delnet Newsletter

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DELSEARCH: Yet Another Breakthrough

DELNET has opened a new chapter in the information retrieval procedure by devising a new database access mechanism through an in-house software called DELSEARCH.

DELSEARCH is an off-line remote database access system through E-MAIL. It is the first of its kind in the world which is also the most economical and user-friendly remote database access system. It opens a window to all institutions, information specialists, research scholars, librarians and users interested in bibliographies and textual information on South Asia. It allows them to search the DELNET Union Catalogues through E-MAIL and is a great tool for research scholars.

DELNET has 74 institutions (65 in Delhi and 9 outside Delhi) as its members. Till now our outstation members were unable to access DELNET databases because of the inadequate communication infrastructure existing in the country. The introduction of DELSEARCH is going to definitely bridge the communication linkage gap between DELNET and its members anywhere in the world, as it is able to facilitate the fast and inexpensive searching of information available on DELNET databases.

The software is developed on UNIX platform and allows the users to send their search requests through E-MAIL (VSNL, ERNET, SprintRPG, etc.) defining the query word in the subject of the mail. As soon as the query is received by the system in the form of an E-MAIL, the respective databases are searched for the query word and the results are sent back to the addressee immediately. The searching of the database does not require any human intervention and the searches are done by the system automatically. For accessing the DELNET databases through DELSEARCH, the individual User Id has been created for all the databases and the users are instructed to send the request for the desired database. The software has been successfully tested from the various nodes (using E-MAIL via different INTERNET E-MAIL service providers) located outside India as well as within India. It has been observed that it takes less than two hours on an average for an E-MAIL for the search results to get back to the United States. It includes the time taken by the E-MAIL to reach the DELNET system, the processing time taken by DELSEARCH and the time taken by the return E-MAIL with search results to reach the sender's mail box.

Another additional feature that DELSEARCH offers is to verify the identity of the user/institute. Before processing a request, DELSEARCH verifies the registered identity of the users so as to have a restricted access to the databases for DELNET members/users only.

The database searching through E-MAIL should prove to be very practical, especially where the infrastructure to support the TELNET facility (remote login into the machine) is not yet established. In the Third World countries which are unable to support the best communication facilities and networking infrastructure, DELSEARCH can be of great utility to researchers. It can link them with the world information resources through E-MAIL, to access the fast flowing information disseminated through various information networks.

The DELSEARCH facility can be availed of by only individuals and institutional members of DELNET outside Delhi. There has been a persistent demand from individuals and institutions in India and outside India for accessing DELNET databases. We take pleasure in announcing that the facility is operational.

For more details for membership, please write to:

register@delnet.ren.nic.in

Indo-Australian Dialogue on Library and Information Sciences: A Report

An Indo-Australian Dialogue on Library and Information Sciences was organised on February 18th 1997 by DELNET in connection with the visit of 10 senior librarians and information scientists from universities and institutions of Australia, to various parts of India. Some of the senior librarians, university professors, information scientists and network experts from India also participated in the dialogue. Several issues came up during the discussion which were very interesting and thought provoking. Mr. H. K. Kaul, Director, DELNET presided and the Australian Group Leader, Dr. Ian Daws led the dialogue. Dr. Maggie Exon, Ms. Chouie Han Ho and Ms. Lynne Wautier spoke about the Australian scenario.

Leading the dialogue, Dr. Daws traced Australia's South Asian connection historically and said that many leading libraries in Australia have vast collections on South Asia. He observed that the Curtin University Library had launched a programme to survey the South Asian collections in the Australian libraries and a database had been created which was accessible to scholars around the world. He continued that they had now come to India to meet Indian librarians and discuss matters of mutual concern and interest.

