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Study of Multimedia Resources in Libraries of India

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Abstract – This study is set out to find out the status of the multimedia resources available in the libraries of India, to further investigate the diversity of nature, types, and formats of multimedia resources available in these libraries. The study also includes a brief account of facilities available for the conservation and preservation along with the multimedia production facilities available in the libraries. Findings of the study reveal that CDs/ DVDs are the most preferred physical storage form and compact shelves are the most preferred external storage form for the multimedia resources in all the libraries. The CEC (Consortium for Educational Communication)-Media Tape Library is the best multimedia library among all the libraries with all the latest equipments and best production facilities available throughout India.

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INTRODUCTION

In the age of information technology (IT), multimedia plays a vital role in providing the digital information to the users. The IT has a wide range of impact on education, libraries, and research. Nowadays, libraries and information centers have multimedia technology as a tool to satisfy the demands of the users. Multimedia resources have tremendous potential in revolutionizing the learning process and hold an important place in today's knowledge society. The purpose of the present study is to focus mainly on the current status of multimedia resources available in the libraries of India and primarily on the facilities for the management of the multimedia resources available in the libraries and to find out the best library among all with best multimedia facilities and resources.

REVIEW OF RELATED STUDIES

Libraries are evolving leading to changes to its physical facilities, infrastructure, the tools used to drive library business, and the variety of services provided to the users. Today, one of the greatest attractions of a digital library is its multimedia resources which can be used for information retrieval to knowledge discovery and information integration. Libraries that have not expanded collection development strategies to include all information carriers are unlikely to satisfy all the information needs and demands of their patrons. On this point, Broderick opines: "the librarian who fails to use all media is narrowing the world he offers to his users". These views indicate why it is important for non-print materials to form part of the information arsenal of today's libraries and librarians.

Multimedia technology has created a total revolution in the areas of education/training methodology, learning behaviour, communication pattern, storage, and searching techniques. The multimedia provides rapid interpretation and scope to incorporate latest developments in many sectors of science and technology taking place all over the world and now it's time to apply multimedia technology to enhance libraries. In the present academic and special libraries, the educational videos, instructional visual aids, and audio learning resources form a significant collection. This rapidly developing technology permits the user to combine digital images, video, animation, graphics and audio which can be delivered in a variety of formats including streaming video on the web, video on DVD/VCD, embedded digital objects within a webpage or presentation software such as PowerPoint, utilised within graphic designs or printed as hardcopy.

There are several applications of multimedia and its use in the libraries and information centres for example the addition of multimedia effects gives lively and interactive appearance to any presentation including sound, video and animation effects. 'Multimedia-based library user orientation program' educates or instructs the user about the library, library techniques, sources and services provided by the library in a more efficient and attractive way. Multimedia allows taking care of all the forms like text, audio, video, images and animation and is highly interactive. Multimedia packages form the most effective tool, which helps the user not only to know about the library but also helps to identify the staff and consult them. Also, multimedia resources are easy to handle and are efficient in the learning process as user interaction is involved. The

availability and purported strengths of ICT has increased the applications of multimedia resources in higher education. Therefore, Diezmann & Watters report the production of multimedia resources involving CD- ROMs, videos and a website to support the learning of science teaching at primary level by pre-service teachers. An overview of the multimedia resources developed in the study is provided along with an evaluation of these resources and speculations on future directions.

Multimedia is fast emerging as a basic skill that will be as important to life in the twenty-first century as reading is now as multimedia is changing the way people read, interact and distribute information. Instead of limiting one to the linear representation of text on printed books, multimedia makes reading enjoyable with a whole new dynamic environment. Multimedia resources, considered in terms of both products and processes have great potential to enhance education. New modalities and instruments for development and delivery have radically increased the support that these resources can give students across a wide range of learning activities. Despite the glamour of technology-rich environments, focus must remain on learners and their motivations and challenges on the knowledge domains to be explored and on the communities in which learning will take place.

