Virtual Library : Planning and Managing

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Abstract

Library without wall or a scientifically managed collection of information resources and services available electronically through Internet are nothing but the virtual library. The paper mainly discusses about the concept and the birth of VL. Emphasis has been given to the planning and management of VL which includes planning, mission and scope, time frame, infrastructures required, evaluation and assessment, etc. The paper focuses on the management and funding and also describes the influence of internet on VL along with user awareness and reference service. Some light has been thrown on the commercial consortia which provides the concept of e-journals, J-Gate, ACM portal, etc.

Keywords : Digital Library, E-journal, Hardware, Internet, Information Technology, Library Consortia, Reference Service, Software, Traditional Library, Virtual Library.

0. Introduction

Internet has revolutionized the concept of libraries and changed the way the information is processed, stored, transmitted, retrieved and disseminated. It holds large volumes of electronic information in almost all fields of human knowledge. Seeing vast explosion of information in all branches of Human Knowledge, Thomas Carlyl observes – where is knowledge, we lost in information. Internet and the web are constantly influencing the development of new modes of scholarly communication. The number of scholarly and peer evaluated electronic journals available over Internet are rapidly increasing; some are offered freely with printed subscription and some with reduced subscription fee. A number of digital and virtual library (VL) projects have been undertaken in many big libraries in the developed countries. These are hosted on the web and many more reference sources and more than 1000 library catalogues are available on the Net. These developments have given birth to virtual libraries.

1. Birth of Virtual Library

The concept of VL emerged simultaneously with electronic library and digital library. This emergence is perhaps because all the information uses are at present through networked libraries at the desktop. VL, Electronic Library, Digital Library, Online Library, Networked Library, etc. have been used to describe the library as it exists in the networked environment, which is quite virtual (i.e. practical) without the physical existence of books or journals on the shelves. However, digital libraries and virtual libraries are not one and the same. All virtual libraries must, by virtue, be electronic, but not all electronic libraries are necessarily virtual. A library with all holdings on CD-Roms, DVD-Roms, FMD-Roms, etc. accessed from stand-alone computers would be electronic, but it certainly would not be classed as a VL. So, finally the door of VL was formally opened for the public in April 1995 at Public Library of Charlotted and Mecklenburg County (PLCMC), North Carolina.

2. Definition

Within the network environment, digital libraries have evolved to fit a fairly standard definition : a collection of digitized resources occasionally accompanied by other electronically available sources or services. But virtual libraries, on the other hand, do not have this clarity of definition. However, Kay Gapen's (1994) definition of the VL is often quoted: "The virtual library has been defined as the concept of remote access to the contents and services of libraries and other information resources, combining an on-site collection of current and heavily used materials in both print and electronic form, with an electronic network that

provides access to, and delivery from, external worldwide library and commercial information and knowledge sources".

Powell in 1994, defined VL as : "It is a library with little or no physical presence of books, periodicals, reading space, or support staff, but are that disseminates selective information directly to distributed library customers, usually electronically".

Sherwell in 1997, describes the characteristic of virtual libraries as "The characteristics of a true VL are that, there is no corresponding physical collection, documents will be available in electronic format, documents are not stored in any one location, documents can be accessed from any workstation, documents are retrieved and delivered as and when required, and effective search and browse facilities are available".

Thus we can define VL in single sentence as "Library without wall" or simply as "a scientifically managed collection of information resources and services available electronically through the Internet at any moment".

3. Planning and Managing a VL

There has been lot of discussion about the roles and responsibilities of libraries and librarians in the electronic environment in various seminars, conferences, conventions, workshops, etc. at national as well as international levels; but do we really know what we want the VL to be and to do ? Whether sufficient fund and right manpower is being allocated to libraries to perform their potentially expanded role in both teaching and scholarship? Fund and manpower are, of course, two critical issues that must be considered by any one undertaking a VL project. Importance must be given to planning and management issues.

At the beginning of a VL project, one has to think of the following areas –

3.1 Planning

Like any major project, the importance of planning for a VL cannot be underestimated. Collaboration with existing institutions to develop, manage and maintain library technology, infrastructure, resources, and services is crucial. Defining mission and scope, identifying stakeholders, determining potential funding sources, and developing a technology infrastructure are all practicalities that are required in planning a VL.

