PERSPECTIVES OF DIGITAL LIBRARIES IN MEDICAL EDUCATION

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ABSTRACT

Digital libraries are being built upon a firm foundation of prior work as the high-end information systems of the future. Digital repositories are developing rapidly as a key element of research cyber infrastructure. Even when research institutions are grappling with difficult budget decisions in the current economic environment, they need to have a strategy for providing repository services. Libraries are making diverse contributions to the development of many types of digital repositories particularly those housing locally created digital content including new digital objects or digitized versions of locally held work. This paper discusses the various aspects of digitization of resources in medical education. It also describes the digitization initiatives that have taken place in medical education. It discusses about Scope, Merits, Features, Development of technical challenges, National and International Networks and so on.

Keyword: *Digitations, Resources, Medical Libraries, Network and Medical News*

1. INTRODUCTION

Digital medical libraries are systems providing users with coherent access to a very large, organized repository of information and knowledge. The digital libraries would need to span both print digital materials, for the foreseeable future. The digital libraries is to develop information systems providing access to a coherent collection material, more and more of which will be in digital format as time goes on, and to fully exploit the opportunities that are offered by the materials that are in digital formats and there would be many digital repositories, a given digital library system should provide a coherent, consistent view of as many of these repositories.

Most of the Medical Libraries are automating their content by creating database and providing services through library management software, making availability of OPAC or Web OPAC. Digital libraries are at a very beginning stage in medical education , even some of medical libraries procured or subscribed to externally published digital collections in CD/DVD formats and online. A strong move is required to digitize the internal source of libraries in medical education.

2. SCOPE OF MEDICAL EDUCATION

Medical help is increasingly becoming a mouse play and is just click away. The hospitals are made available on the Net to provide help and advise to patient's miles away. The Virtual medicine is now taking shape across in the medical field. Specialized articles and medical news flash give browsers a ring side view of the latest happenings in the world of surgery, drugs and ailments. The more interesting and helpful is the availability of medical encyclopedias, which details each malady. Apart from being a good referral source for the lay public, it also gives a comprehensive overview of each ailment. The doctors in rural areas of towns can ask for a second opinion instead of sending their patients to cities. The doctor in a remote area can post all the details of the case and ask specialists doctors for their considered opinion through the Tele-Medicine in a digital library environment.

The digital library is an information service in which all the information resources are available in

computer processable form and the functions of acquisition, storage, preservation, retrieval, access and display are carried out through the use of digital technologies. The digital library is not restricted to the provision of information in text format, audio, visual and video resources. The resources in digital library can be divided into those that are originally created in a digital format, such as electronic journals and data sets and those originally non-digital resources, such as manuscripts and print, that are subsequently digitized. The digital library can disseminate its information across a network and users can retrieve information in the same way. The benefits of the digital library include the reduction in the physical storage of information, less wear and tear on objects, the ability for several people to view the same item at the same time; the ability to view the contents in the home, office or other non-library locations, and the potential for increased cost-effectiveness. Among the possible costs are the costs to digitize and the costs to create metadata and search and retrieval tools, and preservation issues in an environment that can be driven by access rather than preservation. There is also concern over the organization and verification of the quality of some of the resources that are available in electronic formats.

The digital library is a future vision. One of the most important issues involved in the development of the digital library is the decision that has to be made concerning the information that already exist in non-digital form in libraries. There is an increasing need to consider digital library issues from this perspective. Since medical institutions now have a digital library, they are neither purely digital nor purely traditional. Such medical libraries have been dubbed "Hybrid Libraries".

3. MERITS OF DIGITAL LIBRARIES IN MEDICAL EDUCATION

- ❖ Accessibility from anywhere (Home, School, Hospital, Libraries, during Travel and Hotel and so on
- ❖ Provide access to more information than possible to physically acquire and maintain
- ❖ Support both formal and informal learning
- ❖ Media Integration
- ❖ Remote access to expensive and rare material
- ❖ Greater opportunity for publishing

Essential Components of digital libraries

- ❖ Local library system, with adequate updated new technology systems , LAN, Databases in Machine readable form, CD-ROMS etc
- ❖ Networks, including the network of networks
- ❖ A variety of system functions to co-ordinate , manage the entry and to retrieve data
- ❖ Skilled manpower with ICT Knowledge

Medical Education digital library supporting features

- ❖ Provide access to very large information collections
- ❖ Focus on providing access to primary or complete information, not merely surrogates or indexes
- ❖ Support multi-media content
- ❖ Network accessible
- ❖ Provide user friendly interface
- ❖ Use declarative representation of documents (i.e., Tagged SGML Text) in addition or as against image, Postscript
- ❖ Unique referencing of digital objects
- ❖ Enable link representation to local/external objects (hypertext)
- ❖ Clearly separate the digital library and the user interface by employing client-server architecture
- ❖ Available for a very long time (i.e., should not be dependent on specific hardware and software)
- ❖ Support traditional missions of collection development, organization, access and preservation
- ❖ Support publishing, annotation, and integration of new information

Technical Challenges of digital libraries in Medical Education

- ❖ High band width computer networks supporting efficient multimedia document transfer
- ❖ Open communication protocols (e.g. Client-Server)