Dr. Maggie Exon spoke about information issues in Australia. She started with describing the information infrastructure and the influence of INTERNET and communications on the profession. She stated that most academicians and students in universities were attached to INTERNET. Dr. Exon also described the advantages and disadvantages of electronic libraries and said that though electronic libraries give instant global access to up-to-date information, it also leads to collecting a lot of unnecessary and useless material. There was also the question of text versus image, as the subtitle of human thought was expressed in text and not in images. She felt that electronic texts could not be preserved as long as non-electronic texts. Dr. Exon also touched upon the problem of copyright in creating the full text databases.

Ms. Chouie Han Ho of Monash University discussed their experiences in harnessing information technology and the delivery of information services. She mentioned that the target of any library service is to provide and enhance access to information, electronic or otherwise. Ms. Chouie Han went on to describe the catalogue of her university, called Sesame II which gave access not only to all the materials in the collection but also linked up to the catalogues of other universities in the State. The library provided CD-ROM network, which had access to a range of databases to support the teaching and research interests of the university. The whole system allowed 40 simultaneous users to logon. The library had an electronic reference service which allowed Monash staff and students to send in their queries to their branch libraries through E-mail. Ms. Chouie Han spoke about the electronic reserve database, developed in-house, which allowed anyone to scan periodical articles put on reading lists from remote work stations, down load and print them. They had centralised document delivery system between other university libraries so that they could drop some expensive journals to save funds.

The last speaker from the Australian delegation was Ms. Lynne Wautier from Curtin University, who described the use of INTERNET for selection and requisition of books and serials in Australian university libraries, using Curtin University Library as an example.

Ms. Wautier said that because of budget constraints, they had less staff to support their book selection programme which led them to depend on INTERNET for book selection, which required a commitment to learn new ways of building a library's collection. She reiterated that this had led to significant progress and had allowed them to offer new services with reduced staff and funds. She continued that they were now going to create comprehensive electronic subject profiles for each of their academic staff which would encompass their teaching and research programmes and also would provide access via INTERNET to comprehensive international lists of new publications in defined profiles. Similarly, book ordering and purchasing was also done electronically. In conclusion, Ms. Wautier said that as a result of these electronic libraries, they were moving away from building large physical collections of information resources.

Before requesting the Indian participants to present the Indian scenario, Mr. Kaul described the work being done at DELNET, the leading library network of the country, with regard to database creation, creation of union catalogues and the use of INTERNET. He also discussed some of the issues that were of concern, including publications in Indian languages. As India was a multilingual country, a lot of literature was published in Indian languages and there was no way these could be catalogued in the language of the publication. Mr. Kaul continued that DELNET had finally overcome this problem by creating the necessary software on BASISplus, using GIST technology and now it was for the libraries in India to learn this

technology and use it. Mr. Kaul also spoke of the standards being followed at DELNET. He observed with regret that the National Library of India was not so far modernised, hence DELNET had submitted a project to the Government of India for the creation of National Bibliographic Databases, which would be created using MARC format to be at par with the international standards. He maintained that DELNET had created a library networking software, DELSIS with the support of NIC. Talking about the national scenario, he said that though India had many public libraries in each state, the Public Library System itself was not modernised and a lot of work needed to be done on that front. He felt that the Raja Rammohan Roy Library Foundation should take up the work of modernising the State Central Libraries and also promote the opening of village libraries. Mr. Kaul then invited Dr. Vijayaditya, Deputy Director-General of NIC to speak on information technology in India, Prof. P. B. Mangla, Delhi University to speak on manpower and Mr. Gakkar of IGNCA to speak about importing books from Australia.

Describing the outbreak of information technology during the past five years, Dr. Vijayaditya stressed the roles played by the telecommunication sector as well as the computer industry. He spoke about the use of satellites for communications to the remotest areas, especially for education. Dr. Vijayaditya then described INTERNET and its place in information technology. He said that though INTERNET had caught up very well, it was still unreachable for the commom man because of insufficient communication facilities. But to overcome this problem, they were exploring other possibilities like increasing the bandwidth by using KV and KA band facility, etc. which would facilitate video conferencing, etc. They had fibre optic based diamond network which would serve all the metropolitan cities and some major towns and would connect Singapore and Paris. Dr. Vijayaditya spoke about *Video on Demand*, which was being developed, but would be used only for promoting the technology, culture, education, export business, etc.