These studies highlight the role and importance of multimedia resources, impact of multimedia technologies and its effectiveness in libraries but no one served the current status and types of multimedia resources available in India libraries. The aim of the study is to find out different types of multimedia resources in the libraries of India and to identify different conservation and preservation techniques used to preserve these materials. Digitized multimedia data such as images, video and audio is rapidly becoming common and will soon replace conventional analogue formats. New techniques are needed to access, manage and search these new multimedia data types. The multimedia technology is a boon to the libraries and it is up to the Indian librarians how they use and apply it in their libraries to improve the services.

OBJECTIVES OF STUDY

The objectives of the study are to:

- Identify the physical and external storage formats in which multimedia resources are available in the libraries
- Examine the organisation, maintenance, and long- term preservation of the multimedia resources in the libraries
- Determine the availability of production facilities for various multimedia resources
- Identify the best library with all the latest and well equipped multimedia facilities.

RESEARCH METHODOLOGY, SCOPE AND LIMITATIONS

The present study used survey method with the help of questionnaire followed by interview of the librarians and the library staff along with observation method to bring out the clarity to the study. Multimedia resources of the selected libraries have been analysed by tabulated method on the basis of the data collected from the respective libraries during the survey.

In this study the term 'multimedia' is used for contents of the collections of a library which includes audio-visual materials like magnetic tapes/discs, audio cassettes, video cassettes, various types of audio-video tapes, audio/video discs, CD-ROMs, CDs/DVDs along with the multimedia resources available in digitised format stored on the servers. Six major academic and special libraries ofIndia are selected for the study which are actively working and dealing with the multimedia resources: CEC (Consortium of Educational Communication)-Media Tape Library; CSL (Central Secretariat Library); AIR (All India Radio)-Digital Sound Archives; IGNCA (Indira Gandhi National Centre for the Arts)-Media Centre Library; IGNOU (Indira Gandhi National Open University)-LDD (Library & Documentation Division) and IGNOU-EMPC (Electronic Media Production Centre) Library.

DATA ANALYSIS AND FINDINGS

Data analysis involves involves the analysis of the various factors like total number of multimedia resources available in the library, different formats of the resources available, equipments available for their storage and preservation, multimedia production facilities available along with web access facility provided by the library, etc

Multimedia Collection

The AIR-Digital Sound Archives has the highest number of multimedia resources in the library, i.e., 32,000 audio resources available in various formats. Among these resources, 15,000 CDs are available as the master copies which contain more than 1 lakh audio programmes. CEC-Media Tape library has the second highest number, 26,500 video resources only. These resources consist of 15,000 educational video programmes, 1,500 e-content programmes and 1000 learning object repositories which constitutes the 'central repository' of the CEC for the broadcast

purposes. The CSL has 5,000 digitised multimedia resources which consist of around 30 lakhs of digital pages of GOI (Government of India) data. IGNCA-Media Centre Library consists of total 9,100 multimedia resources which contains approximately 25,000 hours of audio-video footage of professional standard. IGNOU-Library and Documentation Division (LDD) consists of total 5,200 multimedia resources including CDs/DVDs only and IGNOU-EMPC constitutes of total 10,000 multimedia resources containing around 5,000 audio and 5,000 video programmes in tape and CD formats.

Multimedia Physical Storage Formats

The formats are available in the libraries; of the all the most preferred physical storage format is CDs/DVDs format in all the libraries in which multimedia resources are available. This is mainly because the archival life of optical media ranges from 30 to 100 years whereas that of magnetic media is less than 5 years. In addition to these major parameters that are extremely essential in preservation efforts, the lower cost and better transportability of optical media adds value to these formats audio-video tapes available in different formats is the second choice for recording the multimedia data and lastly, audio-video cassettes available in various formats are also used by some of the libraries for recording their data. Almost all the multimedia resources in CEC-Media Tape Library are available in Beta-Cam cassettes. IGNOU-EMPC is using DVC-Pro format for recording their video programmes which is the latest available format today. DV-CAM, U-matic, and spool tapes are among the least used formats available in the libraries for recording their multimedia data.

