DIGITAL PRESERVATION: INITIATIVES AT IGNCA

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Abstract

Digital preservation is increasingly recognised as a vital part of managing digital resources This paper presents an over view of various Digital Preservation initiatives being undertaken. The purpose of this paper is to provide guidance, based on our practical experience to those who wish to manage their digital collections. Appropriate materials, identification, metadata, copying, preservation and access consideration are dealt with in practical terms to help you understand how to manage your digital resources. This paper is an attempt to describe digital library initiatives being undertaken at IGNCA. This paper does not claim that the suggestions being presented here are the only possible answers, but we do believe that our experiences may help many people to get a start on managing and preserving their digital collections.

**Keywords:** Digital Presevation

1. Introduction

We are in digital age. Worldwide digital library initiatives are now resulting in form of various digital libraries. At present, digitization of both print as well as non-print material is going at a very faster pace in India. Most of information is now "born digital". The large amount of digital contents available in the libraries and archives of various institutions in India need to be managed and preserved for long time. This is a very daunting task. Long Term Digital Preservation have just started getting due attention of the digital library experts worldwide. Indira Gandhi National Centre for the Arts, National Mission for Manuscripts, Universal Digital Library, Vidyanidhi are some of the organizations who had undertaken some initiatives on Digital Preservation in India. Recently announced committee on implementation of National scheme for e-thesis in the academic institutions in India can be a milestone in the direction of Digital Preservation of thesis & dissertations in India.

Today's availability of software, hardware and networking technology, the advent of world wide web (www), its ever increasing usage and highly evolved browsers have paved the way for the creation of a global digital library. The increasing popularity of Internet and developments in web technologies is a catalyst to the concept of the digital library.

2. Digital Resources at IGNCA

The Indira Gandhi National Centre for the Arts (IGNCA), New Delhi established in the memory of Smt. Indira Gandhi, is visualized as a center encompassing the study and experience of all the arts-

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each form with its own integrity, yet within a dimension of mutual interdependence, interrelated with nature, social structure and cosmology. IGNCA, is a premier research organization in the field of Indian Art and Culture. Kalanidhi Division of IGNCA is a National Information System and Databank of the arts, humanities, Cultural Heritage etc. A fully supported Reference Library of multi-media collection, the information system in databank for research in humanities, in the arts and disciplines of archaeology, anthropology, philosophy, literature, art and craft etc. is under the disposal of all researchers in India & abroad is the said field. One of the Prime aims of IGNCA is to serve as a major resource center for the Arts, especially primary material, written oral and visual. Collections of about 2 lacs cultural archival material alongwith 1700 rare books are some of the unique collections at Kalanidhi Division. 2.5 lacs manuscript in microfilming format, 1 lac visuals more than 1000 hours of Audio Video recordings, 9 personal collections of eminent scholars and artists, photographic collection of eminent photographers such as Lala Deen Dayal are some of the other points of attraction at Kalanidhi. Below figure show various digital resources available at IGNCA.
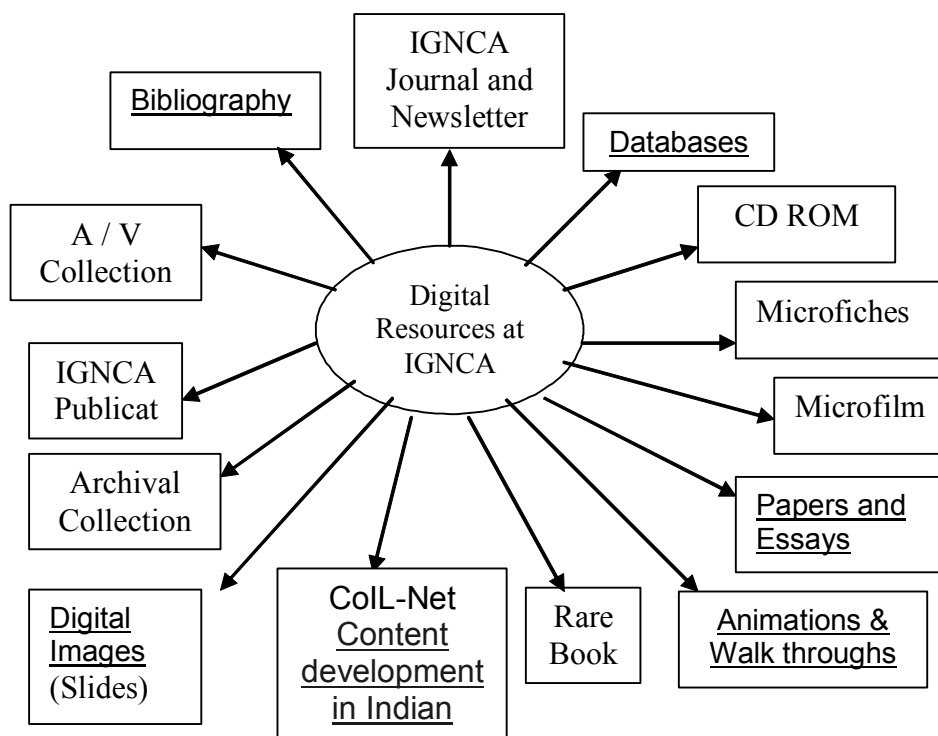
3. Micro Film/Microfiche

