

# Web-based Digital Resources and Services in Library Environment

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## Abstract

Information and Communication Technology has revolutionized the information handling activities in the libraries and information centers during the past few years. particularly World Wide Web has revolutionized the way people access information, and has opened up new possibilities in areas such as digital libraries, Web has been emerging as formidable mode of information, communication in delivery and access of knowledge resources has become more convenient, economical due to the advent of web- technology in all walks of human life so Libraries and their resources have partially moved to the virtual world of the Internet. As a result, library users can access the resources from outside the physical library. In an effort to reach users accessing the library via their computers, many libraries and library consortia are extending their services to include virtual reference. As more libraries move towards providing services in a digital environment, the improved access to remote library collections is making the use of electronic information resources more realistic and more attractive. Traditional online services had transformed themselves into internet-based online services using web-based technologies.

**Keywords:** E Services, Digital Library, Library Page, Web model, Digital Resources.

## 1. Introduction

The web technology and Internet has changed the way of information is stored, retrieved and communicated in the libraries. As more libraries move towards providing their services in a digital environment, the improved access to remote library collections is making the use of electronic information resources more realistic and more attractive. Libraries use their websites to provide services to users without their physical presence. Some libraries provide only minimal information about their collections and services, while many offer more Web OPACs, access to online databases, e-books, virtual reference service, electronic reserves, Web-based user education tools, virtual tours, etc. The Due to the tremendous growth and continuous development of technology, the role of library becomes more responsive in making the users techno-savvy. Technological developments have affected not only the formats and sources of the information, but also how and where to provide library services. Libraries and their resources have partially moved to the virtual world of the Internet. With the amount and diversity of information available on the Internet and in databases constantly increasing, the lack of organization on the web, the demands of users who want quick, clear answers in response to an information need, and (sometimes) the lack of skills

among users to find information, there is an even greater need for reference services today.

## 2. What is web based library services?

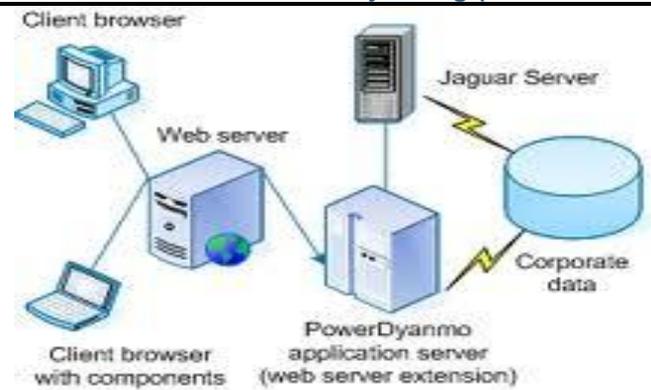
Web based Library services means that library users can obtain services whenever they need them and other databases are accessible twenty four hours per day (except for scheduled maintained and occasional system failures) from anywhere on campus.

Web Services are self-contained, modular applications that can be described, published, located, and invoked over a network, generally, on the Web.

“A set of working definitions for Web-based services linking to high quality, reviewed resources for researchers and other interested parties”

## 3. Web-based Library Services based on Digital Resources

The digital resources and associated technical infrastructure is only a means to generate services keeping its potential users in mind. Like printed resources are used in traditional libraries to generate services by the library staff, the digital resources are used to generate services using software driven web-based interfaces. Computer programs substitute for the intellectually demanding tasks that are traditionally carried out by skilled professionals. Activities that require considerable mental activities, like reference service cataloguing and indexing, seeking information, etc. are performed by computer programs through web-based interface.



**Fig 1:** web services model

### 3.1. Access to Database

Several publishers today offer web-based, intranet solutions for providing local access to their databases. Examples include Silver Platter, Cambridge Scientific Abstract and Institute for Scientific Information. Journal publishers have also begun to offer similar situation, for example Elsevier, for electronic version of their journals. Large R&D libraries can take advantage of these developments and provide desktop access to key database and electronic publications to their users. Apart from the externally purchased databases, libraries have their own collection of CD-ROM databases mounted on their CD server/tower. Online database vendor such as Dialog, Lexis-Nexis, and ERIC are delivering their database over internet. So a library which subscribes to these databases can now easily access them over Web.