Talking about information networking and databases, he mentioned that NIC helped to form the network of all the hospitals and medical colleges to provide MEDLARS, and were also providing another database of legal documents. He stated that NIC was looking into the possibility of adopting Data Broadcasting to provide information to all the colleges and universities. In conclusion, Dr. Vijayaditya said that though there was a big demand for electronic information, communication links were very poor in the country, which needed to be improved if we wanted information to be properly disseminated.

Discussing the manpower issues and problems, Prof. P.B. Mangla, Dept. of Library and Information Sciences, Delhi University said that we had 85 library schools in the country which were increasing in number. Most of these schools offer M.A. as well as Ph.D. programmes. But the problem was the courses were outdated and they did not consider the modern trends and developments in information technology. Prof. Mangla suggested that they should add some reorientation to the training programmes to meet the demand. He continued that, though we were now proceeding in this direction, progress was rather slow, with the result we were unable to meet the demand for manpower for modernisation of our libraries. He thought that we had to concentrate more on issues like electronic texts, INTERNET, document delivery services, resource sharing, etc. in our curriculum.

Speaking on importing books from Australia, Mr. Gakkar from IGNCA affirmed that a lot of material, especially audio-visual material on South Asia was

DELNET STATISTICS

(as on July 15, 1997)

Participating Libraries

74

DELNET Databases

Union Catalogue of Books
Total Record Number: 3,03,000
Location Listings (holdings): 3,08,000

Union List of Serials
18,900 records

Science and Technology: 8,600 records
Social Sciences: 8,800 records
Humanities: 1,500 records

Articles Database
52,000 reocrds

Union Catalogue of Serials
6,500 records

Specialists' Database
1,600

Multilingual Books
Sample Database

Books in Print Database

CD-ROM Database

DEL-LISTSERV

being produced in Australia and this was acquired in the usual way by placing the orders, making advance payment, etc. His main observation was that it was much easier and simpler to acquire any material from the UK and USA rather than from Australia.

During the discussion, one of the queries focussed on the fate of the published book, in the wake of the onslaught of the electronic book. In reply, Dr. Daws said that the book would remain forever, as it was cheaper to produce in print and also if one wanted to possess a book, it was not possible in the electronic media. Also, right now more material on science and technology was available through the electronic media than in the social sciences and humanities. In reply to a query about document delivery service of books, the Australian representatives spoke at length of the free document delivery programme in their universities, talking about the electronic text centres from where part or the whole book was delivered to academicians and scholars free upto a certain limit, beyond which it would be priced.

A financial crunch was being felt by the representatives of both the countries, hence there was a long discussion on mutual cooperation. It was suggested that there could be some mutual cooperation in resource sharing, at least of government publications, to start with.

Dr. D. R. Kalia, an eminent librarian, expressed concern about the scholars not paying enough attention to text based education compared to merely obtaining data and statistics. He felt that we were becoming better informed but less educated, as a result of the information being flooded through the electronic media.

In conclusion, the spokesperson of the Australian delegation, Dr. Daws said that they were overwhelmed by the interest shown in the new trends in information technology by librarians all over India and their concern regarding some of the burning issues of the profession. He felt that their trip was a worthwhile experience.

NACSIS: The Network of Libraries and Information Centres

H. K. Kaul

I had an opportunity to visit the National Centre for Science and Information Systems (NACSIS) in Tokyo after my participation in the conference on New Challenges in Information Retrieval and Dissemination which was held in Saitama. The visit was quite rewarding as it exposed me to the programmes and activities of the National Centre for Science Information Systems (NACSIS) in Tokyo, which is a well established library network in Japan.

