

Optimizing Campus Web Sites

Is the portal approach a solution to improving campus Web site usability?

by **Ali Jafari**

Like most companies, higher education institutions generally have a Web site. A college or university's Web site provides the primary navigation interface and gateway to online resources and information about the institution for prospective and current students as well as for the faculty and staff. Most campus Web sites offer a wealth of information about school and department programs, campus directories, news, activities, and so forth. But there is a problem with our campus Web sites that I think we need to address.

My ten-year-old son goes to Amazon.com and in less than 10 minutes he finds books and toys and e-mails me his wish list. On the other hand, I see my faculty colleagues and students getting lost trying to find basic information on university Web sites. I decided to explore this major usability contrast between commercial and educational Web sites with an informal study.

Between December 1999 and January 2000 I investigated 60 college and university home pages, which I randomly selected from the member organization list on the EDUCAUSE Web site. I then reviewed each site for its usability from the following perspectives: current (internal) versus prospective (external) user interface design, search capabilities, download time, and other overall user

interface design issues.¹⁻⁶ Following is a summary of my findings.

Who's the Audience?

From my personal study I concluded that most university Web site designers have difficulty deciding who to design the site for: current (internal) users or prospective (external) users. Given this confusion, more than 90 percent of the sites I visited opted to compromise and design a single Web site that did not offer a usable interface for either internal or external users.

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The information and resources needed by an institution's current members (students, faculty, and staff) are different from those needed by prospective members. For instance, current members are less interested in knowing about various degrees available or in viewing promotional materials. Instead they need to know where to find information about

e-mail accounts, library resources, courses, housing, and laboratories as it relates to their day-to-day work. Prospective members are more interested in the quality and diversity of degrees, degree requirements, tuition, credit hours, research programs, jobs, and so forth. Prospective members are also interested in finding information such as e-mail addresses of current users, application forms, and public resources.

Mixing the information categories needed by both current and prospective members on a single Web page results in a compromised design solution that does not serve either group well. A simple way to fix this problem is to place a link on the home page that leads visitors to another page that provides different categories of information for the current students, staff, and faculty. Only three of the 60 web sites I studied offered this feature. (See the University of Michigan Web site at www.umich.edu and University of Delaware at www.udel.edu for good examples.)

Search Engines

Only 56 percent of the sites I studied included a search engine. Among the sites with this feature, very few of the searches I conducted resulted in useful or functional results. Many search results consisted of a long list of hyper-

links with meaningless or locally known names and acronyms that made it difficult for me as a first-time visitor to locate information. Stanford University offered a good search engine appropriately placed on its Web site.

Placing a search engine on the front page of a Web site provides simple, quick access to information available on the entire site. Search engines are quite useful, particularly when the visitors are not sure where to find what they want. To understand the importance of a search engine for a university Web site, imagine trying to find a book at Amazon.com without the benefit of its search engine.

Long Download Times

On average, the Web sites I studied had an average home page size of 94.3 KB. While the home pages did contain nice pictures and graphics, which do make the pages more aesthetically pleasing, they suffered from long download and access times. The average site took 47 seconds to load using a telephone-line Internet connection. This is almost five times longer than the maximum 10-second response time recommended by Jakob Nielsen, author of *Designing Web Usability: The Practice of Simplicity* (New Riders, 2000).³ Only a few of the sites I visited had download times that met Nielsen's speed criteria. Web site designers should consider download time when they build a home page because both prospective and current users often access the site from off campus with 56 Kbps (kilo bits per second) or slower connections and not from the very fast campus backbone network.

What's in a Name?

Colleges and universities have thousands of internal departments and individual home pages but it seems that there is no consistency for departmental domain naming. Once a visitor knows the name

or acronym of an office, department, or school within a university, he or she should be able to correctly guess the URL for the department rather than referring to the campus Web site or a phone book. In most cases, the correct URL is not intuitive. For example, because universities lack standard and central policies for URL naming conventions, a university's library URL might be any one of the following examples—or many others:

<http://library.universityname.edu>
<http://www.universityname.edu/~library>
<http://www.universityname.edu/library>
<http://www.universityname.edu/library.html>
<http://www.universityname.edu/library.htm>

Because universities lack uniform URL filing structures, guessing URLs can be difficult, which decreases Web usability and makes it frustrating. Universities can easily use acronyms already in use for departments, academic programs, and services to create logical URLs. Once an institution adopts a single domain naming convention, users will be able to accurately guess URLs for any given department Web site or individual homepage. For instance, if the computer science department code is CS, information technology services is IT, and the e-mail address of professor David T. Mills is dtmills@universityname.edu, the following domain names could be used for the Web sites and homepages of CS, IT, and Mills, respectively:

<http://cs.universityname.edu>
<http://it.universityname.edu>
<http://www.universityname.edu/~dtmills>

University IT departments should establish a domain naming policy, encourage or enforce the standard, and establish domain referral servers to automatically correct previous off-standard internal domains.