3.2 Mission and Scope

Defining the mission and scope is most important as it sets the objectives, parameters, and priorities around which provision of content and services revolve. It allows management to determine adequate funds and allows the library to articulate its goals, justify budget expenditures. It also provides the institution with a context for marketing and public relations. By planning for extension of resources during the planning stage, VL will be able to implement an infrastructure to support expansion of its services, the library's mission and vision must be tied to the mission and vision of the parent organization, if one exists. The role of the VL is not much different from that of the traditional library; for example, selection, acquisition, organization and make information available to the clientele and assist with the use of that information. The following few questions will help to define the scope of a VL effort-

a) Is the VL an extension of already existing service?

b) Is the VL an attempt to bring together and coordinate existing services across a state or region?

c) Is the VL going to be used in the Virtual Reality mode?

d) Is the VL a completely new project?

e) Is the VL going to replace traditional library?

f) Is the VL going to become the people's library?

The answer to these questions helps planners to define the size of the project and begin to set its direction.

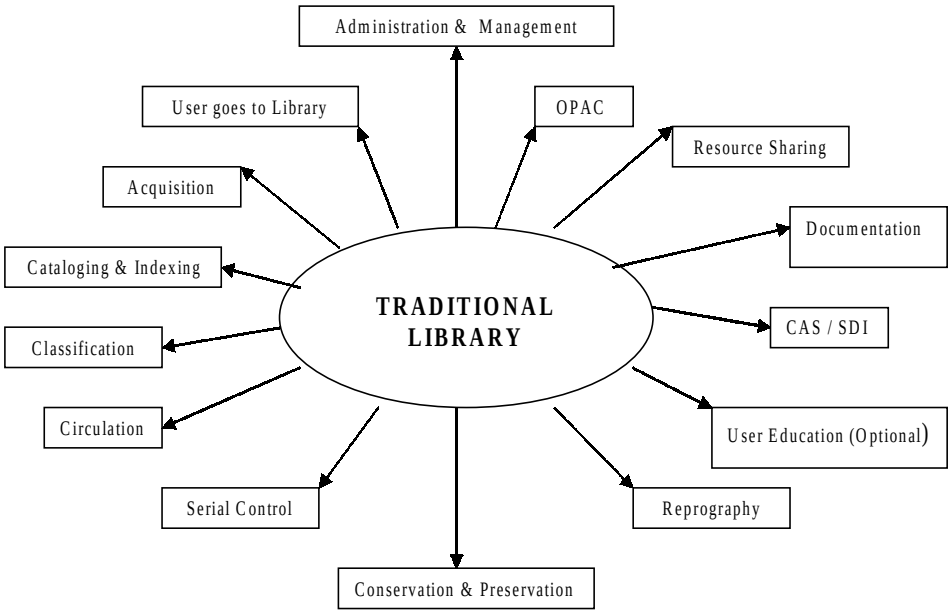

Fig. Traditional Library

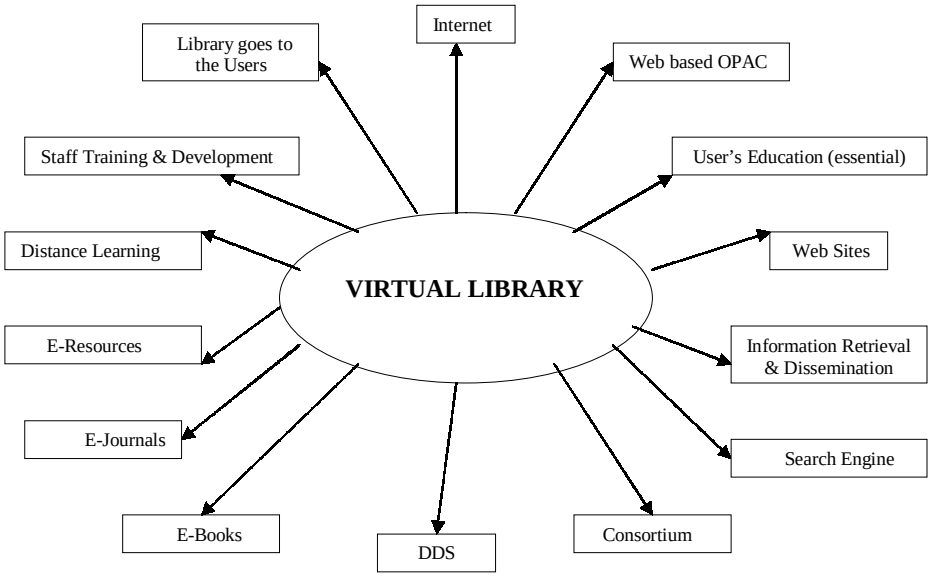

Fig. Virtual Library

3.3. Stakeholders

Identifications of stakeholders for effective coordination and to gain commitment and support of the key players who will make or break the project and also allows for determining infrastructure and services already in place that may be leveraged to avoid unnecessary duplication of effort and expense. Stakeholders may include state and local government officials, institutional managers and administrators, existing library personnel, faculty and of course the end users.

3.4 Duration

Set a timeframe for the project deadlines for key aspects. Use System Analysis; project management tools to keep track the project overall as well as for each subproject. These tools, such as Gannt charts, tree diagrams, and flow charts, may also be used as effective communication tools for project groups and teams. Set a launch date with full activities to publicize the project.

3.5 Communication

There are two types of communication plans, which are important. Internal plans are to facilitate communication among the library's staff and stakeholders, and the External plan to market and promote the library to end-users and to the public. Other communication strategies that may be used include telephone calls, fax, meetings, e-mail, distribution lists, threaded discussion lists, shared networked file or web servers space, or videoconferencing, teleconferencing, etc.

3.6 Infrastructure

For the VL to be a reality, an information technology infrastructure that ensures easy, seamless access to resources and services must be in place. For any VL to start from the ground up with completely new purchase of equipment, staff and software is unlikely.