Millions of India manuscripts are no longer accessible to research scholars in the original. It is proposed to develop a microfilm/microfiche library of unpublished manuscripts in India and foreign collections. This is a long-range programme, which will cover private and public libraries in India and abroad. Steps have been initiated to acquire on a selected basis microfilm/microfiche, from the collection of Durbar Library, Nepal; the Staas Bibliothique, Berlin; the Bibliothic Nationale, France and British Library, UK. Manuscripts already available in microfilm or microfiche form such as Tibtetan Collection and other Sanskrit manuscript in the IASWR programme have been acquired. Presently the microfiche collection of IGNCA reference library comprises a large number of back volumes of research journals in microfiche form. Important amongst these are British Burma Gazetteer; Bulletin de I' Ecole Francaise de Extreme Orient; Journal of Royal Asiatic Society of Great Britain; New India Antiquary; and Tamil Culture. Half of the material have already been digitized and added to the Digital Library of the Centre.

4. Visual Library and Slide Collection

Non-book material has assumed greater importance in the total resources of a library in which slides form an important storage medium for art and museum libraries. A concerned effort is being made to establish a large photograph and slide library. Here also the focus is on developing a resources center where Documentation on India and Asian art is easily accessible. The Reference Library of the IGNCA has built up selected and valuable visual material, particularly with emphasis on slides of Indian Art, painting, Architecture, and Performing Arts etc.The library has acquired important slide collection from the Victoria & Albert Museum, Chester Betty Collection through the courtesy of INTACH. The American Association of South Asian Art has also gifted a complete set of 8000 slides.

With the prime aim of collecting the Indian Art were approached and material collected in reprographic form (slides) to build up the history of Indian art. The process, which started seventeen years ago, has yielded great results. At present our collection has not only grown in quantity but also in content and quality wise. With our present infrastructure of slide production, duplication and scanning and with the introduction of computerized information, the Centre is one of its kinds in the whole of south East Asia.The slide unit of the Reference Library has been in existence since 1989 and over the years it has acquired and generated over 76,737 carefully selected slides from 17 centres in India and 15 centres abroad. The growth rate of the collection is approx. 3,000 slides per year. In addition to the slides there are 300 photo-negatives on Himachal Pradesh (Land and people).The slide Unit of the IGNCA has the largest collection of slides on Indian art viz painting, sculpture, architecture, illustrated manuscripts, performing arts in India and it the only library in India which is equipped with the proper infrastructure for archival storage, computerization of data, duplication and scanning of slides. All the collection has been digitized and added to the collection of Digital Library of IGNCA.

