

**Chapter 4**  
**All About Web Portals:**  
**A Home Page Doth Not a Portal Make**

Howard Strauss

**Web Portals and Higher Education**  
**Technologies to Make IT Personal**

Richard N. Katz and Associates

A Publication of EDUCAUSE and NACUBO

Copyright 2002 Jossey-Bass Inc.

Published by Jossey-Bass, A Wiley Company. Reprinted by permission of John Wiley & Sons, Inc. For personal use only. Not for distribution.

# All About Web Portals

## *A Home Page Doth Not a Portal Make*

Howard Strauss

The World Wide Web continues to be the preeminent application on the Internet because it has regularly reinvented itself. In fact, for most people, the World Wide Web has become synonymous with the Internet. With the introduction of Web portals, the Web is in the process of reinventing itself once again. This change may prove to be more far-reaching than any other change to hit the Web, and it will change the way that university and corporate Web pages are built, the organizational structures used to build them, and the fundamental way that people use the Web. Portals are not a fad or a new name for something that we've been doing all along. They will turn the Web from an institution-centric repository of information and applications to a dynamic user-centric collection of everything useful to a particular person in a particular role. Instead of a single home page that proclaims identically to all who visit how grand the institution is, portals will give nearly every user a customized, personalizable, unique Web page.

Every information technology (IT) vendor and many IT professionals are rushing to produce portalware and portal-like Web pages without fully understanding the scope of a portal undertaking for an institution or even really understanding what a Web portal is or should do. At the 2000 Detroit Auto Show, Ford's former CEO, Jacques Nasser, said, "We will do nothing short of transforming our cars and trucks into a portal for the Internet." Cars cannot be a Web

portal. They might access a portal, but Mr. Nasser is using *portal* to mean any place where you can access the Web. Peter Granoff of Wine.com says that they will become *the* wine portal. Mr. Granoff probably means that everything you'll want to do with wine will be at Wine.com and it will remember your preferences. That's at least somewhat portal-like. Digiscents is building a Snortal, a Web portal for interactive smelling experiences. CampusPipeline.com wants to build the student Web portal for your university, and dozens of companies, including IBM (Enterprise Information Portal), Oracle (Enterprise Portal), PeopleSoft, Blackboard, Pearson, and many others offer portal products. Within two years virtually every software vendor will offer some portal product or will assure you that their application will at least run with whatever portal you choose.

Beyond this group of dot-coms that would sell you their portalware are hundreds of sites that vie to be your free portal to the Web, such as Netscape's NetCenter, Excite's My Excite, Yahoo's My Yahoo, AltaVista's My AltaVista, and many others. Soon, almost anything you put the word "My" in front of will produce a portal-like Web page—for example, My.ragingbull.com, My.ticketmaster.com, and My.propertyline.com.

## What's a Portal?

With so many portals out there and so many vendors hawking portalware, one might think that there is at least a firm agreement on what portals are. In fact, there are many confusing and often contradictory definitions. Some people even believe that just putting the word *portal* prominently on their home page makes it a portal. After all, with enough links, and especially a link to a search engine, any home page can give you access to much of the Web. Isn't that a portal?

It is useful to divide portals into two groups: horizontal portals, or HEPs (Horizontal Enterprise Portals, also called megaportals), and vertical portals, or VEPs (Vertical Enterprise Portals). A hori-

zontal portal is a public Web site that attempts to provide its users with all the services they might need. NetCenter and MyExcite are examples of horizontal portals. All HEPs include shopping, weather, stock prices, news, search engines, chat groups, horoscopes, and so forth, and they all urge you to make their page the first page you see when you use the Web. They allow you to personalize the page you see by selecting the cities for which you'd like the weather, choosing the stocks and news sources you'd like to display, altering the appearance of the Web page, and much more. Some HEPs let you do extensive personalization, allowing you to build multiple stock portfolios and see frequently updated valuations. Typically, but not always, the personalization is held in Web cookies that are stored on your local computer. Accessing a HEP from another computer loses all of your personalization. HEPs almost always include advertising that pays for the portal, and their goal is to attract as many eyeballs as possible.