NACSIS celebrated its 10th Anniversary in November, 1996. Its roots go back to 1976 when the Research Centre for Libraries and Information Science (RCLS), its predecessor, was established at the University of Tokyo.

During the last decade, NACSIS has made tremendous progress in creating Union Catalogues, Databases and Information Systems for the users in Japan and outside Japan.

1 The Objects

The major functions and services of NACSIS are as follows:

1. To collect and provide all-inclusive academic journals published throughout the world.
2. To construct and provide access to online cataloguing databases which may include 200 million books and 2.7 million journals held by more than 500 university libraries.
3. To construct and provide access to numeric, graphic and other types of information reflecting the research activities at universities and research institutions.
4. To promote research and development of computer hardware and software applications, database construction, information management, and to disseminate scholarly information efficiently.
5. To provide access to creative and advanced information resources produced in universities for researchers outside universities through links with other information systems.
6. To promote international access to achievements of Japanese researchers through links with foreign information networks.

Cataloguing Information Service (NACSIS-CAT):

NACSIS-CAT is a system comprising Union Catalogue Databases of monographs and serials available in the libraries in Japan. The standard bibliographic databases such as Japan MARC and USMARC are referred to and cataloguing is mostly done in shared form to avoid duplication. The NACSIS cataloguing system achieves saving of labour and the system works fast.

2. Main Features

The main features of the cataloguing system are:

1. Cataloguing work is done with the libraries that are connected online. There is a great deal of saving achieved in cataloguing work.
2. Preparation of standard data is made possible by using MARC online.
3. Authority control is provided for authors' names and other details online in order to maintain uniform standards.
4. A member-library can extract its own data, whenever needed, from the union catalogues and databases. This data can also be provided on a CD-ROM to the member-libraries and used on Online Public Access Catalogue (OPAC).

3. Union Catalogues and Databases

NACSIS provides access to 43 databases including the following Union Catalogues of monographs and serials, catalogues, and bibliographies.

Union Catalogue of Japanese Books (Bibliographic Holdings)	*1,287,000 17,420,000*	*Union Catalogue of Books in Japanese language held by university libraries in Japan/NACSIS*
Union Catalogue of Foreign Books (Bibliographic Holdings)	*2,523,000 8,174,000*	*Union Catalogue of Books in European languages held by university libraries in Japan/NACSIS*
Union Catalogue of Japanese Serials (Bibliographic Holdings)	*83,900 1,873,000*	*Union Catalogue of Serials in Japanese language held by university libraries in Japan/NACSIS*
Union Catalogue of Foreign Serials (Bibliographic Holdings)	*130,000 1,140,000*	*Union Catalogue of Serials in European languages held by university libraries in Japan/NACSIS*
List of Conference Proceedngs in Science and Technology	*47,000*	*Catalogue of Conference Proceedings in European languages related to science and technology collected by the National Diet Library/National Diet Library*
Database of Medical Conference Proceedings in Japan	*19,000*	*Catalogue of Conference Proceedings in Japanese language related to medical science and pharmacy, held by International Medical Information Centre/International Medical Information Centre*
The Union Catalogue of American Centre Library Resources	*8,200*	*Union Catalogue of Books held by six American Centre libraries in Japan/American Centre*
JPMARC	*1,770,000*	*National Bibliography on Books published in Japan/National Diet Library*
LCMARC (Books)	*3,970,000*	*National Bibliography on Books published mainly in the USA/The Library of Congress*
LCMARC (Serials)	*680,000*	*National Bibliography on Serials published mainly in the USA/The Library of Congress*

The other online databases include summaries of research projects; bibliographic information and citiations, full text of articles and scientific papers; current contents; research themes; information on research subjects; directories of special collections, historical studies, Buddhist and Indic studies, etc.; numeric information; citations with abstracts; indexes of papers; experimental data, etc. These databases are based on the contribution made by the participating libraries.

