Strengthening Access of Information in Higher Education for Providing Information Services in India.

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Abstract

Rearranging Library services are required in this new information technology environment to enable the staff to gain the necessary skills and build up confidence in dealing with the new information and communication technology. The higher education Libraries may arrange for short term courses for using the information services. Subject gateways provide links to resources like documents, sites or networks accessible via Internet. To enable equitable and universal access knowledge resources, Libraries should create more digital resources by digitizing relevent reading material and should be connected through networking. Library consortia is at the doorsteps to prove cooperation locally, regionally, nationally and internationally. One information officer post, brodband internet environment in the premices and regular funds for maintenance of computer systems in the Library are the essential requirements of the higher education Libraries.

1. Introduction

The higher education libraries are becoming digital libraries moving from print based information to an electronic environment is a challenging task, which requires dramatic changes in staff and attitudes in performing their jobs and interacting with the users. To adopt this new environment there should be a change in the organizational structure of the library to enable the staff to gain the necessary skills and build up confidence in dealing with the new information and communication technology.

In digital libraries, the user will not come all the times to library personally, but send his request online. It is essential to identify him as a registered user of the library. Then depending on his request, the library professionals must allow him to access a variety of networked electronic information sources and services from the digital storage. Such services include electronic mail, File Transfer Protocol (FTP), Remote Login (Telnet), Current Awareness Bulletin, Electronic Document Delivery Service, Bulletin Board Service, Web related services and Electronic Publishing. The www offered web server at the server-end and web browser at the client-end for all prevalent platforms. The internet and information communication technology, made it possible for web based services to include multimedia objects such as text, image, audio and video. An effective and efficient access mechanism that allow a user to browse, search and navigate digital resources.

2. Information Communication Technology

As per the defination used by United Nations Information Communication Technologies (ICT) can be described as a varied set of goods, applications and services used to produce, store, process, distribute and exchange information. They include the most familiar technologies of television, radio and telephone and the relatively newer ones, personal computer, mobile phones, satelite and wireless technologies and the internet.

In India all these ICT are being used for various purposes not only for gathering information but also for giving opportunities to utilise them for imparting skills as well as enhancing the knowledge by way of showing various data to any remote locations with the help of connectivity through these technologies. Today wireless infrastrucure development in rural and urban areas are being utilized in various parts of the world through the penetration of internet and wireless services.

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As per the report published by UNESCO in 2003 the advanced countries including Australia, South Korea, Singapure have integrated ICT into their education system. This includes that alomst all classrooms have been equipped with (a) computers and ICT, (b) a high student computer ratio, (c) a high level internet access for all schools, (d) a curriculum revised to insure that ICT become integral nationwide and deliver all class becoming increasingly online. The Library users should know about these internet and ICT technologies to search the information in digital age.

3. User Education

The user is an important component of any digital library or information system or a conventional library. The collection of resources in any library should be based on user's needs. As the digital library is a latest technological organisation, an average user do not know about information technology applications, access and searching for information and use of information. Therefore, user education is must in higher education libraries. For using digital libraries, printed media, Audio-visual instruction and programmed instruction methods are very much suitable for user education. The higher education libraries may arrange for short term courses and workshops for using the library sources. For user education and providing information services Library staff should know the information service skills.

4. Library Staff

The new networking environment will make it essential for library and information professionals to learn more information skills and knowledge regarding technological developments in the filed and their practical applicaion to libraries. In India INFLIBNET, NISCAIR, DRTC, IASLIC are conducting short term courses and workshops in the technological applications to the libraries. The Library staff should know about open source Library softwares, portals and subject gateways for providing information services.

5. Subject Gateways

Moffat describes the establishment of the gateways as "a process of identification, filtering, description classification and indexing before they are added to databases which is freely available via www" . The gate ways are the internet search tools to help users for finding resources on the internet.

Subject gateway is nothing but the facility that allows easier access to networked resources in a definite subject area. The simplest type of subject gateways are sets of web pages containing lists of links to resources. Subject gateways are also known as subject index gateways, virtual libraries, clearing house,

