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# PORTALS : THE CHANGING FACE OF LIBRARY SERVICES

R M Vatnal

K Prakash

## Abstract

*This paper discusses the main functional elements of portal services and also touches the related technology. With the growing acceptance of internet on university campuses, many librarians are considering building library portals to make their collections accessible to users who expect all knowledge to be obtainable with just a few clicks from inside a web browser. For many people, especially students, if something is not on the web, it does not exist. This trend is especially challenging for libraries, which are the traditional keepers of knowledge but whose knowledge is largely kept in many millions of books and journals - not on the web. Intranets and portals are supposed to provide an infrastructure through which end-users can gain effective access to information sources needed to assist in daily tasks such as course work and research.*

**Keywords :** Portals, Library Services.

## 1. Introduction

The Internet has changed our world profoundly and forever. That's not news to anyone anymore. Access to information has undergone a noteworthy transformation. The infrastructure to support these endeavors is often pulled together into a web portal environment for easy access. Libraries can reach their users through online portal environments. These portals will be gateways to many resources and activities. Portals have significant potential to transform how organizations do work and conduct business. Using portals, organizations can streamline processes and transactions, increase employee productivity, and strengthen relationships with customers and partners.

## 2. What is a Portal, and What does it do ?

The term portal is used to describe a wide variety of websites, ranging from internal sites for employees (intranet) to external sites aimed at consumers and partners (internet, extranet). In general terms, a portal is a website that aggregates contextually relevant information, applications, and services. A portal distills the complexity and variety of information and services available to a user into a single interface targeted to that user's needs and interests. Portals are a direct response to the breadth and complexity of the online world.

Traditional homepages are institution-centric, providing the same view to all users. Every user who keys in the URL of an institutional homepage sees exactly the same thing: a page that says wonderful things about the organization, some general information, and links and search capabilities so that users can attempt to navigate the complex tangle of institutional web pages. These pages are usually built by a web design group that is part of an IT department.

### 2.1 Why One and Only One Portal

We need a portal because it should make every user more efficient and more effective. Portals deliver to every user, in a few clicks, all of the electronic information and services they commonly use in the way they work best. Homepages, by contrast, give users general information, most of which no one ever wants.

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After all, library users want to get their work done, not spend hours following hypertext web links or doing web searches. Many universities have or are considering more than one portal. Different portals often use quite different technology, making it impossible, for example, to use the same electronic calendar in two different portals. Most important, if there is more than one portal, a portal cannot replace the desktop. It cannot be the place where you access all the information and services you commonly use. If it is not those things, then many of the benefits of having a portal will not be realized. If there is to be a library portal it should be the only portal, but that choice is inappropriate for colleges and universities. Library information needs to make its critical appearance in campus portals in some other way.

### **3. University and Enterprise Portals**

Universities and corporations are building enterprise portals. These are portals that use all of the information known by a particular institution to build automatically a customized web site for each member of the institution. Enterprise portals are a radical departure from traditional homepages. They dramatically change the way people use the web and the way web pages are built. To build them successfully, as many universities have, requires planning, money, commitment from senior management, data sharing across the institution, and usually a change in Information Technology culture. An enterprise portal is a user-centric web site that provides users with access to all of the electronic information and services they commonly need. That access includes data and services on their own computer, local networks, and the web. Every user of an enterprise portal sees a unique web site customized for him or her. Users of such a portal identify themselves to the portal, often by entering an ID and password.

#### **3.1 Customization**

Once the portal knows who the user is, it accesses all the institutional information about that person and displays it on a web site customized for that person. Among other things, it may know a user's job function, manager, subordinates, benefits, library books borrowed, authorized applications, address and much more. Every portal page the portal system builds is specific for each person. The creation of user-specific web pages by the system is called customization. Another area of customization is the portal's ability to recognize the device that is being used to view it. It must format web pages quite differently for a palm top PDA, web appliance, or web cell phone than for a desktop computer.

