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CHALLENGES IN THE PRESERVATION OF ELECTRONIC INFORMATION IN DIGITAL ERA

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ABSTRACT

Digital library is an increasingly wide range of digital resources from formally published e-journals, e-books through databases and datasets in many formats. The development of networked environment explores the challenges before the working library professional, archivist and information scientist to preserve the electronic information in the Digital era. Selected four major key areas ie. Internet, IPR, Security and Data format and discussed its present situation and barriers to preserve the electronic collection. Highlighted some important solutions pointed out by the Joint Information System Committee, UK and National Digital Library Federation and Research Library Groups, Australia.

INTRODUCTION

Digital Libraries has given steadily as a greater number of institutions, organizations, research and special libraries have converted and created their digital libraries. In India, there is possibility of two types of libraries in future one is Conventional Library and other one is a Digital library. Many experts claming that the Internet is revolutionary and changes every thing in the present contest. The Internet is enabling e-journal, e-commerce, e-learning etc. and helping articulate the future at the local level. The information professional thinking about the impacts is how we are preserving the historic record in the Digital era. As we adopt the changes of digital library, the conventional documents must be converted in to digital formats.

To preserve the Electronic information, the professionals of the information Centers, Libraries and Archive are to be concentrate the following four major challengeable areas and to find out the suitable solutions to achieve the effective preservation. As a profession they should know how to preserve from the climate controlled environments, conserve and store materials, how to ensure that disaster recovery practice with cost effective basis.

Major four key areas are as follows:

1. Internet
2. IPR
3. Security
4. Data formats

1. INTERNET

Who owns the Internet? The American ownership of key Internet resources and its ability to influence its future direction is troubling many developing countries. The following observation about the digital environment provides the basis for the challenges in the preservation of electronic information. As per the information explosion data the growth in the number of websites in the Internet in 1983 is only 1000 and the year 2000 the growth rate is for more than 1000 million websites in the Internet.

Many of the websites are not useful, most difficult to search all websites to get pinpointed information many of the academic libraries and public libraries have not met the expenditure to setup the Internet Centre.

To establish a separate internet section, the institution will purchase the computers, hardware, software and other accessories in one stroke and expenditure to be incurred to complete the project for Rs. 15 lakhs (approximately for 10 Users). In addition to this AMC, Manpower, Internet connection charges, Phone bills, Electricity billing amount to be met depends on the usage regularly for running the Internet Centre in the academic institute. To access electronic information involves a huge initial investment for digitization of their existing collection and to acquire digital resources. Hence, the small libraries in India are unable to invest for digitization.

2. INTELLECTUAL PROPERTY RIGHTS

Copying original information to produce a version that can be used instead of the originals has been employed for some time as a way of addressing the conflict between preservation and access. The ability to scan analogue images, text and sound recordings producing digital copies that can be easily manipulated and distributed for use, has been used increasingly by cultural and academic institution in Digital era. A major crisis management in copyrights and access controls for electronic information is an increasingly difficult area of concern for libraries and archives. At the heart of the music industry's fear of digital technology is the ease with which digital recording may be reproduced.

A simple example is the restrictions on access placed by NISC-Fish and Fisheries World Wide CDROM database to which it may subscribe regularly the old version of CD-ROMs will be outdated and also not accessible after the subscription period. In this case, whether the old version of CDROM database can be preserved or must be discarded after the subscription is finished. More complex legal issues arise with unauthorized and automated indexing of internet WWW sites information for

preservation purposes, where it seems that IPR are being ignored.

3. SECURITY

Data security in digital environment is an another major challenge before Information Scientist. Due to the following problems the master data storage Server will be affected.

- Piracy of database
- Viruses
- Internet and Intranet (Satellite Networking Problems)
- Electricity failure.

4. DOCUMENT FORMATS IN DIGITAL ERA

Nowadays ICT skills and applications are changing and developing at faster rate, so that mixed digital media and multiple documents format will continue in the digital collection. In 1980s Word Process is popular in MSDOS platform (eg. Punch Cards and 12" floppy disks), now it is outdated and people were put into the recycle pins. At present MS Windows user friendly software like MS Office 9x, 2000 and Millennium Edition provides ample dramatic challenges that are faced and claims future systems which will make this task easier and hopes to avoid timely investment to change the existing formats.

To avoid the above problems all libraries should adopt Common Communication Format (CCF) for creation and conversion of their conventional information in to digital information in the same manner.

RESEARCH PROGRAM FOR DIGITAL PRESERVATION

To find out the sustainable solution to preserve electronic information a research program has established by Joint Information Systems Committee of Higher Education Funding Council (JISC) in UK and put forward a research agenda includes the following:

- Topology of major data types & formats and identifying issues affecting preservation
- Investigating the attitudes of originators and copy right
- Costing models for long term preservation
- examining the technology preservation, technology emulation and information migration
- Permissive guidelines for digital preservation
- Sampling methods, technique for collecting materials etc.

The following organizations are at similar points for research on preservation of electronic information.

1. National Digital Library Federation and Research Libraries Group, Australia
2. Technology Assessment Advisory Committee to the commission on preservation & access.

SOLUTIONS FOR PRESERVING ELECTRONIC INFORMATION AT PRESENT

Knowledge creation and sharing

Prof. M.S. Swaminathan a noted eminent Indian Agricultural Scientist who addressed UNESCO sponsored symposium on 'Shaping the knowledge society' at Geneva, 2003 highlighted two concepts that "ought to lie at the root of future efforts in knowledge sharing: Gandhiji's principles of 'antyodaya' sharing with the neediest of the needy, and the idea that we are trustees not owners of knowledge sharing systems". In this context we have to contribute our knowledge to explores and urgent need to depth research in the challenges of preserving various types of materials like maps, colour documents, bound volumes, data sets, music, and electronic format like SGML, PDF, ASCII, HIML must be undertaken.

Selection of Digital materials

The research libraries Groups preservation Working Group on Digital Archiving and the JISC in UK have identified the guidelines for appraisal, digital information selection and priority setting for preserving digital information as being a key task for further work. For digital material acquisition and preservation will need to be more closely linked because if a preservation decision is not made at the time of acquisition, it may be too late to consider preserving it later on.

Digital Rescue operation

Digital information may be copied into microfilm for preservation purpose and it may be print an electronic document an acid free paper. The report of the Task Force on Archiving of Digital Information has identified in its recommendations the development of "effective fail safe mechanisms to support the aggressive rescue of endangered digital information"

Public supports to meet the challenges

Despite the present lack of public interest in digital preservations, it is necessary to believe perhaps as an article of faith, that the efforts of librarians and archivists will be appreciated in the future by promoting the importance of preservation. These effects should be able to save from the midst of a digital darkness.

CONCLUSION

Individuals cannot recreate history of digital resources and organizations cannot recreate a digital history because it was archived or managed properly. IT creates an unstable and unpredictable environment for the continuance of hardware and software over a long period of time and represents a greater challenge than the traditional library. The argument for preserving digital information has not effectively made it into public policy. Increasingly restrictive intellectual property and licensing method will ensure that many materials never make it into library collections for preservation. Clearly, digital information collections are not going to be a substitute for existing and future library

collection and plans must be made to accommodate both. The research program for digital preservation has only recently been initiated to develop strategies, guidelines and standards.

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