HEPs do not give academic or corporate employees access to everything they really need on the Web. Much of what an employee of any kind needs on the Web is specific to where he or she works and his or her role in that organization. Employees need university calendars that include university holidays and events, access to financial reports, the status of the tasks they are working on, organization charts, benefits information, and much more. Different people need quite different information, depending on their role. Students, for example, need to see their course and exam schedules, the books they have borrowed from the library, their grades and grade point average, their financial aid status, information about their extracurricular activities, and so forth. Prospective students, their parents, the parents of enrolled students, alumni, faculty members, scholars from other institutions, and vendors to the university all have very different needs for Web information from the same organization. Horizontal portals have no way of offering that kind of organization-specific information because they are not connected to any organization's data sources except their own. Only your own

organization or organizations can really deliver access to all the Web information you need, and even then, much of the information you need will be outside your university, such as your very important TIAA/CREF or other retirement plan information.

A VEP is a portal that delivers organization-specific information in a user-centric way. A university VEP should also deliver all the information a HEP delivers. Whereas a HEP looks the same to all who first enter it, a VEP looks quite different. Unlike a HEP, a VEP requires authentication for access. When a user logs on to a VEP, it produces a customized portal page, tailored to the user who logged on. It knows a great deal about the user who logged on because the user is a member of the organization that produced the VEP. It knows, for example, what cohort a user belongs to (for example, student, faculty, staff), what role a user plays (for example, help desk manager, department chair, lacrosse team member), what projects a user is involved with, how many vacation days a user has taken this year, and much more. The information that no HEP could possibly know can be used to customize a portal page so that even for a first approximation it contains all the Web information a user would normally use. Naturally, that would look quite different for different users, and, of course, as with HEPs, the user can personalize the initial portal page.

## CPAD

Ultimately, a vertical university portal should be a single *CPAD*—a customized, personalized, adaptive desktop. Customization is done by the portal software's knowledge of an authenticated portal user. When you authenticate to a vertical portal, it can gain access to a great deal of information about you and present you with a customized portal page. Every user of a vertical portal should see a different customized initial portal page, since no two people are exactly alike. The portal's customization engine that resides on the portal's application server is responsible for determining each user's roles,

responsibilities, workflow, and the information that that person is authorized to access. As this information changes, the portal changes the customized portal view that it presents to you. Better customization makes for a better portal. HEPs have little or no customization, since they initially have access to very little information about you. And one hopes that they don't have access to your personal university data.

Even the best customization will not be able to give you the perfect portal. Everyone works differently and has different needs and desires. A portal needs to let you personalize the portal pages and needs to both remember and let you undo personal changes that you make to the customized portal. At the very least, you need to be able to subscribe and unsubscribe to channels and alerts, set backgrounds, colors, fonts, and the position of everything on the portal, set application parameters, create and edit profiles, add and remove links, and in dozens of ways make the portal a perfect fit for the way in which you do your everyday work. Not only should the portal give you ready access to all of the information and applications that you commonly use, it should also give you that access in the way that is best suited to you.

A portal should be adaptive. It should know your schedule and workflow and present you with the right information at the right time. It might know, for example, that you create your capital budgets in the spring and do employee performance evaluations in February. The right tools to do these tasks should appear at the right time. It should also sense the way you work and suggest ways to facilitate what you are doing. If it sees you leaving the portal often to use some remote application, it should help you add it to the portal or just add it itself.