Various Multimedia External Storage Facilities

All the libraries are having sufficient external storage facilities available with them to store their multimedia resources. It shows that the handling of the physical storage of the multimedia resources is the least of worries. However, as professionals, librarians know how to do this well and how to have climate-controlled environments, how to conserve and store materials of various types and so on. Compact shelves of various types like fire-proof compact shelves, normal compact shelves and compact mobile metallic shelves are the most preferred form of storage devices among all the libraries for the storage of multimedia resources.

Preservation and Conservation of Multimedia Resources

With regard to the temperature it is necessary to take into consideration that thermal energy speeds up chemical reactions. Thus, if the temperature is high there will be quicker chemical deterioration process of the different components. Therefore, when dealing with conservation of films and magnetic materials, low temperature is always better than high temperature17. Some libraries are still not concerned for the preservation and maintenance of their multimedia resources like CSL and IGNOU-LDD. They do not have any preservation facilities available with them and also they do not maintain any standard conditions for the preservation of the resources. AIR-Digital sound archives maintain the temperature of 18°C-22°C and also for the long-term preservation; moisture control gel is applied to the resources. The CEC and IGNCA-Media Centre Library digitise their multimedia resources maintained at the standard AC environment. The IGNCA also run their resources on Beta-machines. IGNOU- EMPC library maintains an ideal temperature of 20-25 °C for preserving their multimedia resources.

Multimedia Lab Facilities for Production

All the libraries except Central Secretariat Library have the multimedia production facilities at their institution/organisation for the production of the multimedia resources. Also, CEC has best multimedia production facilities at its 17 media centers all over the India which provide services to other institutions/ organisations also for the development of the multimedia resources.

Access of Multimedia Resources through Web

AIR-Digital Sound Archives hosts the library website on the server and provides access to its resources by on- demand service. User can request for the particular resource by visiting their website and by providing their personal details, the programmes are delivered accordingly to the users all over India.

CEC-Media Tape Library provides access to its resources through its website to all the users of the 17 media centres of the CEC. Users can only view the resources on the website and cannot download the resources as the copyright lies with the CEC. IGNOU-LDD hosted their library website on a web server but they do not provide any access to their multimedia resources to the users.

Use of Multimedia Resources for E- learning

E-learning has the potential to be an effective training and learning medium as it offers the opportunity to receive information in various formats (e.g., graphics, text, video) and access this information anytime and anywhere. The internet-accessible learning materials are also an interesting option for students of stationary courses as additional material helping them to study. Therefore, multimedia resources play an important role in e-learning system. Table 6 shows that only CEC-Media Tape Library and IGNOU-EMPC

are part of the E-learning system among all the libraries.

IGNOU-eGyanKosh is a National Digital Repository to store, index, preserve, distribute and share the digital learning resources developed by the open and distance learning institutions in the country. It is the digital repository of programmes based learning content available in text and video formats. Education Broadcast is a webcasting facility linking to educational channels such as Gyandarshan, Gyanvani, and EDUSAT.

CEC is organising e-courses using Vyas-24 hours Higher Education Channel, EDUSAT Network and Internet. The Vyas channel managed by UGC-CEC is in operation for 24x7 basis for the last 18 months. It telecast 4 subjects a day and 28 subjects in a week. UGC-CEC has repository of nearly 15,000 programmes in 49 subjects. It adds nearly 500 programmes every year. Presently 6 hours of fresh programming is given every day. It plans to provide fresh programme of 8 hours a day in the near future. The other form of packaging and transmission i.e., e-content and webcasting was started since last one year or so.

