are portable and adaptable allowing us to transmit our information into a number of environments.

The Library portal prototype combines the Library's need to be integrated into the wider University community with the changing expectations of our primary users.

Why uPortal?

Macquarie University Library chose uPortal as the software for the portal project for a number of reasons. uPortal was created by an assembly of universities and is designed with universities in mind. Its continued development focuses on the needs of higher education institutions.

Primarily it was chosen because the uPortal product is not a one-size fits all predetermined solution. Rather it furnishes the necessary tools for the creation of a unique portal/set of portlets to suit the specific purposes of an institution such as Macquarie University Library.

uPortal is fundamentally a framework, which supplies classes, interfaces, XML files and XSL style sheets for institutions to employ in creating a portal. This 'framework' approach makes uPortal extremely configurable and flexible. It can be adapted for most institutional requirements and has proven extremely useful at Macquarie University Library.

In addition uPortal has another functionality, which makes it extremely flexible; it allows for the creation of transferable portlets that are standards compliant (JSR-I68 standard).

These portlets can then be employed within other standards compliant portals. Therefore it is possible to serve a wide range of content to different portal applications. In terms of a large University this has made it possible for the Library to develop our portal prototype with the knowledge that the

developments we make can be utilised by or transferred into the University's portal.

Importantly for Macquarie University Library, uPortal is able to run on any platform that has a JAVA 2 implementation option. This means that the different platforms used within the Library and within the University can be brought together using uPortal.

The other aspect of uPortal, which makes it extremely appealing, is that, it is open source software. The open source nature of this product means that Macquarie University Library can adopt portlets developed and made available by other universities. This means that for a modest outlay mostly consisting of staff time the Library is able to provide a working portal prototype.

The uPortal product also facilitates LDAP authentication and supports single sign on, making the management of content for particular patrons optimal for the Library.

For more information on uPortal see: http://www.uportal.org/index.html

Profile of users

In order to target specific information to specific user groups, it is imperative that you are able to classify your users. At Macquarie University Library, we have managed to profile users across the university and most of its affiliations. All this information is processed and eventually ends up in our LDAP server. This is what a user of uPortal is authenticated against, and when they log into uPortal, uPortal interrogates the LDAP server and generates a profile for them.

The profile contains their username, certificates, authentication information as well as which units they are enrolled in, what degree they are doing, whether they are a postgraduate, undergraduate or one of over 40 other categories, their email addresses, postal addresses and phone numbers. With all this information we are able to have a very granular view of a user and can therefore select exactly what kinds of information they require.

Profile of units

In order for the Library to determine what kinds of portlets to develop it was necessary to determine what the University community as our primary users needed and expected from the Library.

One factor in determining which portlets to develop was the existing presence of the library on the University's homepage. This presence consists of study tools such as e-Reserve, library study and research guides and training in library and IT skills. Therefore the development of first portlets for the library

portal focused on developing study tools portlets to assist students. These tools formed the basis for the initial protal prototype.

To further identify what the University community required we conducted usability testing on our existing website, consulted with academic staff in particular departments, interviewed users and researched the changing nature of user expectations. This is how we determined that a breakdown of library resources by unit code, in addition to the study tools, might be required. The unit codes used for the portal prototype were created to focus on assisting with assignments and other aspects of unit specific study.

What we discovered was not surprising; the values of users of academic libraries and the values and expectations of Librarians in academic libraries tend to differ. The way they approach information and the dissemination of that information depends largely on the way they perceive the usefulness of the information and the access they can obtain.

The way users value information described by James Rettig in "Technology, Cluelessness, Anthropology and the Memex: the future of academic reference service" was somewhat applicable at Macquarie University. The differing expectations, values and needs of users and librarians can be addressed by unit based portlet content being pushed to particular user groups. The needs of users for immediacy, interactivity, mobility and personalisation can be met and the factual, comprehensive and authoritative information librarians prefer can be delivered to our users in a way that they value (Rettig 2003:p19).

Specific   unit   requirements

As part of this process it was essential for consultation and negotiation between the Library and the academic staff providing units of study to occur.

This initial consultation occurred when academic staff approached the Library from the Human Geography Department for the development of online support for two, second year, units. They wanted to know if the library was able to assist them with online content. The Academic Outreach Librarians for Environmental and Life Science, which includes Human Geography, were able to work closely with the Academic Staff to develop two unit specific research guides.

The human geography units Geos215 and Geos265 were profiled in a series of meetings, interviews and feedback sessions. There was some cross over of content.

Once the requirements for each unit were established the library's "study and research guides" provided resources and pathways considered important for the completion of assignments in these units. These resources included articles in e-Reserve, reserve books, relevant reference works, key journals, key databases and recommended websites. The services included online training especially in the use of the catalogue, citation and style guide support and online librarian for reference questions.

The expertise of the Librarians on content related to library tools, resources and services was utilised extensively. The Academic staff made suggestions for appropriate electronic journals and databases and accepted recommendations from the Academic Outreach Librarians for additional databases. Academic staff also provided content in respect to expectations for assignments and writing exercises such as an annotated bibliography.

The information gathered about the profile and requirements for these units was then transferred into the portal prototype in order to provide an example of how to provide the unit specific content to the appropriate students.

Issues and Problems

The following issues have impacted on the development time and completion dates for the Library portal.

As we are attempting to integrate with the University portal we have had to work closely with their development schedule and timelines. A test of the University portal in October required the provision of some portlets from the Library. The timing of the library portal development has been amended to fit with the university portal. So as of November 2004 we have a portal prototype working and are feeding into the development of the University portal.

The existing process used to determine unit code requirements and to create portlet content for unit codes is time consuming. The workloads involved for the Library's staff may mean that the process needs to be reviewed and streamlined in the future.

The Library is currently undergoing a process of organisational change. This change may impact on the sponsorship of the portal, the development of additional staff skills and the time of those with the technical expertise to develop the portal further.

Conclusion

The development of a portal for Macquarie University Library is intended to help ensure that both our values and our client's values are included in our web presence. The existing portal prototype will be used and built on as the basis for developments in 2005.

The Macquarie University Library portal does not replace our website. It is a natural evolution and adaptation of our web presence to the changing circumstances of content delivery within the academic or higher education sector.

We argue that a web presence composed of portlets is a user focused method of delivering dynamic content on demand and as such is far superior in a learning environment.

In addition, a portlet structure should enable the Library to be proactive about the provision of content whilst providing a systematic information management and content architecture to ensure that consistency, reusability and quality of web-based content can be maintained.

This portlet framework is a complete solution for both the problem of information delivery and the problem of information management. However, this does not necessarily remove the need for a more conventional website, rather it can be used in conjunction with existing websites to enhance both the Library's web presence and the web based delivery of services and resources.

Bibliography

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