- ❖ Information access tools (browse, display and search tools)
- ❖ Meta databases (databases that describe and provide links to other databases/information sources)
- ❖ Electronic publishing tools (personnel, Institutional, Publisher)
- ❖ Data Compression
- ❖ Digital storage
- ❖ Scanning and conversion technologies
- ❖ Media integration technologies(multi media)
- ❖ Advanced retrieval, indexing, natural language processing, routing and filtering
- ❖ Document description and representation standards (e.g., SGML)
- ❖ Inter-operability (how do multiple digital libraries interact?)
- ❖ Privacy, authentication and security
- ❖ Location independent naming of digital sources

4. DIGITAL LIBRARY NETWORK IN MEDICAL EDUCATION

A network implies putting together sub-sets of information centre's and libraries in order to act in a co-operative manner with a predetermined obligation. It offers potential for increased access to larger resources and for greater measure of service than the sum of all the constituent parts. Digital Library networking concept is a co-operative venture of all the participating libraries and transmit the data on short and long distance lines form one library to another.

National Networks

The following are some of the national digital library networks

- ▪ INFLIBNET
- ▪ INDEST
- ▪ NICNET
- ▪ ERMED
- ▪ INDONET
- ▪ I-NET
- ▪ SIRNET
- ▪ ERNET
- ▪ DELNET
- ▪ CALIBNET
- ▪ MALIBNET
- ▪ BSN
- ▪ RABMN
- ▪ NITSNET

International Networks

The following are some of the International Networks

- o INTERNET
- o OCLC'S

- o OLC
- o LIS
- o ILLINET
- o NELINET
- o AGLINET
- o MEDLINE
- o ISONET
- o CHIN
- o DEVINSA
- o APINES
- o RINAP
- o TIPS
- o DIALOG
- o STA
- o NLAISE

Medical Education Digital Library Resources

- o Search Engines
- o Medical Directories
- o CME and information sites
- o Journals and text books
- o Multimedia Medical sites
- o Medical News
- o Other useful sites

Medical Education Search Engines

- o Med Explorer : http://www.medexplorer.com
- o Medical World Search : http://www.mwsearchpoly.edu
- o Alta Vista : http://www.altavista.digital.com
- o Info seek : http://www.infoseek.com
- o Yahoo : http://www.yahoo.com
- o Google : http://www.google.com

- o   Lycos : http://www.lycos.com

- o   Northern light : http://www.northerlihght.com

Medical Directories

- Doctors Guide to the Internet(http://www.pslgroup.com/doguide.htm)

- Hardin Meta Directory of Internet Health Sources(http://www.arcade.uiowa.edu)

- Medical Martix(http://www.medmatrix.org)

- Medweb(http://www.cc.emory.edu/WHSCL)

- Physician's Guide to the Internet Physical links (http://www.webcom.com/pgi)
- Web Doctor (http://www.gretmar.com)

Digital Library in CME

- Avicenna Medical Information Resources(http://www.avicenna.com)

- Biomed Net(http://www.biomednet.com)

- GeoHealth Web (http://geohealthweb.com)

- Healthgate(http://healthgate.com)

- Housecall for Healthcare Professionals(http://www.pressconf.housecall.com/prologin.html)

- NUS Medical Sign Post (http://www.ch.nus.sg)

- Physicans Online Medical Reference Online service (http://www.po.com)

- The Cod Med(http://www.comed.com/index.html)

Journals and Books
- BioMedNet Electronic Press (http://www.cursci.co.hk/bioMedNet/biomed.html)
- British Medical Journal(http://www.bmj.com)
- Journal of the American Medical Association(JAMA)http://www.ama-assn.org/public/journals/jama/jamahome.htm)
- Modern Medicine (http://www.modernmedicine.com/modern/index.htm) New England Journal of Medicine(http://www.nej,.org)
- The Lancet(http://www.thelancet.com)
- The Merck Manual(http://www.merck.com)

Multimedia Medical Sites in Medical Education

- Martindale's Health Science Guide(http://www-sci.lib.uci.edu/-martindale/HSGuide.html)
- Multimedia Medical Reference Library(http://www.med-library.com)
- Prime Practice(http://www.ivi.com/corp/primepractice/html/pp_etc.html) The Virtual
- Hospital(http://indy.radiology.uniowa.edu/virtualHospital.html)

Medical News in Medical Education

- Center for Disease Control (http://www.cdc.gov)
- CNN Health News (http://www.cnn.com/HEALTH/index.html)
- Reuters Health Information Services(http://www.reutershalth.com)
- USA Today(http://www.usatoday.com/life/health)
- WHO Home Page(http://www.who.ch)

Some useful web sites in digital Library Medical Education

- Cyberspace   Telemedicine   Medical   Support   Services (http://www.telemedical.com/-drcarr)
- Life in Medicine Forum(http://www.webcom.com/pgi/doctalk.html)
- Medsource Healthcare Information (http://www.medsource.com/index.html)
- Practice Link (http://practicelink.com)
- Six Senses (http://www.sixsenses.com)

5. CONCLUSION

The advent of the digital libraries is too important to wait for the opportune time to take advantage of the resources. Using the Internet and its resources for providing information services only requires re-orientation of traditional skills of Medical Librarianship. With the available infrastructure in the medical education we can make a beginning in exploiting the digital library resources on the internet for better and newer services. The digitized media is a supportive too, for searching and locating the information faster to the targeted end users.

Greater challenges are ahead to go for digital libraries in the field of medical education for effective access facilities of worldwide published literature and knowledge. Enormous contributions are being made in this direction around the world.

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