

Library Portals and an Evolving Information Legacy

Frederick Stielow

American Military University, USA

INTRODUCTION

Many authors report uncertainties over the expression *Web portal*, but nowhere are these more understandable than with library applications. On one hand, the phrase *library portal* is a tautology. In keeping with the traditional role of a *doorway to knowledge*, much of the library's Web presence is characterized by portal functions and their continuing role as "trusted" information resources. On the other hand, the library as metaphor appears prominently in the literature of Yahoo, MSN, Google, AOL and other modern innovators to explain their new technologies for personalized information services.

Whatever the semantic or construction variations, library portals have emerged as a major presence on the information highway. As presented in the following snapshot from early 2006, this phenomenon is best understood within the context of a historical chain of development—but a chain that is likely to continue to evolve for the foreseeable future.

EARLY BACKGROUND

Libraries have long been dedicated to portal-like capacities; moreover, they remain a major test bed and pioneered many of the elements that underlie current Web approaches. Early efforts can be divided into two overlapping paths. The main road traces to the origins of professional librarianship. The field arose in the nineteenth century during a veritable explosion in the output and variety of publications (e.g., dime novels, modern newspapers, illustrated magazines) that fostered the rise of mass culture. Newly minted librarians responded with cataloging and classification approaches to organize and manage human knowledge that remains viable today and are often mimicked by other Web portals.

Another trail surfaced in the 1930s. Responding to the heightened compression offered by micrographics and new delivery mechanisms, Frenchman Paul Otley (1934) and his colleagues focused on scientific information. These documentalists, the forefathers of what we now call information science, created many of our modern indexing and retrieval concepts. Working in Europe, and under early contracts from the National Agriculture Library, the Library of Congress, and then wartime intelligence agencies—they sought to enhance

beyond the established presentation of books through classified shelving and the early twentieth-century innovation of catalog cards. Instead, the goal was the proactive delivery of journal and research "documents" to the client.

Otley's (1934) concepts even went beyond document distribution to consider how enabling scientific information might work as an active agent for world peace. Such transformational—albeit often less altruistic—prospects were in the air as World War II drew to a close and a better-known visionary stepped to the fore. In "As We May Think," Bush (1945) proffered the essence for present-day portals as a personalized concept of library services, which he termed "memex":

Consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and, to coin one at random, "memex" will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.

ONSET OF LIBRARY AUTOMATION

Librarians and documentalists continued their experimentation for memex-like services in the 1950s. Book catalogs were enhanced by controlled vocabularies from the *Library of Congress Subject Thesaurus*. Mortimer Taube (1953) and others pushed the proactive delivery of user-tailored information as selected dissemination of information (SDI). They experimented with automated retrieval and Boolean operators along with keyword and other varieties of indexing that remain in operation with current search engines.

Groundwork continued to be laid over the following decades. Zhou (2003), for example, traces the origins of library portals to the mid-1960s and human-mediated, customized searches for Index Medicus. Crucial developments on the book side materialized in 1968 with the Library of Congress- and British Library-commissioned MARC (MACHine Readable Cataloging). MARC database structures fostered a new marketplace and drive for automation. National information networks, like OCLC and the Research Libraries Network, appeared. Private industry entered the picture to

develop computerized library systems and pioneer digitizing article literature.

In the 1980s, library terminals offered the public its first taste of networked information services. In addition to book catalog records, libraries extended electronic access to journals from database aggregators. In a precursor to their Web operations, librarians stepped forward with home-grown “subject pathfinders” in print and then computer outputs. Given the earlier involvement of academic and scientific libraries with Arpanet, these specialists were ready for its transfer to the public sphere in the mid-1980s and offering both information and e-mail services. By the early 1990s, librarians were transiting their subject guides as gopher sites with “Archie” and “Veronica” for distribution on the Internet.

THE WEB AND GENERIC PORTAL CONCEPTS

The field was well positioned for the next voyage—the revolutionary hypertext opportunities offered by Tim Berners-Lee’s World Wide Web. Library pages quickly emerged as prominent resource intermediaries on the early Web. This role continues to a degree with mega sites, like the Internet Public Library at <http://www.ipl.org/>. Yet, any library pretence of exhaustive coverage quickly paled with “democratization” of the medium after 1994. In that year of “killer apps,” the Netscape browser let loose an uncontrollable deluge of sites, and Yahoo opened the new era of search engines.

As Stielow (1999) and other commentators have indicated, libraries have actively continued to carve a special role within the Web revolution that followed in the late 1990s. For example, OCLC produced a restricted Dublin Core cataloging set that led to the World Wide Web Consortium’s [W3C] semantic network initiative. Most of the field’s responses, however, could be characterized as more “portal” in nature. The Library of Congress took the lead with its American Memory and then an international campaign to present and preserve the world’s documentary treasures. The Finnish public library portal at <http://www.publiclibraries.fi> proffered a national starting point for a variety of information, cultural, and even children’s services.

At the local level, the library Web page became de rigor, but was subtly differentiated to reflect four basic settings: academic, public, school, and special. Libraries also came to play a specialized role in negotiating between the Open Web and licensed resources on the Deep or Invisible Web. In addition, the variety of their Web offerings expanded with an emphasis on information brokering. The resultant gateways or generic library portals ranged to include:

- **Online Public Access Catalogs:** These vendor produced devices open to book catalog records, which

included the facility [MARC 856 linking field] to tie directly to e-books. Interfaces can often be configured for broader access to other library services.

- **Electronic Article Databases:** Vendor produced interfaces that tie to individual titles or accumulations of journals.
- **Subject Collections:** Drawing on earlier pathfinders and gopher sites, librarians authored homegrown “book-mark” pages of resources that act as launching pads or tailored alternatives to the massive results from Web search engines. Such approaches prototyped a genre of vertical applications that Jacso (2001) termed “library vortals.” In a variant currently under development at the American Military University, pages are tuned with resources from the Open and Deep Web in direct support of academic programs.
- **Departmental/Local Content Pages:** Individual library departments, especially Special Collections, showcase their type of services and materials—especially treasured artifacts.
- **Information Literacy:** Home-grown or pre-packaged training with a focus on Web research skills and ensuring citational standards.
- **Community Resources:** These reflect the particular institutional setting. They vary widely from local sites and weather reports for the public library to a research specialization with chat rooms and threaded discussion groups in a university or school setting.
- **Virtual Libraries:** The broadest approach attempts to electronically reproduce the above and as much of the spectrum of traditional library services as possible for remote delivery.

ENTER MY PORTALS

Such resources emerged as content options to greet the launch of the new portal application with My Yahoo in 1997. The race was on to draw patrons into a controlled environment with customizable, library-type of service. This technology presented the library community with daunting challenges and nuanced opportunities. According to Morgan and Reade (2000), the initial response appeared in short order with the PERL-based MyLibrary portal at North Carolina State University at <http://my.lib.ncsu.edu/> in January of 1998. Eric Lease Morgan’s homegrown application was soon followed by the University of Washington’s My Gateway at <http://www.lib.washington.edu/>.

The phrase “library portal” seems to have entered the library field’s formal lexicon from a January, 1999, session of the Library and Information Technology Association (LITA). LITA’s (1999) “Top Technology Trends” for that year recognized a newly enhanced interface design that allowed for “customization, interactivity and customer sup-

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