

Digital Library Initiatives in PRL

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Introduction

The subject of electronic superhighways has been the focus of intense media attention in recent years because of the dramatic impacts these are expected to have on people, business, scientific research and structure and organisation of economic society. Electronic technology, electronic communications and electronic networks have transformed it into an information and communications society. Libraries have not remained untouched from these impacts.

Traditional libraries' budgets are devoting an ever increasing share of their funds to electronic services - CD ROMS, online access and OPACs. This trend will continue as digital storage costs go down relative to the cost of library shelf-space and as electronic services become more user-friendly, affordable and available.

The government of India has recognized the potential of Information Technology for rapid and all-round national development. The National Agenda for Governance, which is the government's policy blueprint, has taken due note of the Information and Communication Revolution that is sweeping the globe. Accordingly, it has mandated the Government to take necessary policy and programmatic initiatives.

Areas of Information Technology

Information Technology (IT) is most commonly used to mean computer technology and communication technology. The technologies of optical/video SYSTEMs like CD-ROMs are also included in the computers group by the books and periodicals on computer technology. In the field of journalism, IT is generally meant as technology used for information dissemination, which includes SYSTEMs like telex, fax, teleprinter and so on. For a librarian IT has a wider connotation, which includes the technologies and SYSTEMs like microfilms, microfiches, CD-ROM, computers, information networks, etc. It includes all those technologies which the libraries and information centres use for collection, processing storage, retrieval and dissemination of recorded information.

As mentioned earlier, IT is basically computer technology complemented and supplemented by communication technology.

Computer Technologies

With the continuing advancements in microprocessor technology, the personal computer SYSTEMs are undergoing substantial changes. On the one hand, emphasis is being placed on network capabilities in the personal computers and on the other hand emphasis is on powerful computing capabilities in the PCs. Accordingly, two classes of computers viz. **network computers** and **multimedia personal computers**, are emerging.

Communication Technologies

There are three communication technologies that are expected to play complementary roles in shaping the networked society of tomorrow : **Optical fibers, satellites** and **short-haul radio**. Each is capable of meeting certain important requirements of the networked society - optical fibers provide the bandwidth, satellite communication provides quick remote area connectivity and the short-haul radio links promise to be excellent last-mile links.

Present areas of applications of short-haul microwave SYSTEMs include intra-city transmission, radio LANs, home-to-fiber connectivity, LAN-to-LAN links and others. As a result, short haul microwave radio links promise to eliminate the last mile problem posed by the present cable technology (limitation of copper or fiber) and bring high bandwidth (limitation satellite) links to homes.

What is a digital library ?

According to William Saffady, a **digital library** is a library that maintains all, or a substantial part of its collection in computer-processible form as an alternative, supplement, or complement to the conventional printed material that currently dominates the library collections.

We will take a brief look at two very active libraries with a prominent digital component.

TIFR Library

TIFR Library was established in 1945. Beginning with a small collection of books, it has now crossed more than 1 lakh volumes. It serves TIFR members plus researchers from other institutes in the country.

Digital Library

- Electronic Journals
- Springer Link Services
- Web OPAC
- Reference Sources Online :
 - Encyclopedia Britannica
 - Landolt-Bornstein Data Books
- Bibliographic Databases -Online :
 - MathScinet
 - CD-ROM : INSPEC (1989-)

Total staff strength : 23

IISc Library

Also known as the J R D Tata Memorial Library was established in 1911. The library spends over six crores of rupees annually towards the journal subscription.

Digital Library houses collections like technical reports, standards, patents and theses. It has got two sections - Digital Information Service Centre (DISC) and Internet School. The DISC provides services based on CD-ROM databases pertaining to education and creates digital content for the digital library. The Internet School with fully modern computer facility for 20 participants is intended to provide education and training facility for Internet Training and navigation.

Total staff strength : 40

Physical Research Laboratory (PRL)

The Physical Research Laboratory, Ahmedabad owes its existence to Dr Vikram A Sarabhai and his deep interest in scientific research, his initiative and his outstanding powers of organisation and management. It was founded following an agreement between the Ahmedabad Education Society and the Karmakshetra Educational Foundation in November 1947. At present PRL has grown and is spread to four campuses : PRL - main campus, PRL - Thaltej, PRL - Mt Abu and Udaipur Solar Observatory (USO) at Udaipur.

The PRL has so far primarily concerned itself with fundamental research in the areas of space sciences and certain special aspects of earth sciences dealing with the upper atmosphere and geomagnetism. It has, however, from time to time, engaged itself in applied research problems relevant to the country's needs, particularly in

the field of electronics. There also exists a strong interaction with the neighboring educational institutions.