5. National Information System and Data Bank

Government of India has designated IGNCA as the Nodal Agency for all matters relating to the setting up of a National Data Bank on art, humanities and cultural heritage.The National Data Bank

provides computerized storage, retrieval and dissemination of information on all aspects of arts and cultural heritage. This division supports the computerization programme of other divisions of IGNCA and will network institutions in India and abroad as well as undertake supporting Research &Development Projects. At present, the following databases are under development:

6. Union Catalogue of Catalogues (CATCAT)

This database provides information on thousands of catalogues of published/unpublished manuscripts. Information from 700 catalogues has been computerized. Data on particular disciplines relating to published/unpublished material can now be retrieved by title, catalogue, repositories of manuscripts from India and abroad. Another 500 catalogues will be scanned for updating.

7. Manuscripts (MANUS)

The complete descriptive information about 3000 manuscripts of Gita-Govinda, Meghaduta and Natyasastra have been computerized as an experimental measure. This reveals the uniform character of the texts in diverse scripts, also variations in commentaries. Descriptive information about all the manuscripts available on the 84 identified fundamental Sanskrit texts being computerized, which will provide the base for providing the variant readings of manuscripts for critical editions planned as part of Kala Kosa Fundamental Text Series.

8. Art Object (PICTO)

This database will include information on 2D and 3D Objects. At present, information on Elizabeth Brunner's paintings and musical instruments of Shri S. Krishnaswami's collection available with IGNCA has been computerized.

9. Sound Recordings (SOUND)

This includes information on Vedic Chantings of Ranayaniya and Jaiminiya sakha of Samaveda, Paippalada sakha of Atharvaveda etc. Databases on Sangita collections of Cultural Artchives have been developed, namely Natarajan Collection on Carnatic Music and S. Krishnaswami collection or musical instruments.

10. Kala Kosa Terms Database (KKTERMS)

The database KKTERMS for Kalatattvakosa project has been developed. Under this project 250 terms have been identified for the Glossary (Kalatattvakosa). In the initial phase, data relating to 12 selected terms is being computerized.

11 Cultural Informatics Laboratory (CIL)

CIL was established in 1994 with UNDP assisted multimedia documentation project titled "Strengthening National Facility for Interactive Multimedia Documentation of Cultural Resources". Under proper guidance from the subject experts, the team became trained in Interactive-multimedia-documentation and in-depth analysis of cultural information. This expertise being used to demonstrate

how cultural heritage can be recreated virtually, in holistic and integrated perception of culture. Amongst the areas where the project has broken new ground are the creation of synergies between the disciplines of arts and information technology leading to usage, development and demonstration of new technology and cultural documentation. New design models, development processes and reusable software tools specially targeted at high quality multimedia content creation have been conceived, evolved and applied in some already completed and many ongoing projects.

With the help of Cultural Inforamtic Laboratory (CIL) at IGNCA Kalanidhi Division is in the process of digitization of all its non-print material and some print material. About 50% of the non-print materials have already been digitized. D-space an Open Source Digital Library Software has been installed. A digital software has also been developed by CIL. A digital library of manuscripts in collaboration with National Mission for Manuscripts is another important plan of Kalanidhi Division of IGNCA. Online catalogue of about 8 lacs cultural resources in MARC 21 is under finalization. Installation of CD mirror server, networking of various Divisions of IGNCA and finalization of various meta data formats for collection such as photographs, manuscripts, slides and audio-video material are some of the plans under implementation. Once all the collections of cultural resources at IGNCA is digitized. I am sure the world is going to see one of the biggest digital libraries in the field of Indian art and culture. More than that masks collected from various parts of the country, textile and other tangible and intangible heritage material have thrown new challenges for digital library experts to preserve them in digital images.

12. Kalasampada: Digital Library : Resources of Indian Cultural Heritage (DL-RICH)

Recognizing the need to encompass and preserve the distributed fragments of Indian art and culture, and to serve as a major resource centre for the arts, the Indira Gandhi National Centre forthe Arts (IGNCA) in collaboration with Ministry of Communication and Information Technology, initiated a project, KALASAMPDA (Digital Library: Resources of Indian Cultural Heritage), for the development of databank of cultural heritage. Kalasampada facilitating the scholars (users) to access and view the materials including over couple of lakhs of manuscripts, over a lakhs of slides, thousands of rare books, rare photographs, audio and video along with highly researched publications of the IGNCA, from a single window. Multimedia computer technology has been used for the development of a software package that integrates variety of cultural information accessible at one place. This will provide a new dimension in the study of the Indian Art and Culture, in an integrated way, while giving due importance to each medium. The system aims at being a digital repository of content and information with a user-friendly interface. The knowledge base such created will help the scholars to explore and visualize the information stored in multiple layers.