Hardware	**Approx Cost**
Pentium- III	Rs. 20,000.00 – 25,000.00
Pentium- IV	Rs. 30,000.00 – 2,00,000.00
Modem (External)	Rs. 1,200.00 – 2,500.00
Dedicated Telephone Lines	Rs. 3,000.00
Printers : DMP	Rs. 7,000.00 – 25,000.00
Inkjet	Rs. 3,000.00 – 8,000.00
Laser	Rs. 11,000.00 – 80,000.00
Desk jet (All in one)	Rs. 9,000.00 – 19,000.00
UPS	Rs. 2,500.00 – 35,000.00
UPS Online	Rs. 15,000.00 – 16,000.00
Software	
Windows 95	Rs. 5,000.00
Windows 98	Rs. 8,000.00
Windows 2000	Rs. 9,000.00 – 10,000.00
Client Server, CD-Net Software	
Internet Explorer	
Library S/W packages : CDS/ISIS	Rs. 1,500.00
SOUL (College Version)	Rs.15,000.00
SOUL (Univ. Version)	Rs. 50,000.00
Libsys	Rs. 4,50,000.00

[Price varies from place to place. The above prices are applicable in Guwahati]

3.7 Evaluation and Assessment

Evaluation and assessment plans and strategies must be included in the development of the VL from the very beginning. It allows management to analyze whether the library is delivering promised services and also provides the library with valuable information to justify funding allocations and to develop new, innovative services. It also provides management with document success stories to use in both internal and external marketing and public relations. Other methods may be included like the use of statistics, surveys, feed back forms, interviews, focus groups and user anecdotes or stories. Assessment should be ongoing as part of routine operating procedure.

4. Management and Funding

Virtual libraries have no location, no opening hours closing hours, no boundaries, no barriers, etc. They are accessible from any where (in IT environment) at any time by any number of users irrespective of caste, creed, sex, age, etc.

The management and organization structures determine how the VL will be managed, maintained, and developed over time. Organizational structure must be designed with clear delineations of responsibilities and reporting structure, whether it be hierarchical or decentralized. The organizational structure should reflect the environment in which the VL exists. The structure should be in place before implementation of the library begin, so, managers and staff understand the responsibilities associated with their roles. In traditional libraries staff developed and interpreted the library systems, and the information they contained, to the customers. In virtual libraries, Infomediary Web functions became the new intermediaries. Users are encouraged to help themselves and the systems by which they do so are customized to make that as easy as possible and as intuitive as possible.

4.1 Staffing

Staffing for the VL is a part of organizational structure. Library staff may work solely for the VL or be part of a more traditional library structure with hours dedicated to staffing the services provided by the VL. Member libraries may contribute or participate in virtual library consortia through staffing arrangements or support arrangements.