4. NACSIS - ILL

The inter-library loan facility of a growing network has to be efficient. NACSIS has taken a keen interest in developing an efficient automated ILL facility which has the following features:

1. ILL facility is mostly connected with the union catalogue databases.
2. The ILL facility is integrated.
3. ILL requests reach the ordering destinations. It has automatic forwarding facilities.
4. Each library looks up and updates its inter-lending policy.
5. Each library looks up its own status.
6. Client request via NACSIS-IR is available.
7. Request for transfer to British Library Document Supply Centre (BLDC) is possible.

8. Requests can be transferred to the National Diet Library.
9. ILL statistics are available on display.
10. ILL transactions average per day: 70,000 orders.

5. Participating Libraries

The following are the types of libraries that are participating in the network. Their number is growing every year.

National Universities	98
Municipal Universities	36
Private Universities	255
Inter-University Research Institutes	12
Junior Colleges and Colleges of Technology	61
Others	54
Total	**516**

6. Library Network Connection

Two types of network communication protocols are being operated by NACSIS. The first protocol N-1, connects libraries using mainframe computers. This protocol includes Kanji (Sino-Japanese) characters and Western alphabetical characters with diacritical marks. The record network communication protocol VTSS (Virtual Screen Transfer on TSS link) is designed to connect small computers. On both these protocols UIP (User Interface Programme) provides users with a full-screen man-machine interface.

7. Information Retrieval Service

The Information Retrieval Service of NACSIS (NACSIS-IR) provides access to 62 million records through 52 online databases in all fields of the humanities, social sciences and sciences. The services are offered to all types of users, including students, faculty members and researchers. The following are the fees for use:

Connect Charge	Hit Charge
For duration connected to each database: 50 yen/minute	For number of retrieved records from which detailed information was output to terminal: 13 yen/minute
For number of sheets output to facsimile:	Domestic 22 yen/sheet Abroad 236 yen/sheet
For each calling of database: 30 yen/time	.....

8. NACSIS - Mail

NACSIS members use Inter-University Electronic Mail Network (SIMAIL) and it is operated in cooperation with NACSIS. NACSIS-Mail provides E-mail, INTERNET and Electronic Bulletin Board facilities.

Average traffic of NACSIS mail: About 43,000 mails per month.

9. Host Computer Systems

System for NACSIS-AT/NACSIS-IR/Database Construction

The system consists of two mainframes (HITAC MP5800/310 and MP5000H) and several UNIX servers and offers high performance computing, large amount of disk storage for diverse databases and various client computing environments. Two mainframes coupled loosely share disk storage and peripheral units. MP5800/310 is a multi-processor system of 3 CPUs and each CPU is equipped with IDP (Integrated Database Processor). MP5000H is the same type of system with 2 CPUs and 2 IDPs. The total amount of magnetic disk space is 3,500 GB, 1,000 GB for mainframes and 2,500 GB for servers. NACSIS-CAT/ILL and NACSIS-IR are being transferred to the UNIX based system.

System for NACSIS-MAIL and BBS

The ACOS system 3700/8 is used for providing NACSIS-MAIL and BBS. Magnetic disks of total capacity 61.3 GB are installed in order to accumulate messages, the directory of mail addresses and the others. The communication control system provides several communication protocols for access for international connection of electronic mails which has been developed and is operated on the ACOS system, provides protocol conversation between NACSIS-MAIL and INTERNET.

10. Other Activities

NACSIS offers training programmes, and maintains an Electronic Library System for providing access to electronic journals through INTERNET. Researchers can browse through the journals on their workstation monitors. They can also retrieve journal articles by accessing through key words and authors' names. The latest information on this is available on **http://www.nacsis.ac.jp/dl/dl-e.html**

11. The Chronology

1980-83	"A Study on the Development of the National Centre for Science Information Systems" was carried out by the Ministry of Education, Science, Sports and Culture.
1981-85	"A Study to Establish a National Centre for Science Information Systems" was conducted by the Ministry of Education, Science, Sports and Culture.