National Telecast Facilities for Private/ National Educational Channels

Out of all the libraries under study, only CSL and IGNOU-LDD are not providing their multimedia resources for the National Telecasts to any private or national educational channel. AIR-Digital Sound Archives telecasts its resources on all AIR channels and other private radio channels. CEC-Media Tape Library telecasts its programmes on Doordarshan, DD Bharti, various Gyandarshan channels and EDUSAT. IGNCA-Media Centre Library telecasts its multimedia resources only on DD Bharti. IGNOU-EMPC telecasts its resources on Doordarshan, DD Bharti, Gyandarshan channels, on various AIR channels including 'Gyan Vani' which is telecasted over 26 FM stations all over India. Each Gyan Vani Station has a range of about 60 km and covers an entire city including the adjoining rural areas.

Ways of Sharing Multimedia Resources

The objective of a multimedia resource sharing is to have cooperative networking at regional, national, and international level. Its activities are directed towards promoting cooperative endeavors in resource development and utilisation, with a view to organise library services at macro level at an economical cost with maximum benefits. Table 7, represents the views of the librarians of all the libraries under study which shows that all the libraries prefer to share their multimedia resources with each other through online resource sharing and consortium process. AIR-Digital Sound Archives wants to share its resources through online resource sharing so that there may be a facility of 'e-purchasing' within the libraries. The CEC-Media Tape Library and IGNCA-Media Centre Library want the resource sharing between the libraries through Consortia so that more and more institutions may collaborate to share their resources at reasonably accepted cost to all members. CEC-Media.

DISCUSSIONS AND CONCLUSIONS

The ever-growing complexity and heterogeneity of digital file formats together with rapid changes in underlying technologies have posed extreme challenges to the longevity of information. Preserving the inherent complexities of interactive multimedia is a very difficult task, particularly because formats used in multimedia resources are ephemeral and unstable. The status of multimedia resources in the libraries of India shows that libraries are applying different methods and techniques to store, maintain, conserve, and preserve their multimedia collection in best way. But as no single method/approach can guarantee the long-term survival of the library's digital material, therefore a mixed approach is required to maintain the good status of the multimedia resources by libraries of India. It may involve 'format migration' as one of the option to transfer the multimedia resources from one medium to another for the longevity.

Migration of data to the latest media and software versions can be done on a 2-3 year cycle but it will require a significant monetary investment for each conversion with constant human attention and training of the personnel. With the technological advancements in computers and electronics, the optical storage media has become popular. Although a variety of technologies like magnetic tapes, cartridge tapes, digital audio tapes, floppy discs, removable hard discs and optical discs are available for use, libraries generally prefer to use optical media due to the advantages like less accessing time, versatility, multimedia capabilities, compactness, transportability, etc. Multimedia production is another important area to be looked upon by the libraries and the librarians as multimedia authoring packages, scanners, cameras and other software and hardware are now more readily available at affordable cost allowing for the production of one's own multimedia resources. The highly-skilled and well-trained staff can lead to more effective results in the multimedia production process which involves the various steps in the authoring and development of multimedia resources.

Finally, the above study concludes that CDs and DVDs are most preferred physical storage formats in all the libraries among their multimedia collection as they are easy to use, portable and can be duplicated easily if required. Except CSL and IGNOU-LDD all

the other libraries are maintaining ideal conditions for temperature and humidity and following various other methods to preserve their multimedia resources. All the libraries except CSL have the sufficient multimedia production facilities available at their institution as CSL takes help of the outside agency for the production of their multimedia resources. Also, CEC-Media Tape Library is the best library among all the libraries with most actively participating in the management and maintenance of multimedia resources with best available multimedia production and resource sharing facilities. The CEC- Media Tape Library is the only library that is the part of any consortium playing a major role in e-learning all over India.

Librarians play a pivotal role in the planning and rethinking of new multimedia libraries and their resources. They are challenged with serving their patrons needs and also they must have built-in ability and flexibility to focus on the evolution of the new multimedia library that is more information diverse. India is in initial stages of development of multimedia resources for the higher education and research therefore the libraries of the future are tasked with an enormous amount of responsibility to play an expanded multimedia role.

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