Fig. 1 Distribusion of Internet Sources
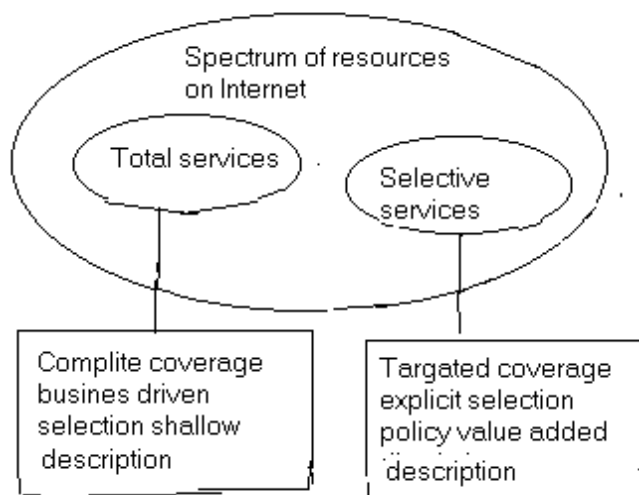
subject trees, pathfinders, quality controlled subject gateways etc. They provide links to resources like documents, objects, slides or services predominantly accessible via internet. The service is based on resource discription. Key initiatives may be shown from following sites;

1] http://www.ilrt.bris.ac.uk/roads, 2] http:// www.desire.org 3] Imesh website 4] Reynard project etc.

6. Accessing Internet through mobile phones :

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JEBARAJ P (2007) said about use of the mobile phone technology that broadband internet facilities have now arrived to mobile phones. In the year 2007, 25% mobile phone subscribers include in Web browsing a report says. We hope that the continued advancement of handsets will make all the people to spend more time to familiarise them shelves with new services such as news report, finance, astrology, entertainment and weather updates and also in educational information.
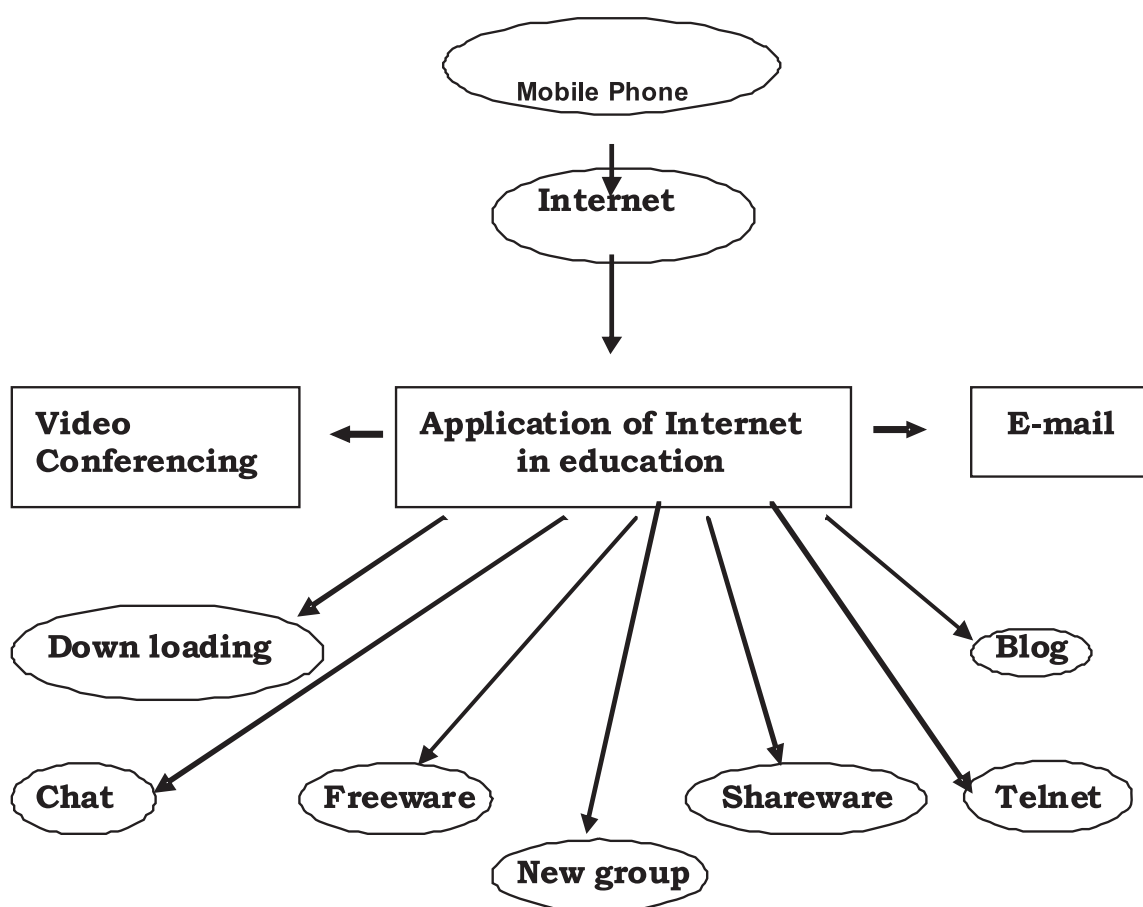

Fig. 2 Various application of internet in education through mobile phone

All the mobile service providers are providing the internet facility to their custmers at nominal cost. The educaters and learners can get the web based teaching, learning. The various services shown in fig. 2 can be integreted in higher education level.