Designed by Committee

There may be reasons for inadequate .edu Web sites other than those enumerated by Web usability experts such as Nielsen. Perhaps the traditional practices and internal politics within higher education institutions provide the best explanation: Universities tend to use committees or task forces to make decisions. Many campus Web sites seem to have been designed by a committee, usability-tested on the committee, and refined and approved by "the boss." The boss can vary from the person with overall responsibility for campus Web site development to the vice president or director of the campus information technology unit to the president or chancellor. The boss could also be a campus political figure. In most cases, the boss has no expertise in user-interface design.

Designing, testing, and approving a site by committee is another difference between .edu and .com sites. A .com's usability has a direct effect on customer satisfaction, the company's reputation, and the company's financial success. Businesses pay careful attention to their Web design team's expertise and the robustness of their usability tests. Higher education institutions, however, do not appear to be as concerned about the usability of their sites from the customer perspective or how it relates to their bottom line. And while it may be appropriate to have a committee oversee and set direction for campus Web site design, it is also important to include people in the design group who have knowledge and expertise in user interface, graphics, and Web usability testing.

More Is not Always Better

Although I found no published reports on user satisfaction criteria for campus Web sites, some colleges and universities report hits as an indicator of a

popular or a good Web site. But a large number of site hits may not necessarily mean that the site is either useful or popular. In fact, it could indicate a bad interface design that leads visitors through many pages and layers of interface before finding the desired information. In other words, the more lost and wandering the users, the more hits a server receives.

In most cases, though, it is easy to tell if a Web site is easy to use. Before going through extensive usability testing, ask a classroom of students about their navigational difficulties on the campus site or ask faculty members similar questions at a departmental gathering. Examining the types of questions the campus help desk receives is a useful indicator of Web site effectiveness. If the help desk is fielding questions that are answered on the Web site, it could indicate inadequate Web design or navigational tools.

Alternative Design Solutions

Redesigning a Web site to improve overall usability is not that hard. Numerous publications provide guidelines for better Web site design and instructions for Web usability testing. Essentially, if sufficient will and resources are available, most sites can be improved fairly easily. The more important question, however, may be: Is the traditional Web home page design concept still a viable solution for colleges and universities? The answer may well be *no*.

Colleges and universities include many different departments, programs, and internal and external members with varied needs and expectations. To design a "static" single Web page with a fixed menu to serve all of these purposes—assuming links could be provided to different views for different audiences—is no simple task. Thus the timing may be right for schools to think more seriously about developing a cam-

pus "portal" rather than restructuring the static campus Web site. Certainly a portal could complement the existing site.

A Web Portal Approach

A Web portal is a smart and dynamic environment that can provide personalized information and resources to individuals with different roles, interests, rights, and so forth. The Web portal is a fairly new concept, and there is not yet a common understanding or specification for its functional and technical design. With some computer programming universities can convert a static Web site into a portal, linking servers to particular university databases and student information systems. Depending on design sophistication, a Web portal could provide various categorization and personalization levels to various groups and individual visitors.

Imagine having a logon box in the top left corner of your university home page (www.youruniversity.edu). Once you enter your assigned username or e-mail address and password, you get your own customized Web page. If you were a faculty member in engineering and technology (E&T), the portal could provide a Web page with the links frequently used by E&T faculty members, including links to library materials relevant for the courses you teach. With the portal approach, after one click of authentication you can access not only a campus Web site but also your e-mail, calendar, news, courses, personal bookmarks, stock quotes, file server, and so forth. You could further personalize your portal display to satisfy your design preferences.

The ETA for Web Portals

Although none of the college and university Web sites I studied currently offered Web portals, a number of institutions are advancing this approach and it will soon be a basic feature. Some universities have already begun to offer a

course portal—a subcategory of a campus Web portal—limited to teaching and learning needs.⁷ And a growing number of companies, in addition to some university research and development laboratories,⁸ have begun to conceptualize and deliver commercial Web portal software.

Complementing or replacing traditional university Web sites with Web portals could substantially reduce current usability problems. Before too long perhaps every college and university Web site will be as easy to use, personalized, and dynamic as those offered by today's popular commercial portals—while much more relevant to their community's needs. *e*

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