Finally, the portal should be your computer desktop. It should be *the* application that appears first on your screen and in most cases should replace everything else on your computer desktop. From a user point of view, the portal will become the computer. Users would do e-mail, text processing, budgeting, system design, and all

of the work they might need to do via the portal. Looking at the screen desktop of such a user, the only thing that would ever appear would be the portal and the things obtained via the portal. This vision of a portal as a customized, personalized, adaptive desktop or CPAD is just a bit down the road, and it is where we should be going. With a CPAD, the operating system you use, whether Mac, PC, Unix, or Linux, is not obvious or important to a user. Neither is the hardware. A CPAD being accessed from a wireless laptop, palm-sized computer, Web appliance, Web phone, or intelligent watch, would be automatically customized to fit that environment.

### **What's in a VEP?**

A VEP is a single page with access to all the information and applications a user commonly needs. It will contain alerts, navigation tabs and icons, directories, graphics, and links.

Because a VEP should be *the* place for a user to obtain Web information, it must include an advanced search capability. The search should include the ability to search all of the Web, only the Web pages of the user's organization, the information on the actual portal page the user is viewing, or only information related to specific channels on the portal.

Most of a portal's functionality will be contained in small window-like areas called channels.

### **Channels**

Although a portal is much more than a dynamic list of links, it will definitely contain many links. Almost all of the links will be contained in channels. Channels contain specific information and/or applications, such as stocks, weather, benefits, search, calendars, and so forth. Often, the channels are arranged newspaper-style in columns, with several channels appearing in each column. When a portal first appears, its customization engine subscribes a user to the most appro-

priate channels. The contents of a channel can be personalized, and its size, appearance, and position within the portal page can also be personalized. In addition, a user can subscribe and unsubscribe to any channel he or she is authorized to access. Not all such channels will necessarily appear when the portal is first viewed.

A channel gives a user access to specific information. One way to do that is with links, which channels do use, but filling a channel totally with links turns it into little more than a dynamic bookmark or favorites list. Traversing hypertext links for commonly needed information makes for a poorly designed portal. A channel needs to display the actual data or part of the actual application a user needs, not a link to it.

Suppose a department manager needs to track the amount of money left in her capital budget. She would like the budget channel on her portal to display that amount right on the portal page. These tiny data windows within a channel that display small but important parts of critical data are called *data cameos*. A channel can also display *application cameos*. These are small but important parts of an application. An application cameo enables a portal user to run a small bit of an application within a portal channel. When appropriate, the user might enter data into an application text box within the application cameo to produce some result. For a searching channel, there would be no link to a search engine. Instead, there would be a text box into which a user would type his or her search request. There would also be a number of buttons and switches to select the kind of search needed. Depending upon the results, they might be displayed within the portal channel or on a new Web page. For example, a common search that many people do is to enter a name to look up a university phone number and e-mail address. In this case, a user would just enter the person's name, and the corresponding e-mail address and phone number would appear on the portal page with the search channel.

Channels can also contain Web cameos that are similar to data and application cameos but have as their source a Web page or Web

application. Links should be used only when it is impossible or impractical to use cameos.

## How to Proceed

Many universities are considering what they call student portals or course portals or financial information portals. Although starting with a portal that has a limited constituency may make sense, the goal of a university should be to move as quickly as possible to a single portal that serves everyone: students, faculty members, staff members, alumni, parents of students, prospective students, trustees, donors, and anyone else who would access a university home page.

Before you proceed, look at what others have done. Even using the common free horizontal portals will give you many ideas of what's possible and what works well or poorly.

The portal you build or buy (or, most probably, buy and build onto) should have a single sign-on. From a single portal, most users will access many applications that today require separate authentication. A user needs to authenticate once to a portal and then have the portal authenticate the user to all authorized applications as necessary.

It should also be easy for IT folks and users to add and delete channels, even channels that are far outside the realm of your university.

The Web is about to change again. Portals represent an enormous change to both the user and the IT staff, but it is a change that will add great value to all university information and applications, make your users and IT staff members much more efficient and productive, and provide a compelling, entertaining, and educational experience for all who visit your new user-centric Web site.