Apr. 1983	The Centre for Bibliographic Information, the University of Tokyo, was established as a joint education and development facility within the University. (An online cataloguing system was developed at the Centre.)
Mar. 1984	Computer system (HITAC M-280H) was installed.
Apr. 1984	The Centre for Bibliographic Information, the University of Tokyo, became an Inter-University facility.
Dec. 1984	A catalogue information service was started at the Centre for Bibliographic Information, the University of Tokyo, with the Tokyo Institute of Technology as the first participating library.
Feb. 1986	The "Conference of Cooperating Groups to Prepare for the Establishment on the National Centre for Science Information Systems" was convened by the Ministry of Education, Science, Sports and Culture.
Mar. 1986	"Union List of Scientific Periodicals (ULP) in Japanese Language" was published.
Apr. 1986	The National Centre for Science Information Systems was established as the National Inter-University Research Institute, and the Centre for Bibliographic Information, the University of Tokyo was abolished.
Apr. 1986	Formation of Grants-in-Aid Scientific Research Database, etc. was started.
Jan. 1987	The new computer system (HITAC M-680H) was installed.
Mar. 1987	"Title Change Map for ULP in Japanese Language" was published.
Apr. 1987	Operation of Science Information Network and Information Retrieval Service was started.
Apr. 1988	Electronic Mail Service (NACSIS-MAIL) was started.
Jan. 1989	Computer system was upgraded to HITAC M-684 H/M - 682H.
Jan. 1989	The Science Information Network was connected with the National Science Foundation (NSF), USA.
Mar. 1989	"Union List of Scientific Periodicals (ULP) in European Languages" was published.
Apr. 1989	A trial service of International Electronic Mail was started.
May 1989	Formation of Scientific Papers (Series 1) Database was started.
Dec. 1989	The Science Information Network was connected with the Library of Congress (LC), USA.
Jan. 1990	The Science Information Network was connected with the British Library (BL), UK.
Mar. 1990	"UC of Serials CD-ROM Edition" was published.
Apr. 1990	A full-scale service was started for International Electronic Mail (CSNET, BITNET).
Apr. 1990	A programme for servicing databases formed and offered by university researchers was started.
June 1990	Formation of Private Grants-in-Aid Research Database, etc. was started.
Mar. 1991	"Title Change Map for UC of Foreign Serials" was published.
Mar. 1991	A trial service of NACSIS-CAT was started at research libraries in UK
Jan. 1992	Computer system was upgraded to HITAC M-880/420 M-880/210.
Mar. 1992	"Union Catalogue of Serials (UCS) in Japanese Language (1991)" was published.
Apr. 1992	The Inter-Library Loan (ILL) System was started.
Apr. 1992	Operation of INTERNET Backbone Network (SINET) Service was started.
Nov. 1992	Electronic Mail System was upgraded to ACOS3700/8.
Aug. 1993	User qualifications for services were expanded.
Nov. 1993	Mutual uses of Japan Information Centre of Science and Technology (JICST) users and NACSIS users were established through gateway expanded.
Apr. 1994	Formation of Current Contents of Academic Serials in Japan Database was started.
Apr. 1994	ILL System was connected with the British Library Document Supply Centre (BLDSC).
Jan. 1995	NACSIS Chiba Annex was completed.
Mar. 1995	"Union Catalogue of Serials (UCS) in European Languages (1994)" was published.
Jan. 1996	Computer system was upgraded to HITAC MP5800/310, MP5000H and SPARC Server.
Apr. 1996	The NACSIS-ILL Request Function with the National Diet Library was started.