#### **3.2 Personalization**

Even the cleverest portal system cannot make the ideal web site for each user. What web search engine, for example, should it place on the portal? For some users is AltaVista; for others might be Google. Where should access to library information appear? I'd like it at the top of the far right column. You might like it at the bottom of the middle column. Someone else might wonder why he or she needs access to the library at all. To make a portal most effective, once the system has been customized, users need to be able to personalize it to make it fit the way they work. As we use our customized, personalized portal it needs to be able to adapt to how we work and how our lives change. It must always present us with the most appropriate user-centric portal possible. It also needs to change and make suggestions as it detects ways that it can better support the peculiar way each of us does things.

#### **3.3 Portal Navigation**

A portal is displayed as one or more web pages accessible by any web browser. In most cases a user has so much information that it would be inconvenient to put it all on one page. In fact, since a web page can be any size, all the information could be put on a single page, but then there would be lots of vertical

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and horizontal scrolling. A portal page is a collection of related information. For a student, for example, one portal page might contain course information, another information on organizations, and yet another reference tools including, of course, those from the library. During customization, the portal system decides what pages to build and how to organize the information across those pages.

A user needs some way to navigate from page to page. The most common is to have a tab for each page and to allow a user to click on a tab to display a particular page. When the portal is first displayed, it will show the page having the leftmost tab. The order of the tabs, their text, and the contents of each page may be personalized by each user. While the portal might set the Courses tab first for students (and not include it at all for staff), a student could make it the last tab and call it Great Lectures. Each portal page may be divided into columns of information. There is room at the top of the columns for the navigation tabs and for portalwide alerts. Alerts are messages targeted to a subset of portal users. Portalwide alerts are very general. There may also be alerts at the channel level, which are just for subscribers to the channel in which the alert occurs.

### **3.4 Channels and Cameos**

Each column of a portal page is populated with text, links, images, multimedia, form controls, and cameos - small amounts of data. These are usually grouped into channels, which are small window like areas containing related information. One might have a human resources channel, a purchasing system channel, and a library channel. While this might work, it is far better to define channels functionally. A student might have a degree audit channel, for example. This might include parts of the transcript application, a list of the courses one still needs to take for graduation, links to the law school he/she plans to apply to, and the rules for taking pass/fail courses. Users may subscribe and unsubscribe to any channel they are authorized to use. The channels may come from within the institution or may be offered by outside vendors and institutions. They may contain public or licensed content, and subscriptions may or may not be free. The text areas in channels may be static or created on the fly. Of course text can usually be personalized by choosing fonts, font sizes, colors, and so forth. Most importantly, channels can include data cameos, data from an application, database, or web page.

## **4. Portals vs. Links**

To see one great advantage cameos have over links, consider a link to [www.weather.nic.in](http://www.weather.nic.in) - the government web site for weather. This will provide the weather for one's local area as well as for the rest of the world. It will also tell all about cyclones etc. and explain everything from advection to zonal flow. But this is far more information than anyone would want for local weather in a portal. A portal user would just like to know today's weather in a quick glance without using much area on the screen. A cameo allows one to display only the tiny pieces of data that are pertinent, such as the high and low temperature and maybe an icon showing if it will rain. By displaying a cameo instead of a link, the actual information one needs is right on the portal screen.

### **4.1 Library Portals**

Any library portal would either have to be a vertical niche portal, a university's top-level portal, or one of many university portals. Most portal users want library information, such as the catalog, access to electronic journals and licensed databases, the books they need to return, library floor plans, e-reserves, and maybe even lists of new acquisitions that match their profile.

Libraries would best serve their users by building portal pages, channels, and cameos rather than portals themselves. A portal page would be much easier to build than a channel since it is just a regular

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web page, but the library should at least create a variety of pages for different categories: students, faculty, and as many more as can be defined. Every library portal content builder should examine closely the Dublin Core project ([dublincore.org](http://dublincore.org)). Dublin Core addresses many key issues involving the creation of web-searchable documents and making them available via networks and in portal channels. Library portal channels would provide the most value and would work best within portals. All the features and facilities of channels would be available, and the library could offer a rich variety of channels that portal users everywhere could subscribe to.