### 3.2. CD ROM to Web-based Indexes and Databases

Availability of CD ROM in late 1980s, as a media with high storage capacity, longevity, and ease of transportation triggered production of several CD ROM information products which were earlier available through online vendors or as conventional abstracting and indexing services in printed format. Some of the important secondary services including

“Guide to Current Periodical Literature” (H.W. Wilson) discontinued their print version in favour of CD ROM version which had improved functionality in terms of search and browsing interfaces. The libraries are witnessing yet another migration from bibliographic databases on CD ROM to web-based bibliographic databases akin to the one that was witnessed earlier from print based secondary services to CD ROM databases. This phenomenon has further been fuelled with availability of web-interfaces for most of the online search services. The web-based interfaces provide several advantages to users that are either not possible or not yet available on CD ROM. Most web-based bibliographic databases use hyperlinks and other facilities possible in a web documents including link to the full-text of articles to a publisher’s web site. Several bibliographic databases have discontinued their CD ROM version in favour of web-based version. Besides advantages mentioned above, migration to web-based services open-up resources to remote users.

### 3.3.OPAC

OPAS’s - On Line Public Access Catalogues, form an important part of many digital library’s collections. It allows users to search for the bibliographic records contained within a library’s collections. Now days, some OPAC also provide access to electronic resources and databases, in addition to the traditional bibliographic records

### 3.4.OPAC to WebPAC

When remote access to the library catalog meant a telnet connection, users had little incentive to visit the library Web page. As WebPAC’s matured to the point where the interface was reasonably functional, many libraries phased out their dumb terminal OPACs. The library Web site then became a more logical gateway to the catalog and other Web-

based library resources. An informative home page introduces users to helpful information about the library, its collections, and services. This order of access is a good opportunity to distinguish between the catalog and other electronic indexes and databases. WebPAC is welcome with open aims because: the Web interface is familiar and graphics aid navigation. The user can click complex subject, or other, headings less typing is good.

### Some of the Web Based OPAC sites are here

Name of web OPAC	OPAC sites
The Library of Congress Online Catalog	<a href="http://lcweb.loc.gov/catalog/">http://lcweb.loc.gov/catalog/</a>
The British Library Catalog -OPAC-97	<a href="http://opac97.bl.uk/">http://opac97.bl.uk/</a> .
HYTELNET on the World Wide Web	<a href="http://www.lights.com/hytelnet">http://www.lights.com/hytelnet</a>
WebCATS- gives Geographical index, Vendor index and library-type index:	<a href="http://www.lights.com/webcats/">http://www.lights.com/webcats/</a> .
CHESWEB- British and International Catalog	<a href="http://www.chester.ac.uk/~smilne/libs.htm">http://www.chester.ac.uk/~smilne/libs.htm</a>
Z39.50 Gateway— Number of institute , colleges and universities catalogs	<a href="http://lcweb.loc.gov/z3950/">http://lcweb.loc.gov/z3950/</a> .
ROGER-UCSD's local online catalog:	<a href="http://roger.ucsd.edu/">http://roger.ucsd.edu/</a>
ULTAS Catalog: telnet	<a href="http://universe.rsa.lib.il.us/">http://universe.rsa.lib.il.us/</a>
SILO catalog from RSA: telnet	<a href="http://universe.rsa.lib.il.us/c:24/">http://universe.rsa.lib.il.us/c:24/</a>

CARL system	<a href="http://www.carl.org/cinfo.html">http://www.carl.org/cinfo.html</a>
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#### 4. Internet Subject Gateways

Subject based Information Gateways are subject entrances (clearing houses) to quality assessed Internet resources. This can be contrasted with gateways where resources are arranged according to where they are physically placed or "geographically" like W3 servers or according to what type of resource they are, such as InterNIC. Compared to common link-lists SBIGs are labor intensive, but gives the advantage of a quality-assessed collection, with standardized descriptions that gives the user a possibility to judge the relevance of the resources.

Name of Gateways	Web address
WWW Gateways	<a href="http://www.actlab.utexas.edu/gateways.html">http://www.actlab.utexas.edu/gateways.html</a>
Subject Gateways, Electronic Journals and Search tools	<a href="http://www.ucl.ac.uk/ucl/webres.html">http://www.ucl.ac.uk/ucl/webres.html</a>
Trinity College Library WWW Resources for Library User:	<a href="http://www.tcd.ie/Library/gateways.htm">http://www.tcd.ie/Library/gateways.htm</a>
Galaxy-The professional's guide to a world of information	<a href="http://galaxy.einet.net/galaxy.html">http://galaxy.einet.net/galaxy.html</a>
Australian Libraries Gateway	<a href="http://enzo.nla.gov.au/products/alg/">http://enzo.nla.gov.au/products/alg/</a>
Subject based Information Gateways	<a href="http://www.lub.lu.se/desire/sbig.html">http://www.lub.lu.se/desire/sbig.html</a>
PINAKES	<a href="http://www.hw.ac.uk/libWWW/irn/pinakes/pinakes.html">http://www.hw.ac.uk/libWWW/irn/pinakes/pinakes.html</a>
INFOMINE	<a href="http://infomine.ucr.edu/Main.html">http://infomine.ucr.edu/Main.html</a>

