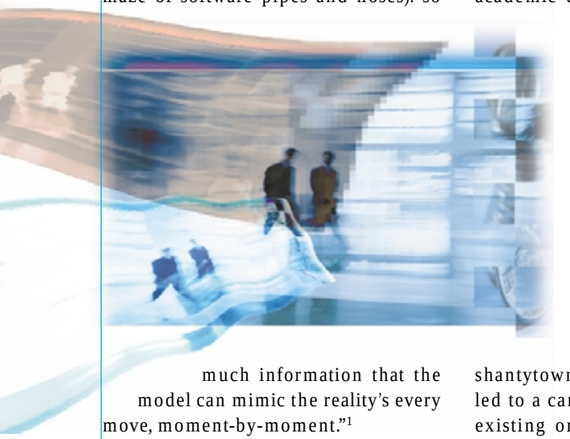
New Horizons

By Carl Jacobson

Institutional Information Portals

In his book *Mirror Worlds*, the Yale computing expert David Gelernter describes a networked future consisting of massive "software models of some chunk of reality, some piece of the real world going on outside your window. Oceans of information pour endlessly into the model (through a vast maze of software pipes and hoses): so much information that the model can mimic the reality's every move, moment-by-moment."[1]



As our campus Web sites grow and mature, as we continue to add content and process, we are nearing the time when the campus Web will become a software model of the institution. This model will provide infinite views so that each visit to the virtual campus will be unique and meaningful. To provide varied views that meet the needs of a diverse user population, the gateway to this model must be a multifaceted lens—an abridged version of the institutional Web, which provides a uniquely tailored view to each user. The gateway must be an "institutional information portal."

When the Web initially took hold at our institutions in the mid-1990s, the first order of business was to load and link useful campus content. Campus business units and academic departments created Web presence by publishing formatted documents in support of administrative services and academic efforts (policies and procedures, course syllabi, administrative schedules). The loading of formatted documents was soon followed by the harvesting of unformatted information stored in institutional databases (grades, benefits statements, financial aid awards). The institutional Web grew as rapidly as a gold rush town, with an overall infrastructure and organization as chaotic as a shantytown. Departmental publishing led to a campus Web built around the existing organizational structure, requiring all users to know something of the institutional organization in order to navigate and use the campus Web.

This design flaw was remedied in the late 1990s as campus Webs were revamped to offer entry points and navigation focusing on customer and context. Rather than listing services by departments (registrar, benefits, library), the new campus Webs reorganized information to target the needs of unique customer groups (students, staff, visitors, prospects) and presented the information in useful contexts (kicking off the semester, starting the first day on the job, preparing for graduation). Today, applying techniques popularized by commercial Web sites, we can tailor our Web presentation to meet the specific needs of each user. "Personalization" and "community" are two of these tailoring methods, and they are the backbone and nervous system of an institutional information portal.

An institutional information portal is a framework for the delivery of a consolidated, individualized presentation of the institutional Web. The personalized portal concept was popularized by sites such as Excite (http://www.excite.com/) and MyYahoo (http://www.yahoo.com). These portal frameworks display many "channels" of information on a page or a group of pages. A channel may be considered a rendering of a Web mini-page. Channel examples include "my favorite links," "today's calendar," and "this week's sports scores" or, in the educational context, "my course schedule," "today's assignments," and "my financial aid status." By collecting disparate but related information from across the institutional Web and consolidating this information on a single page, institutions can construct an abridged or "pocket-sized" version of the campus Web. Such personalized Web-based service allows quick-and-easy access to the information most useful to each individual.

Although portal platforms may be purchased, outsourced, or open-sourced, several notable higher education portals have been developed in-house. UCLA was the early leader in higher education portals with the introduction of MyUCLA (http://www.ucla.edu/). MyUCLA successfully adopted the Excite model, providing a wide range of services from a clean, consolidated, customizable interface. More recently the University of Minnesota's MyOneStop (http://www.umn.edu/tc) has demonstrated how a channel can deliver not only information but also "process": that is, an application that performs a function or transaction. MyOneStop contains URL lists, text display, JAVA applets, and application interfaces.