Workshop on Multimedia Content and Applications

Mr. Paul Schroeder's visit to the Indira Gandhi National Centre for the Arts (IGNCA) provided the occasion for a two-day public workshop titled "Multimedia Content and Applications," organised by IGNCA. The workshop was attended by members of the IGNCA staff as well as library staff from several Delhi institutions. In addition to Mr. Schroeder's talks, presentations were made by Shri Sanjay Goel, IGNCA, on "Introduction to Multimedia"; Shri A.B. Saha, Dept. of Electronics, on "Digital Libraries"; Dr. Akshay Kumar, IGNOU, on "Multimedia in Distance Learning"; Dr. T.A.V. Murthy, IGNCA, "Profile of IGNCA Library"; and Shri S.K. Srivastava, Dept. of Electronics on "Multimedia in Education". Workshop participants were also offered hands-on demos of several multimedia products now available in the cultural and arts sphere.

Mr. Schroeder addressed two primary topics in his presentations to this workshop: "Publishing Cultural Materials on the World Wide Web," and "Two Models of Digital Library Development." He led an informal discussion on topics related to the advantages and disadvantages of the digital revolution. Much of this discussion centred on topics related to intellectual property and copyright related to the digital reproduction of texts and other materials.

A general introduction to the World Wide Web was given, including graphic maps of the structure and extent of Internet connectivity worldwide and the fundamentals of simple Home Page construction.

The basic features of the Web, including browsers, plug-ins and search engines were outlined. Mr. Schroeder stressed that the Web is a global learning experiment, with much information available freely, and the development of open communications between participants being essential for utilising the functionality of the Web to a greater extent. Constraints, including training, were also discussed.

After this overview, several specific sites and projects were illustrated, including the Konark pages from UNESCO's World Cultural Heritage Sites Programme and the India's Tourism Web Site. Examples of multimedia projects were given, including a CD under development in Australia aimed at teaching children about India's cultural heritage. The capacity for "virtual reality" display was shown in the form of a flyover video, available for downloading from the Web. The availability of resources for librarians, including cataloguing and other technical services resources as well as freely searchable online databases were also outlined.

In his second presentation, the shift of libraries from printed materials towards management and access to digital materials was described. The need for new cataloguing and storage facilities, including the development of cooperative arrangements among institutions holding similar collections of digital materials (such as digital maps, statistical databases and photographic image collections) was described. The distinction was made between the World Wide Web as a rich but unorganised collection of documents and resources, and a digital library as a controlled set of searchable materials.

Two general models for digital library development were presented. In the "central repository" model, one institution often takes the lead in making its materials available from a central Web site. An example would be the many resources available from the *Library of Congress American Memory Project*. While this may have links to materials in other institutions, one institution generally will take the lead in providing resources. In another model, the "distributed resources" model, often many institutions with similar sets of materials or data sets will join under agreed access standards, allowing search of multiple collections via a single search gateway. This will promote access to users who already have fairly specific desired results in mind. This allows institutions to maintain collections locally (relieving central institutions from the tasks of update) but requires close cooperation in standards for search.

The relation was given between the traditional MARC record, suitable for many present library materials formats, and emerging standards in Standard Generalised Markup Language (SGML) as a standard for maintaining records on digital documents. The emergence of "metadata" as a concept to supplement library "cataloguing" was also described.

Mr. Paul Schroeder from the Department of Spacial Information Science and Engineering, University of Maine, USA is currently visiting IGNCA in connection with the evaluation of cataloguing and documentation of its collections.

Access to INTERNET:

DELNET
INVITES APPLICATIONS
FROM
LIBRARY AND INFORMATION SCIENCE PROFESSIONALS
FOR A
THREE -DAY TRAINING PROGRAMME
ON
9, 10, 11 September 1997

Fee: Rs. 2,000/- per candidate which includes refreshments and lunch.

As the seats are limited, preference will be given on a first-come-first-served basis to the nominees of member-libraries. Applications should reach DELNET by 25th August, 1997.

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