#### 4.1. Newsletter Services

It is very good service to the users, listing available Internet services, sites, new addition, publications, useful like Conference, Workshops, Training and Fellowship programs. A catalog of Internet base information sources is useful assets for all R&D libraries if given at regular intervals through e-mail or they can host it in their website.

#### 4.2. Frequently Asked Questions (FAQ)

FAQ stands for Frequently Asked Questions. A compilation of Frequently Asked Questions and their answer is referred to as a FAQ list or FAQ article. FAQs are compilations of information which are the result of certain questions constantly being asked hence the name FAQ. There are thousands of FAQs on the World Wide Web. Ask ERIC is an Internet question answering services run by the ERIC Clearinghouse on Information and Technology at Syracuse University, New York. Since it began in 1994 it has answered more than 2 million education-related questions from around the world. It now offers a new features for ERIC/IT, an abstracts in process database of abstracts that are awaiting final editing to be loaded on to the ERIC database updated weekly, the in process database offer 15 searchable fields and each record contains bibliographic information and an abstract of document and journal articles ERIC/IT has produced.

#### 4.3. Webcasting

Webcasting which is another example of Push Technology is defined as the "Pre-Arranged updating of news, weather or other selected information on an Internet user's desktop through periodic and generally unobtrusive over the WWW". In other words, push technology or webcasting is a method of information delivery across the web that pushes information to the screens of user's computer. It is an webcasting was

introduced by the PointCast Network in 1996.

Presently most of the webcasters concentrate on news delivery.

#### 4.4.White Board Environment

In a whiteboard environment, there can be many users connected to discuss on a topic and it is different from the newsgroup in the sense that the computer screen serves as a whiteboard and the user can draw figure using the mouse and post message/explanation in the comment box that appears simultaneously with the whiteboard for other users to view. It is multi-user Java chat and drawing program and so the systems that are connected must be enabled to download Java applets.

#### 4.5.Telnet

The Telnet service allows user to log in to another computer somewhere on the Net. Through Telnet a user can execute telnet commands on his/her local computer to start a login session on a remote computer. This process is also called 'remote login'.

Some of common uses of telnet service are:

- Using the computing power of the remote computer
- Using a software on the remote computer
- Accessing remote computer's database or archive
- Reaching public access account
- Accessing to multiple telnet through telnet
- Logging in to one's own computer from another computer.

## 5. Modern Web-based Library Services:

### 5.1.Virtual Library Tours

Several library web sites facilitate virtual guide to the physical facilities including collections, services and infrastructure available in the library through their web sites. The combination of the following three web-based interfaces are used to facilitate the virtual library tours.

### 5.2.Library Maps and Floor plans

Most library web sites provide library layouts and floor plans to guide users to physical location of facilities and services along with link to relevant information Client-side image maps are used to make various parts of floor plans as clickable image maps.

An example can be seen at the Central Library Home Page of the Central Library, IIT Delhi at <http://www.iitd.ac.in/library/info/layout.html>

### 5.3.Library

#### Departments/Units/Services/Facilities

All physical facilities are listed through selection boxes linked to the library floor plans along with relevant description.

### 5.4.Photographic Views

A view of 360° photographic environment using plug-ins like Quick Time and iPix are available at a few library sites. Examples can be seen at Botsford General Hospital Library site (<http://www.botsfordlibrary.org/tour.html>).

## 6. Conclusion:

Academic libraries in developed countries started using web technology to create home pages as starting points or as gateways for searching information about the library. A home page reflects characteristics of an

academic institution. It provides an opportunity to the library to propagate its services and facilities to the academic community worldwide. The home pages of libraries are increasingly used as an integrated interface designed to deliver detailed information about a library as well as to provide access to all computer-based services offered by a library. Besides offering information, the library web sites of academic institutions invariably hosts subject gateways or subject portals that contains links to web resources for subjects of interest to the institution. Most of the services (modified or new) included in this article are offered through the web sites of most of the academic institutions especially in developed world.

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