Just as presentation options can be self-selected by each user, presentation can also be tailored to an individual based on role or behavior. The University of Washington's MyUW (http://www.washington.edu/protos/myuw/demo) defines a wide range of these roles to provide Web-based service to disparate customer groups. Each view of the MyUW portal is carefully crafted to meet the specific needs of each group. Another way of tailoring information presentation to meet the needs of the individual is to display information only when needed, based on timeliness, calendar, or season. For example, "kicking off the semester" is useful only at the beginning of the semester; "preparing for graduation" is important only to seniors. A portal can morph through several versions as a prospective student becomes an applicant, then an admit, and finally a matriculated student. The University of Buffalo has mastered this element of time in its MyUB (http://www.buffalo.edu/aboutmyub/index.html).

Portal publish-and-subscribe mechanisms allow information providers to publish channel content in a format that can be displayed in the campus portal. While personalized channels can be derived from private data in institutional databases, service providers can also publish general-purpose channels targeting specific interests or market segments. Authenticated users can choose to subscribe to channels produced by both internal and external information providers. The portal thus connects each customer with the information needed to conduct routine campus business and to support the academic effort and also allows each customer to subscribe to optional information resources. However, the portal does more than connect people with information; it also connects people with people. The portal framework is augmented with tools to build Web community: forums, e-mail, calendars, chats, and more. This groupware allows the creation of communities of interest among the individual users of the campus portal. These communities may be used to build and manage new relationships in the classroom, around campus, and across the country.

Much of the recent interest in campus portals is the result of the widespread marketing of free campus portal services such as MyBytes (http://www.mybytes.com) and Campus Pipeline (http://www.campuspipeline.com). A number of these portal services will host a campus portal in exchange for the display of advertising, marketing, or commerce links to campus customers. Although this affordable, turn-key solution may be necessary for some institutions, it involves the danger that multiple portal services will make inroads on a single campus. Since these products are often promoted directly to departments or individuals and do not require campus-wide purchase, acquisition can be done without central control. If the College of Agriculture adopts one portal while the Department of Chemical Engineering adopts another, information consolidation will be hindered.

Application vendors such as PeopleSoft and Blackboard also understand the power of the institutional information portal. They realize the potential for income generated by commerce links and offer portal products interfacing to their and other applications. When considering portal platforms supplied by application vendors, institutions must take care not to "extend the stovepipes" by adopting multiple portals. An academic portal might compete with an administrative portal requiring different user IDs and passwords and providing inconsistent user interfaces and navigation. The power of the portal lies in its ability to span all campus information and provide a consolidated view, resolving the differences between disparate systems.

Those who want to avoid commercialism of the campus Web space and those who insist on maintaining ownership of the valuable institutional information resource may purchase portal platforms from software suppliers such as Epicentric (http://www.epicentric.com/). Acquired portal platforms provide a large amount of flexibility, allow a campus to deliver a unique presentation, and afford a high level of institutional control. There are also open-source portal solutions for those who want more customized control of the platform itself. The Apache Group's Jetspeed (http://java.apache.org/jetspeed/) and the JA-SIG Portal Project (http://www.mis2.udel.edu/ja-sig/) are two such solutions. The JA-SIG (Java in Administration Special Interest Group) Portal Project is a collaborative effort that targets the needs of higher education institutions. The project—led by Princeton, Yale, Georgetown, Delaware, and Notre Dame—provides a free, open-source portal framework to any institution of higher education.

The institutional information portal can be an effective tool to manage relationships with various constituencies. Portals can target specific customer groups while meeting the unique needs of each individual. Portals enable consolidation, customization, and community. Rapid changes associated with the emerging technologies of the digital economy provide us with new, more effective ways to conduct routine campus business. Although the institutional information portal has recently emerged as an effective technology to address the need for personalization and community, there will be other technologies . . . over the horizon.

Note

1. David Gelernter, *Mirror Worlds* (New York: Oxford University Press, 1991), 3.

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