The three core functions of the portal are :

1. Browsable (by subject) and searchable database of available resources.
2. Cross-searching of multiple resources, regardless of search protocol and regardless of the format of the metadata, with deduplication and sorting of results, saved searches, also simplification of authentication.
3. Use of OpenURL to carry the user through from hits in bibliographic databases to ways to access the "appropriate copy" of the full text or document delivery options.

Four related functions that are increasingly available from the library management system are :

1. Tools or services to manage electronic journal collections. For example, to keep track of subscriptions, "checking in" new issues or managing the electronic resources budget.
2. Support to digitise the institution's own material, host it and present it as a resource, including to be searched by the portal or other portals.
3. Other ways of enhancing bibliographic records, for example, with Tables of Contents, abstracts, cover images – or a link to other resources. The issue here might be the effort involved in configuring sensible defaults.
4. OAI data-gathering facilities, and the ability to expose local data in a format suitable for harvesting. Endeavor seem to have been the first to have implemented this, but harvesting OAI data is also a feature of Innovative's XML harvester.
5. The most up-to-date listing of portal products is Library of Congress Portals Applications Issues Group (2003).

User access to the library :

- The main library portal including search, browse, help, news, and exhibits
- Basic customization that allows users to create personalized library views
- Portal framework that supports partners who want to build specialized portals that can be tailored to a specific discipline, audience, or topic of interest
- Text-based help for basic portal functions, access to online FAQs and a service to ask questions via email.

#### **4.2 Benefits of the library portal**

The five primary benefits of the portal are :

1. Easier access for users. The portal offers the user the ease of searching many sources at once, integrating results from licensed resources and local databases and bibliographic descriptions

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of digitised material. Equally, the familiar portal interface is an option for searching databases that are unfamiliar to the user.

2. Simplified authentication. In so far as the systems handle authentication they can reduce the barrier of users having to remember multiple log-ons.
3. Unified presentation of quality resources. The portal gives the library a tool to channel users towards preferred resources. It increases the ability of the library to ensure that costly electronic journals and databases are used, by offering a simple way to browse the available resources. It supports searching by carrying users through from bibliographic searches to full text options.
4. Personalisation. Groups of users can be offered clusters of resources, or they can store their favourite databases and searches for quick access and reuse.
5. The portal may be a mechanism by which to offer services to an institutional portal, so keeping the library to the forefront in larger initiatives in presenting resources.

#### **4.3 Information access**

The academic portals are used as the document management and dissemination point for research projects; the commercial ones investigated aim at developers of web portals for different application areas, e.g. a conference portal or a portal solution for knowledge management. The portals, usability is mainly limited to creation and maintenance of information within application domains. Many other functions to facilitate community communication are ignored, such as discussion forum, mailing list archives or referential materials. The content provided in the portals covers only special application domains without a broader extension to related areas and domains. Except OntoWeb, the portals do not allow personalization of information spaces. Ontology-based portals can easily keep high consistency in information access because instances are provided based on an ontology. Basic help and document are provided to facilitate the easy-use of the portal, but there exist much space to improve such functions, especially to guest visitors.

### **5. Portal Services**

Effective, high quality library services successfully support the programs of the institution. To facilitate academic success, library services to users must provide access to a broad range of information resources. Reference and referral services, orientation activities, and instruction sessions that teach students the critical thinking skills necessary for using library resources are basic services provided by library personnel. Varied and innovative teaching programs include teaching by personal contact and through the preparation and use of instructional materials in various formats, formal group instruction and informal, unstructured contacts with students. Library services provide a gateway to all future library inquiry, not only preparing students for study and research but also teaching them to use information sources as citizens, as consumers, as professionals, and for recreational purposes. The Library's web presence will increasingly become the principle impression of the Library in the eyes of the majority of our users. While library as place will remain a fundamental aspect of campus life, we can and should expect our users to demand that increasing amounts of information and assistance be delivered to them in the manner most appropriate at any given moment. We must be positioned to provide service when, where, and how our users require it.

The Library has made tremendous strides in the evolution from a web presence that uses the Library's internal structure to guide information topology to the current version, which seeks to more intuitively guide users through the range of services and collections available to them. While we applaud these efforts we need to consider the next stage in this process. How can we help our users create, and manage, their "universe of information" through a suite of web-based services, through a library portal?