The library professionals have to play a vital roles with a broad range of skills than before. Today the LIS professionals are no more mere librarians, but also multimedia professionals with well versed knowledge in different sources and match-makers between the users and the information resources around the world through the net. They are the information gate keepers, information brokers, repackaging the information sources and ultimately disseminators of information to the end users. Hence they have to possess specialized and enhanced skills that include in IT. Information sources, Financial management, HRD and also Philosophy of librarianship.

4.2 Funding

Funding for virtual libraries may be tapped from varied sources and is one of the most crucial factors in planning and development. Preparation of a budget for start-up, the first year operations and five-year operation and development by anticipating upgrades and expansion. Each budget should include costs for equipment (hardware, software), licensing or purchase of resources, marketing and public relations, development, and other operating expenses. Funding may involve state allocation, grants from library consortia or associations, member fees and support, vendor partnerships, and private or non-profit organizations. The need to secure and maintain funding allocations from various sources cannot be

overstated. State allocations can often be precarious and vulnerable to changes in political and economic climate. Marketing, closely tied to funding, is crucial not only to secure budget allocations but also to ensure use.

5. Influence of Internet on Virtual Library

The Internet has changed the notion of a library as a place into a VL. Internet is enabling inter-connectivity of computers and computer networks at global level. It is the global network spread around the world, dealing with each other through a common set of communication protocols. The growth of internet has been global and continuous. A variety of technologies are used for accessing the vast electronic information resources available on Internet and the web. Starting basic tools like e-mail and ftp, Internet has sifted to navigation aids like Wide Area Information Servers (WAIS), Netscape and Gopher Web client such as Lynx, Winweb and Cello and the consumer-oriented home pages of the web. Information resources available on the web are getting inter-linked through web pages.

Internet catalyzed the proliferation of electronic and online journals. Many journals are already available on the Net. Presently there are many publishers and other agencies, which are providing the e-journal services to the global community. Few of them are Elsevier Science, American Institute of Physics (AIP), American Physical Society (APS), Optical Society of America, University of Chicago Press, Cambridge University Press, Springer Verlag, etc. The number of e-journals and publishers offering their journals on Internet is steadily increasing. Because of these electronic developments, explosion of literatures, financial crisis, regular increase in the price of publications, etc., the consortia has been started.

The commercial consortia like J-Gate developed by Informatics (India Ltd.) for web access is the first and premier e-journal portal from India having a large database cum e-journal Gateway for more than10,000 e-journals. Leading publishers like Institute of Physics, Springer Verlag, Kluwer Academic Publishers, Oxford University Press, Cambridge University Press, Emerald (MCB Press), etc. participate in J-Gate as publisher partners. Another consortia, the ACM Portal, Marketed by Balani Infotech of New Delhi offers Digital Library packages to its institutional members.

Internet provides access to a tremendous variety of information, allows access to remote libraries and seamless access to virtually everything from day-to-day news to specific information on almost all subjects fields. An access to the Internet is nothing less than an access to any information in this world. We name any thing the chances are that information on it is already available on the Net. One can browse, navigate, cruise or surf the electronic information resources available on the Net. The large number of electronic information resources available over the net and the web distributed all over the world and the web distributed all over the world makes it possible to build, virtual libraries and virtual reference sources in many subject areas. A librarian has the VL at his/her door step. The VL is a reality today and it exist in networks. Some of the virtual libraries available on the web and internet are –

- About.com : libraries and Library Science– www.librarians.about.com/jobs/librarians/idex,htm
- Ariadne – www.ariadne.ac.uk/
- Books online – www.cs.cmu.edu/web/booktitles.com
- Cybrary: The Internet Library – www.nstn.ca/second.html/
- Digital Librarian – www.servtech.com/~mvail/librariana.html
- Dublin core – www.puri.org/DC/documents/wd-guide-current.htm
- Electronic Library & Information – www.aslib.co.uk/program/index.html/
- Ex Libris – www.marylaine.com/exlibris
- Innovative Internet Applications in Libraries – www.wiltonlibrary.org/innovate.html

