Road Map to New Generation of Libraries Using Emerging Technologies : Digital / Virtual/ E- Libraries.

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Abstract

Digital libraries are indeed an important field of practice and research in the growing cyber culture. The question of knowledge its selection, storage and accessibility, is a key ethical and legal issue in a society which predicates for itself the attributes of information and knowledge. It contains in-depth discussions on ethical issues of privacy, censorship, preservation and its transmission to future generation.

Keywords : Digital Libraries; Content Distribution

0.   Introduction

The old concept of 'book centered librarianship' was replaced by 'reader centered' one; and new ideas like open access, online reference service, documentation etc. were widely accepted. However a gradual shift, from 'Library Service' to 'Information Service'; and consequent emphasis on 'access to information' in an information technology(IT) dominated society has made user education somewhat obsolete. We are in the midst of the third great cultural revolution of humankind, the move to a digital environment for all information. Living through a revolution is never pleasant; things can change in unpredictable and catastrophic ways.

1.   Digital Library

The digital library vision is for a single, continuously available, interoperable of its potential users (readers) suggest they want (inter-alia)

- A one-stop-shop platform that is interoperable, accessible remotely for 24hours a day and 7 days per week;
- Information that is interconnected, for example by reference linking;
- A system that allows easy searching and browsing, processing downloadable and printable files;
- Multimedia application;
- An application that is free at the point of use. Trying to achieve these stringent demands in the context of the other players in the information chain is the challenge facing information professionals.

1.1.   Purposes of digital libraries include:

a) to speed up the systematic development of the means to collect, store, and organize information and knowledge in digital form, and of digital library collections.

b) to promote the economical and efficient delivery of information to all parts of society.

c) to encourage cooperative efforts which leverage the considerable investment in research resources, computing and communications network.

d) to strengthen communication and collaboration between and among the research, business, government and educational communities.

e) To contribute to the lifelong learning opportunities of all people.

A schematic structure for a generic digital library is illustrated in fig1. This structure shows the user-visible elements as well as the user-invisible modules that are required
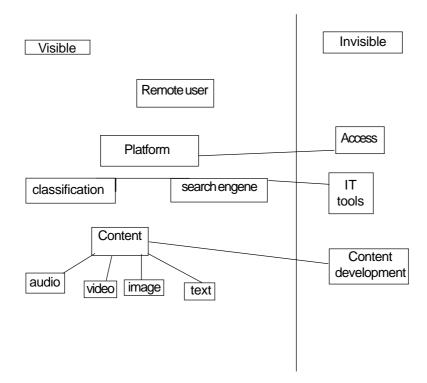
Fig.1:Schematic generalized digital Library

1.2.   The infrastructure

i.   Shared information representation models, service representation models, and access protocols. These will facilitate the sharing of information and services across digital libraries.

ii.   Information content sharing agreements: This will take the form of communities of organizations that agree to share their collections.

iii.   Resource directories : The infrastructure should describe available information resources and relative models and protocol and characterize the contents.

iv.   Coordination forum : The goal of this forum is to coordinate national research and development activities.

1.3. Services

Based on the work in services offered by digital libraries are divided into four parts:

i.   collection service,
ii. naming service,
iii. repository service, and
iv. indexing service.

2.   Distribution

Distribution methods of Digital Libraries are as follows;

2.1   CD-ROMs

It was designed for high-run popular music disks, and the signal can be read as digital or converted to analog sound. Through the late 1980s most libraries bought CD-ROM drives and began to purchase CD_ROM versions of the abstracting and indexing journals. These purchases displaced online searching on a pay-per-minute basis; libraries realized that if they were spending large amounts of money on online searching, they could save money by purchasing the same database on CD-ROM. CD-ROM encyclopedias have greatly reduced the market for traditional paper encyclopedias. Other important categories of reference CD-ROM publishing are atlases, phone books and educational aids for children. CD-ROM has the major advantage of a very large installed base of drives and it is likely that the CD form of optical storage, coupled with the new record able CD-ROM drives, will dominate in the future. Typical applications using this new-found enabling technology include: The traditional archiving technology in libraries has been microfilm or fiche but though it has storage space advantages it has never been a popular medium for access. The great advantage of CD-ROM in archiving is that as well as requiring little storage space; the well-designed storage software will be capable of very impressive retrieval performance on all types of information.

2.2   Computer network technologies

Now a days networks control most of the things. Why we want to build a network in the library. There are a lot of reasons for building networks, whether they are computer networks or book distribution networks. Computer networks have enhanced significantly the productivity and efficiency of libraries and other organizations and individuals. Computer networks are used to conduct personal and or professional business.

3.   Online Publishing

With online publishing, users are given access to more current material than can be economically distributed in packages. Online publications are distinguished from on-demand publications in that the final product is not merely delivered on demand, but also shaped on demand. On of the most important and underestimated trends in electronic publishing is the move from passive, Linear presentations to interactive systems. "Reader" of electronic publication can rearrange tabular data or text for their own purposes. Whatever the final shape of online publishing, there are two important questions for us: Will information be accessed in the library or in the home or office? Will users want librarian' assistance or do it themselves? The answer to both questions is probably yes. While there will be home use by sophisticated users, there also will be need for library provision of these services for the foreseeable

future. Kevin Hegarty has noted that "……………..Public libraries could well become the public stations and coffee houses for VIDEOTEX. Anyone who makes firm predictions on exactly where electronic publishing will take us in the coming decades is tempting fate still, it is prudent to observe trends and project ways in which libraries might be affected. Computer based, electronic information systems are to become complete information systems, not just handy devices for quick reference, personal or corporate record keeping, and short term storage of current materials, it will be necessary consciously to design and build into them mechanisms to ensure the long-term survival of information. A fundamentally new technology is needed to support this new search and indexing functionality, and this is 'digital libraries'. Basically the purpose of digital libraries is to bring the efficient and effective search to the net. However, in a real digital library, searching is not enough.

4.   Conclusion

The role and function of the libraries in a digital world is uncertain and evolving. How libraries respond to the many implications of the information technologies will have a determining effect on their sustainability. Ethical issues of privacy, intellectual freedom, censorship, and knowledge organization are of major concerns to libraries in today's networked environment. Policy issues pertaining to laws, rights, telecommunications and universal Internet service, and the national information infrastructure will help shape the digital future for libraries.

5.   References

1. Moodgal, H.M.K. & Gopal, Kokila Krishan. " CD-ROM Technology : Librarians info Guide". Delhi : Authorspress, 2000.

2. Nair, R.Raman. " Internet for information services". New Delhi : Ess Ess Publications, 2002.

3. Kevin Hegarty. : Public Library Association Video Task Force: Interim report". Tacoma,wash : PLA,1983.

4. Khan,M.A.(ed). " Technical services in libraries". India : Cosmo, 1999.

5. Fox, E.A…/_et al._/. " Introduction to digital libraries: Communications of the ACM".

6. Krishan, Gopal. " Digital Libraries in Electronic Information Era." New Delhi : Authorspress, 2000.

7. Librarian, Faculty of management studies, University of Delhi, Delhi- 110007

8. Centre for library and information studies, New Delhi. Vol. xviii, Nov.3-4, 2001.

9. Aslib proceedings, vol. 53, 2001.

10. Aslib proceedings : new information perspective. Vol.53, 2001.

11. Paepake, A. " Digital Libraries : searching is not enough – what we learned on site". D-lib magazine, vol.2, No.2. may1996.

12. Schatz B and Chen H.,"Digital Libraries: Technical Advances and social impact", Computer,Vol.32,Feb 1999.

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