7. Consortia Based Resource Sharing and Networking

In the present era of information technology the information needs of the users have increased enormously so much that no single Library on its own can meet their needs. This has necessitated the need for effective linkages and cooperation between Libraries and information centres for sharing of available resources and information through network services. Networks, e-mail, online access, use of CDROM, Software and Hardware systems etc. are now being used for resource sharing. The developments in the fields of computer and communication technologies increasingly relies on resource sharing through electronic media for achiving high speed in access, reducing time to search the information, shorter storage space, finding simple means of selectin materials.

The proliferation of the literature on all the subjects and the budget crunch made the libraries depend upon each other. This leads to library cooperation, resource, sharing and networks etc. At present the online databases and electronic Journals facilitate formation of the consortia and resource sharing among the libraries. There are many National, International and local library consortia's are existing and has taken to promote consortia based resource sharing among the member Libraries.

The consortium can share and take up programs of common interest. Periodic meetings for suggestions shared collection development methods consortia based subscriptions, dissemination of information and ideas to establish set guidelines and for discussing mechanism to reach wider andience in a cost effective manner. Consortia approach requires clarity of thought, cooperation and a belief that coordinating practice is better than isolated effort. Consortia promoters and Institutions have to overcome hurdles such as inadequate

funding, Limited personnel, technology capability, Lack of motivation of users and Library staff to firmly root consortia activities in the country.

Galilio, Ohio Link, Tex share, VIVA and SUNY connect are some of the well-known Library consortia systems existed at International. The existing consortia in India are INDEST, UGC-INFONET, FORSA, CSIR consortia, consortia on ISRO Libraries and ICICI knowledge park. It is necessary to have consortia among Libraries and information centres for consortia based subscription of electronic resources apart from sharing their resources and services.

7.1 Development of Library Consortia in India :

JAYAPRAKASH A and KOTESHWAR RAO M. (2006) described that due to escalating cost of documents, decreasing budgets, inadequate storage area and competent staff, Librarians in different subject area in India are coming toghther to form consortia. Several Library consortia have been set up over last few years to obtain license and to enable desktop internet access to scholarly electronic resources like e-journal and databases. Some of the major consortia formed in India are ;

1. INDEST (Indian National Digital Library in Science and Technology.)

2. UGC-INFONET

3. J-GATE

4. NISCAIR E-Journal Consortia

5. FORSA (Forum for resource sharing in Astronomy)

7.11 INDEST :

The ministry of Human Resource Development (MHRD) in India, has set up a "consortia based Subscription to Electronic Resources for Technical Education System in India" on the recommendation made by the Expert Group appointed by ministry under the chairmanship of Prof. N. Balakrishnan. The consortium is named as the Indian National Digital Library in Science and Technology (INDEST) Consortium. The INDEST Consortium is the most ambitious initiative of

its type so far in India. It would not only benefit 38 major technological institutions in the country (including IITs, IISC, NITs, RECs and other), being an open-ended proposition, it also invites all AICTE-accredited and UGC-affiliated institutions to join hands with the leading engineering an technological institutions in the country.

INDEST is offering the following digital products to Indian academic and R & D institution: IEEE/IEE Electronic Library Online, Science Direct/IDEAL Library, Springer Link, Proquest's ABI/INFORM Complete, Applied Science and Technology Plus (ASTP) Online, ACM digital Library, COMPENDEX on EI Village, INSPEC on EI Village, SciFinder Scholar, Web of Science, and MathSciNet.

7.12 UGC-Infonet :

In 21st century witnessed the role of technology as a driving force in the education system. Fast innovations in technology result in frequent changes in curricula, introduction of new subjects, new orientation methods of the education system, also open new vista in new teaching-learning process. The UGC-Infonet project has provided enormous opportunity for the universities and institutes of higher learning to produce quality research work.

UGC-Infonet E-Journals Consortium has been set up by the Chairman, UGC to promote the use of electronic databases and full text access to journals by the Research and academic community in the country. The Faculty, Research Scholars and Students of Universities covered under UGC are the primary beneficiaries, however this scheme will be extended to colleges very soon. The scheme is likely to be open to other institutions such as ICAR and other institutions after singing MOU with UGC/INFLIBNET.

The universities have been funded for connectivity under UGC-Infonet and will have network connectivity. Individual university will then have unique IP adress through which access is given by the publishers for which subscriptions made. However entire programme will be Administered, monitored and maintained by INFLIBNET Centre. Under this Consortium, Access to gateway Portals is made available to the Universities covered under UGC grants. These gateway Portals provide access to more than 10,000 Journals in the area of Pure Sciences, Social sciences and humanities with Contents and Abstracts for major collections.