- Integrated Library System Repoms (ILSR) – www.ilsr.com/
- Internet Library for Librarians – www.itcompany.com/inforetriever/
- Internet School Library Media Centre – www.falcon.jmu.edu/~ramseyil/
- Librarians for the future – www.lff.org/
- Libraries for the future – www.lff.org/
- Library and Information Science News – www.lisnews.com/
- Library and Information Technology Associates – www.ala.org/lita
- Library land: Resources for librarians, Automation – www.sunsite.berkeley.edu/libraryland
- Library Link – www.mcb.co.uk/liblink/
- Library oriented lists and Electronic Serials – www.wrlc.org/liblista/
- Project LIS – Library Information System Project – www.coe.missouri.edu/~is.334/projects/project_LIS/default.html/
- Telematics for libraries Home Page – www2.echo.lu/libraries/en/libraries.html/
- The British Library – www.portico.bl.uk/access/
- The Internet Public Library – www.ipl.sils.umich.edu/
- The Library of Congress – www.loc.gov/
- The Library Technician's Toolbox – www.eskimo.com/~rainbard/
- The Magna Graecia Library – www.cubozo.unical.it/server/archivi/mg/arc_mg.html/
- The Prudue University (Virtual Reference Desk) – www.thorplus.lib.purdue.edu/reference/index/html
- The University of California (Berkeley) – www.sunsite.berkeley.edu/
- The University of California (San Diego's Reference Shelf) – www.gort.ucsd.edu/ek/ref shelf.html/
- The University of Michagan (Ann Arbor) – www.lib.umich.edu/
- The University of Michigan (Dearborn's Virtual Reference Desk – www.umd.umich.edu/lib/vrd/
- The Vatican Library – www.software.com/is/dig-lib/vatican.html/
- Transforming Libraries – www.arl.org/transform
- World Wide Web Consortium – www.w3.org/

[Compiled from various sources on Net]

As Internet is gaining popularity, even commercial reference sources are becoming increasingly available to subscribers or authorized users through a variety of passwords and authorization systems. One can access literally thousands of news and information sources on Internet. That is searching for a needle in the haystack. For those suffering from information overload customizable news services deliver the required news after filtering out the unwanted information. The user has to select from a list of general news topics or specify search terms. Many subject oriented guides and virtual libraries have been developed.

6. User Awareness of VL

Virtual Libraries are being directly used by the people without much assistance from the intermediaries and mediators such as LIS professional, Programmers, etc. The users of VL must have the operating knowledge of computers. They should be well versed with the use of computers and application of IT independently. If the user does not know how to operate and use computers then at this stage, the orientation of the user becomes very important. In some of the libraries, the users of traditional libraries are oriented at the initial stage; just in the same manner, the users of virtual libraries should also be oriented. Then only the VL will help the individual and independent largely. The librarians also should have regular interaction with the user and find ways and means to serve the user better.

For users of VL, the ability to obtain materials in a timely manner can be critical. The growing number of full text databases and digitized collections help in this instance. As hybrids (combination of physical and electronic library), virtual libraries will exist for some time in a transitional mode in which an increasing amount of material is available electronically but the need for print will still exit.

7. Reference Service for VL

Reference service for the VL can take many forms: subject guides, Frequently Asked Questions (FAQ), topical informational pages, how to pages, or mediated reference assistance. Informational Web pages, whether subject or topic oriented, class specific, or general in nature, can provide users with information on 24 hours a day.

One of the easiest forms of providing up-to-date service to VL is through toll- free telephone service. The phone can be an effective method of providing latest reference service in the electronic environment as it allows the library professional to conduct an interview to determine the user's true valuable need. It can also be limiting unless the library can start a phone service 24 hours a day a contract with other libraries or information providers to share coverage. E-mail service is another popular form of providing expert assistance for reference service to the users. It may be mentioned that in today's context, one may think of teleconferencing / videoconferencing also for providing better and up-to-date reference service to the users.

8. Conclusion

The proverb "Garbage in Garbage out" is almost true in the use of computers for any specific purpose. If we input / store garbage i.e. irrelevant and outdated information into computers, we will always get / retrieve garbage i.e. useless information. Therefore, in case of VL the authority of VL must be careful so that up-to-date and relevant information only can be made available to the users. Thus, regular updating of information is indispensable to keep the information in computer usable one. Library staffs have many considerations for implementing and managing a VL. With careful planning VL developers can create a beneficial product for the clientele, which will be viable and continue to grow in future. Since the library is a growing organism, the use and user of VL will increase day-by-day. Let us hope to render best services in VL era.

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