PRL Library

To meet its objectives, the PRL library has embarked on major initiatives to meet user needs, improve access to the collection and to resources beyond our own collection. It is our aim to develop and manage the collection for the benefit of our users today and for posterity, and to ensure that we function efficiently and effectively as a unified library.

Library users and potential library users everywhere are becoming more aware of what it is possible to do with computers and networks, although they are most of the time unaware of the costs or timescales that would be required to turn the possible technology-enhanced world into the actual world.

Library's Infotech Environment

Hardware :

The library houses 10 PCs (including 2 multimedia) on a network with a server dedicated to the library, two barcode scanners, one CD-writer, one HP scanner, one laser printer and two deskjet color printers.

Software :

LIBSYS package is being used for various library functions like acquisition, cataloging, circulation, serials management, etc. Reports from each module can be taken to assist in managing the various functions of the library.

Other Equipment :

Library also houses a photocopying machine with password facility.

PRL library's major thrust areas have been :

1. Creating and maintaining a Digital Library
2. Electronic Journals : Achieving the optimum balance

The growth of the Internet witnessed emergence of several e-journals that were launched only for Internet without a printed counterpart. However, as the technology and popularity of the Internet grew, several mainstream journals primarily available for print subscription also started appearing on the web. The Internet has now been adopted as a favorite medium for information delivery. There are a few issues, which need to be tackled, before deciding to go for only electronic version -

- Pricing

- Reliability & accessibility of data
- Electronic archiving and backfiles availability
- How full-text is full text
- Currency of information
- Intellectual property & copyright

5. Library Home Page
6. ScienceDirect
7. Access to Electronic Journals
8. Translation Service

Digital Library at PRL

PRL library has a rich collection of about 45,000 documents including the bound volumes. A staff of 3 professionals serve about 400 users. Services of the library include circulation (approx. issue 3600/year), ILL (500/year), internet searches carried out (84 / year), and photocopying service. At present, the library is equipped with 6 PCs for the staff and 4 PCs for the users to consult the OPAC. The library is connected through LAN (Novell Netware). LIBSYS software package is being used for acquisition, processing and retrieving the document information.

There are various kinds of data being used by the scientists regularly. For instance preprints (*preprint is an article before it is printed in a journal*), technical reports. These publications of PRL scientists can be made available full-text in multiple formats preferably in PS format (PostScript format). (*Multiple formats will also make the document available to a user who is using 'Word'*). Another collection, referred quite often is Ph D theses submitted by the students carrying out doctoral study at PRL. Nowadays, full-texts of these are already available in PS format with the students. This database of **PRL Publications** can be made available on the Web too.

The main goal in developing DL is to provide the researchers at PRL, opportunities for accessing and using variety of information in highly flexible manner.

Services - Present

PRL Library has to fulfill the role of information provider to the scientists and the research students carrying out their doctoral work.

Presently the library gives following services to its users:

1. Circulation
2. Document Delivery Service
3. Internet searching
4. Retrospective Literature Search (INSPEC)

Services - Future

Like any other section in an organisation, library also has to plan for its development. It has to strive for reaching its set goals and targets.

The library plans to carry out/set the following in next 10 years :

1. Putting the theses on the Internet. We have procured the software from Adobe Acrobat, so as to have all the theses in a standard format (PDF)
2. Compiling a directory of hardware and software available in PRL which can be made accessible through the Library Homepage
3. Rigorously developing our CD collection and making it accessible to the users through the CD-server
4. Conducting training programs for practicing librarians in using Information technology in the libraries
5. To take active part in Networking of S & T libraries
6. Create a database of ongoing research projects along with the names of the scientists involved in the projects. This will go a long way in carrying out collaborative research with scientists from other institutes in India and abroad.
7. We should host a *website* - **ScienceFocus**, which mainly gives information on current research in India. This should also include a roster of Indian scientists in the field of Physics, Astronomy and Earth Sciences. An on-line form can be filled up by the scientists if they want to be included in this roster. Scientists can put up their articles, preprints, their Views, Reviews and Ideas open for discussion and suggestions.
8. Content pages of some key journals to be emailed to the respective scientists
9. Starting a Weekly News Service. Downloading the News section from New Scientist, Nature and Discover and putting it on the IBM for a week
10. Strive to become National Centre for Physics Information (NCPI)

I am sure this blueprint will help us to steer our way towards becoming a model digital library not only at national level but also at international level.