The UGC-Infonet E-Journals Consortium is the largest in the world plays a vital role in providing better and free access to scholarly information to the desktop of faculty and students in the country. This programme is implemented, executed and maintained by INFLIBNET. This has resulted in access to more than 4600 scholarly journals to around 100 universities in a phased manner. This has resulted in savings of more than 85-90% as compared to print subscriptions by individual universities.

7.13 J-Gate :

J-Gate is an electronic gateway to global e-journal literature. Launched in 2001 by Informatics India Limited, J-Gate provides seamless access to millions of journal articles available online. It presently has massive database of journal literature, indexed from 120+e-journals with links to full text at publisher sites. J-Gate also plans to support online subscription to journals, electronic document delivery, archiving and other related services. Currently J-Gate offers two types of products/services:

(a) J-Gate Portal: Table of Contents (TOC) – For 12090+e-journals. Database – Acomprehensive searchable database with 4340000 + articles, with 4,000 + articles added every day.

(b) J-Gate Customized Services: J-Gate Custom Content (JCC).

Local Intranet/Internet solution to libraries, providing e-access for subscribed journals.

J-Gate Custom Content for Consortia (JCC)

JCC extended to a homogeneous group of libraries for sharing "subscribed" journal resources.

J-Gate is the first major e-journal service initiative in India seriously trying to address these two gaps, keeping in view the specific needs of Indian scholars and libraries. J-Gate is an e-journal portal and access gateway. It

provides means of access to global literature in scholarly and research journals. J-Gate aims to help users in:

- Browsing table of contents (TOC) of 8,000+e-journals.

- Searching a reasonably well-indexed bibliographic database of journal from these e-journals.

- Locating a local library in India, where the article he finds from the search could be available.

- Sending e-mail to authors for a reprint-request.

- Accessing full-text of about 1,000+free journals available online. J-Gate links to fulltext of more than 100,000 currently published articles since 2001, which are freely available.

7.14 NISCAIR E-Journals Consortia :

NISCAIR is the nodal agency for developing a "Consortium for CSIR Laboratories for Accessing e-jounals". The activity shall range from creation to monitoring of the access facility of scientific periodicals published by leading international institutions.

The objectives of E-journals Consortia are:

- To strenghen the pooling, sharing and electronically accessing the CSIR library resources.

- To provide access to world S and T literature to CSIR labs.

- To nucleate the culture of electronic access resulting into evolution of digital libraries.

To start with an agreement has been signed with E-journal publisher, M/s Elsevier Science for a period of four years for 1200 journals. Under this scheme, CSIR scientists shall be able to access these journals and download material for their use. Such access to world wide journal resources will play a vital role and strengthen research and development in CSIR laboratories, thus leading to knowledge generation useful for socio-economic development of the country.

7.15 FORSA:

The Forum for Resource Sharing in Astronomy and Astrophysics (FORSA) came into existence in the year 1982 for sharing the resource available in astronomy libraries in the courntry. The Indian Astrophysics a consortium grew out of the efforts of librarians known as Forum for Resource Sharing in Astronomy (FORSA).

7.2 The Future of Consortia among Indian Libraries :

Joining a consortium, integrating intellectual access, providing for both physical and electronic development process are all the distinct steps, moving towards 21st century libraries. Keeping in view the old traditions and applying them to the new environment will require a need for professional training for the librarians in the country. The government should make arrangements to conduct some workshops to include these upcoming topics as part of the workshop training. They should start a forum to bring the librarians and the publishers/vendors together for better communication and interaction. Indian librarians should seriously rethink and reinitiate consortium movement like western countries for maximum utilization of resources at a reduced cost, time and space. Library Consortia is at the doorsteps to prove cooperation locally, regionally, nationally and internationally. It is an encouraging sign with good number of consortia efforts are undergoing in India. But consortia efforts are time consuming, frustrating and difficult to build and maintain by groups of interested institutions in India. Hence, it is suggested that the issues can be taken at Central Government level and form a national level consortia covering all the educational and research irrespective of ministry, departments and states in India. This will provide good opportunities for exploiting the consortia resources effectively and efficiently in use.

The government should also make attempts to provide the necessary infrastructure such as high speed networks connections to access the electronic resources. Also it should make arrangements to conduct some training programme for the librarian on latest trends in Library and Information Technology. Setting up of the National Repository of Bibliographic records and a centralized Collaborative Virtual enquiry handling system using the latest tools

of ICT. To enable equitable and universal access to knowledge resources, Libraries should be encoraged to create more digital resources by digitizing relavent reading material in different languages, which can be shared at all levels.

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