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Following are some of the examples for portal based services.

### **5.1 Discussion Forums**

Forums have a special and important place on the portal. They will provide students and faculty with a forum for exchanging ideas and opinions. Building and supporting the infrastructure for such a system would be a new, yet highly appropriate, role for the University Library. Online forums could be moderated with ground rules for participation clearly stated in accordance with the University System. Forums meant to facilitate the exchange of ideas are an excellent start.

### **5.2 Online Chat and Blogs**

Online chat and blogs offer many opportunities for libraries. Both communication mediums have widespread use in our communities. Chat is more widely known, but "blogging" has become amazingly popular in its own right.

#### **5.2.1 Chat**

Chat often is used today to connect patrons to reference librarians on a real-time basis. QuestionPoint is an excellent example of a service that incorporates chat.

#### **5.2.2 Blogs**

Blogs are personal online logs that can contain text, graphics, sound bites, web links, personal profiles, and feedback links. The blog owner can invite other blog members to share equal posting rights. The owner also determines whether the blog allows public feedback, or limits feedback to blog members.

### **5.3 Database Advisory Tool**

To provide an easier method of identifying and navigating among multiple databases, increasing user self-sufficiency, and enhancing the online interface for multi-disciplinary research.

### **5.4 Instructional Materials**

To complement the Library's teaching mission by providing users with online instructional materials.

### **5.5 Personal Research Page**

To allow users to assemble a suite of research tools - web page links, database access, online catalogs, local data files, etc.- that best facilitates and complements whatever projects they might be working on at any given time.

### **5.6 Master Site Index/Site Search**

To facilitate information retrieval of Library web users and provide a comprehensive, navigable structure of the Library "web tree."

### **5.7 Awareness Services**

To provide users with current citations to journal literature, monographs, and electronic resources that match the user's profile.

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## 5.8 Downloads, Demos, and Tutorials

When it comes to downloads, demos, and tutorials, the library can really come to the patron's rescue. The average Internet user can certainly find these materials, but not without navigating through a quagmire of choices, decisions, and dead-end alleys.

## 6. University Portal and the Library

The ability to customize one's portal based on Library research interests and other criteria will provide Library users with a personal online workspace to facilitate their work. Users - whether faculty, staff, or students - will be able to decide what constitutes an appropriate portal for their needs at any given time. While a customizable portal will be an invaluable resource to many of our users, there should also be a "generic" form for the occasional researcher, undergraduate, or other Library user that will not require customization to use Library resources or services. The user should decide what constitutes an appropriate portal for his or her needs at any given moment.

The Library is responsible for meeting the needs for scholarly information across the University community and should assume the responsibility for providing scholarly information channels to a unified portal infrastructure. The Library's goal should be to extend expert reference and instruction service hours and access points, in order to serve off-grounds, special needs of users to promote greater user self-sufficiency, and accommodate different learning styles. Focus on digital services must match the attention given to digital collections. The extended reference service should be engaging, attractive, quick, and easy to access, in order to increase the frequency of use.

The portal is an effective mechanism for enhancing existing modes of communication and fostering new ones. Communication should not be restricted to that emanating from the Library but should include communication from and between the users themselves. In addition to sponsoring these new venues, the Library portal must be accessible to a range of language groups - especially for our non-affiliated users - as well as through the variety of access modes currently available, including hand-held devices. Early planning, continual evaluation, proper publicity and marketing of all new services are essential to success.

## 7. Conclusion

Many libraries will be evaluating what is available in the library portal arena. Hopefully more knowledge will come into the public domain about patterns of usage after implementation, and new best practices emerge that will show a clear path for libraries that have been cautiously weighing up the options. However, the first libraries using the systems seem genuinely excited by the enthusiasm with which they have been greeted by users. At a very basic cultural level, this is influencing our expectations as information consumers, and changing the way we interact with our environment and with each other. We are beginning to realize the true power of networking. We want easy access to peers and experts with similar needs and varying levels of experience. Libraries have a vital role to play in this dynamic environment. Portals pull together data and functionality from disparate sources into an accessible package tailored to the needs of the individual user.

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