Digital corpus includes over 50 Lakh folios of manuscript, over one lakh slides, 4000 photographs, IGNCA published books, Kalakalp (IGNCA's Journal), Vihangama (IGNCA's Newsletter), over 400 hours of audio and video and approximately 50 Walkthroughs. Digitization, post digitization editing and integration are continued to encompass all such materials available in the IGNCA. A retrieval application has been developed and majority of these materials is available for online access on IGNCA Intranet. User interface of the application is very simple and many cultural institutions approached IGNCA to have a copy of the same. Search is available both in English and Hindi (Devanagari). User have the option to select the material of his interest either from a specific type

of collection like books, manuscripts, slides, audio, video etc or from the entire collections. The facility is currently available only on intranet, for the very fact that these materials are priced possession and covered under Intellectual Property Rights, and copyright etc.. Although, the partial information can be accessed from the IGNCA's official website www.ignca.gov.in, uploaded with necessary approvals.

13. Conclusion

Libraries preserved important electronic resources by transferring the files at regular intervals to the latest new information carriers available. Refreshing a file involves periodically moving a file from one physical storage medium to another to avoid the physical decay or the obsolescence of that medium. But with multi-media digital resources restoring in digital format may not be possible without the original software or hardware.

Preserving digital resources is made difficult by the fact that digital resources can only be read by software. This would mean that in order to ensure long-term access to digital resources, we need to preserve all the software, hardware, and operating systems on which the software ran. However, with the current quick obsolescence of information technologies, such an approach may not be feasible. Furthermore, inadequate media longevity is one of the issues. For instance, optical disks are expected to have a physical lifetime of up to 30 years but even a life expectancy of 30 years for storage media far exceeds the lifespan of hardware and software. Considering the ever-growing global Internet traffic, another problem is the mass of data and the need to compress it for efficient storage and transmission. However, compression sometime causes loss of data. It is also likely that repeated transfers over years from one carrier to another may cause data loss. This raises a number of issues including authenticity and reliability.

Evidently, sustainable solutions to preserve digital resources are not yet available and are still being tested by various communities. Unlike the traditional 'preservation,' the ideal digital preservation activities would ensure that digital resources in all formats would be accessible as long as necessary. As described by Chapman (2001), if the objectives of digital preservation strategies were to preserve the artifact only, regardless of usability, longevity would be measured according to the lifespan of an object stored in a given environment. A number of researchers defined digital preservation in a variety of ways and present their views on how digital preservation might be achieved. According to RLG/OCLC's more specific definition, "Digital preservation refers to the series of managed activities necessary to ensure continued access to and preservation of digital materials."

It is clear that digital preservation is a critical issue, calling for measures that go beyond permanent archiving and all stockholders agree that digital resource preservation encompasses a wide variety of interrelated activities.

Digital archives are beneficial to all researchers, scholarly institutions, and the entire research community. Major benefits include: cost saving, avoiding duplication of effort, broadening of the communication process, reduction in time in announcing findings, expansion of audience, and above all preserving information assets for the use of future generations.

Digital preservation will happen only if organisations and individuals accept responsibility for it. Digital preservation must address threats to all layers of the digital object: physical, logical, conceptual, and essential

At IGNCA we have already digitized about half of our non-print material i.e. one lacs slides and nine thousand microfilms, audio-video and IGNCA publications. We are in process of digitization of our entire non-print material. We have installed D-space open source digital library software through which all digitized material will be made available over Internet, but due to Intellectual Property Rights we are unable to make our wealth of cultural resources to the scholarly communities. We are also taking steps for long-term preservation of metadata.

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