



Flyer 246

Web Page Development and Management

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INTRODUCTION

The World Wide Web (WWW) is an HTML-based, information retrieval system that provides end users with an easy tool for accessing global information. Since the inception of the University of Illinois National Center for Supercomputing Applications (NCSA) Mosaic software in 1993, the WWW has rapidly emerged as one of the most popular and information-rich Internet resources. The tremendous success of the WWW has led to the rapid growth of library web-based information, collections, and services. It is now possible to access many library resources in full-text and multimedia formats (e.g., audio, image data, video) online.

SURVEY RESULTS

A survey of ARL library homepages on the WWW was first conducted in 1996. It was designed to answer a number of basic questions about ARL libraries in cyberspace: which libraries had begun creating library web homepages, as well as when and how they had begun development. Also of interest was the development of web-based collections and services, web software and hardware, and web management. Because the following two years was a significant period in the development of web-based information technology, a second survey was distributed in May 1998 to gather more recent data and update the 1996 findings. Fifty-six out of the then 119 ARL member institutions (47%) responded to the 1996 survey, and sixty-eight out of 121 ARL member institutions (56%) returned the 1998 survey. This set of responses helps to characterize ARL member libraries' World Wide Web history, development, use, and activities.

WEBSITE DEVELOPMENT

In 1996, building a library homepage on the web was still relatively new to ARL libraries. Ninety-six percent of the responding institutions had built websites in the previous 24 months. Fifty-four percent of the respondents did not have guidelines for homepage design. Seventy-three percent provided text-only resources on their homepages, although quite a number also used current web development techniques, such as CGI Scripting (77%), Active X (7%), and Java Applets (16%). In 1998, 67% of

the libraries had guidelines, and many were planning to add new web-based services and features. The success of library websites can be seen in the tremendous increase in the number of hits per month that they experienced. The average number of hits per month more than doubled from 1996 to 1998.

Because web software is the core component of any website, it is interesting to compare ARL members' choices to other website developers. The web software products used in ARL libraries differs slightly from that used on the Internet in general. As of December 31, 1998, the top three web server software products used by ARL libraries were Apache (34%), Netscape (30%), and NCSA (12%). Microsoft products were a distant fourth (8%). In comparison, as of December 1998, according to a Netcraft survey,¹ the most widely used server software throughout the Internet was Apache (50%). Microsoft server software had a 24% share of the market, and Netscape had only a 7% share.

Web browser software, designed for discovery and retrieval, has proved to be a powerful and useful tool for bringing information-rich Internet resources to a user's fingertips. It provides a unified interface to the diverse protocols, data formats, and information archives available on the web. The 1996 survey showed that member libraries were using multiple browsers. Netscape was the most used web browser (98%), followed by Lynx (73%), Microsoft Internet Explorer (42%), and NCSA Mosaic (36%). In 1998, however, the data shows a different distribution, with 91% using Netscape, 48% using Internet Explorer, 43% using Lynx, and 9% using Mosaic.

The 1996 survey results revealed that ARL library websites were serving as a common access point to library electronic resources. The primary services provided on library homepages were links to online public access catalogs (98%), links to other library homepages (93%), and access to reference resources (91%). Forty-one percent of library homepages had a "new acquisition list" online. Training or guides for end users on how to use the web were provided by 78% of the libraries surveyed. By 1998, 93% of the responding libraries had information resources that were available only through their websites, such as JSTOR and electronic reserves.

WEBSITE MANAGEMENT

"Library Web Master" became one of the hottest new positions in academic libraries in the mid-1990s. In 1996, 48 survey respondents (86%) had at least one web administrator, with an average of 3 FTE devoted to library web development. Almost an equal number had such a position in 1998, but web development responsibilities were spread much more broadly across the library staff. Seventy-six percent of the web administrators had the professional title of "librarian." In 1996, 47 of the respondents' websites (84%) were administered by the library, while 13% were jointly managed with other academic/research units.

Of those ARL libraries responding to the 1996 survey, the majority administered at least one Unix-based (89%) or NT (27%) web server, with an average of 2.2 servers per site. In 1998, there were many more servers in ARL libraries. Thirty-four percent of respondents had five or more web servers running a variety of software.

Because of the dynamic and interactive nature of the web, ARL libraries update their homepages frequently. Of those responding to the 1996 survey, the majority reported updating their pages daily or weekly. A similar frequency was reported in 1998.

The year 2000 crisis has made Y2K compliance a hot topic, as well as a challenge, within ARL libraries. The 1998 survey results indicated that only 53% of respondents are Y2K compliant. The situation has been improving, one hopes, since the data was collected.

ISSUES AND TRENDS

The World Wide Web is a powerful tool, a multimedia resource that greatly enhances the library's traditional role as an information organizer and provider. Since the first websites began appearing in ARL member institutions in early 1993, there have been three phases of development.

The first phase could be described as the "outreach" period. Early websites reflected efforts to build a main homepage which represented a library's physical image, from library hours to OPAC links. It was a task-oriented model, sending the traditional messages about library locations and services.

The second phase could be called the "user-centered virtual library on the web." Many sites are still in this customer-oriented stage of development, as they are based on subjects, electronic course reserves, and events-driven content such as web exhibits of special collections, new book notices, and new journal notifications—to name a few. This phase mirrors libraries' efforts and commitment to expand a virtual electronic library beyond space and time.

The third phase is still developing, and it is more individually oriented. Web contents, interfaces, and subjects are likely to build upon an individual user's profile, behavior, and history of use. This specialized model is based on newly available commercial web tracking and measurement tools that can generate a self-report or individualized homepage based on the user's individual information needs. This is a natural extension of the previous user-centered model into a new, technologically more sophisticated level.

Progress has been made since the 1996 survey, but more remains to be made. The web browser is becoming a leading library OPAC interface, replacing traditional text-based interfaces. By the end of 1998, 84% of respondents had web platforms for their library online catalogs. This trend will undoubtedly continue. Most ARL libraries provided search engines for their websites in 1998—a significant improvement over the two years previous—but many websites still lack standards and user validation. And although a majority of respondents (83%) reported in 1998 that overall their library collections and services were "much better" since the establishment of their websites, 63% still did not have official electronic collections development policies or guidelines.

Building a well-balanced library website is a multi-level and complex task that involves virtually every librarian or information provider as well as the user community. Library web development demands professional expertise, networking and web authoring skills, and artistic creativity. A high-profile library website should incorporate the following components into its homepage: easy navigation, strong graphics, rich content, multimedia formats, a well-indexed search engine, and fast communication.

This SPEC Flyer and Kit were prepared by Y. Peter Liu, University of Delaware, as part of the OLMS Collaborative Research/Writing Program.

¹Netcraft <<http://www.netcraft.com/>> is a networking consultant company based in Bath, England. It is well known for its Web Server Survey that measures all aspects of the Internet topology, including web servers, operating systems, content technologies, streaming media, virtual hosting, and ISP markets.

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