

Digital Library System: A need for emerging information society

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Abstract

Digital Preservation is an ongoing operation, requiring considerable recurring expense. Digital Preservation is a complex process & there are still many unsolved issues which make it a challenging task. Collection & preservation are the important core areas which are steadily, improving to attain the goals/objectives of the parent organization. These articles discuss why & how we do the digital preservation of resources.

Introduction

Today is the world of digital environment and preserving the things has become more important than writing it on piece of paper. Modern society is based on information and this is the fourth resource after money or other factors of production information technology has made tremendous changes in the library and information centers, its activities, services, development & preservation of collection. Due to Information technology the library can enhance the long-term preservation of its materials through conservation & reformatting solution such as microfilming & digitization. There is a critical need to organize, preserve and make accessible the increasing number of digital holdings that are the basis for current research, future scientific advances and education source materials for use by anyone. So in order to work out effectively and efficiently, it had become necessary to preserve the information and to use it again and again as per the requirement which had lead us towards the usage of digital preservation.

Basically we try to preserve information of various things, but the most important source of information

available to us is the libraries, which gives us variety of information and therefore it becomes important to preserve the library resources in digital aspect. The very first step includes digitization after which the digital preservation could be done. After that approaches of preservation are being used involving copying the digital information in to newer media before the old media become obsolete.

Definitions

According to glossary of LIFE, “Digital preservation is a process of ensuring that a digital object is accessible over the long term.”

According to Wikipedia, “Digital preservation is defined as; long-term, error-storage of digital information, with means for retrieval & interpretation, for the entire time pan that the information is requires for.”

Digitization form

Digitization form is the word given to the change of hard copy materials to an electronic format. Through this change the materials can be made accessible and viewed by many more people. Often the electronic format of materials is made available via the website, but they can also be disseminated

on CDs, multimedia, other media. The types of study materials that can be digitized are limitless and include books, letters, manuscripts, three-dimensional objects, photographs, maps, drawings, other materials etc.

Why to digitize

All kinds of information are represented in the online repositories being created. Significant digitization projects of interest. It is necessary to digitize the material due to following reason.

- Researches would get benefited,
- From anywhere at anytime user avail the desired information according to their need,
- Removes the overhead or burden of library staff,
- Save the time of users since no need to go to library for searching the catalogue,
- Flexibility increased since information is available on mouse click,
- Improves productivity since recompilation and editing of content is easily possible as per the requirement of user,
- Makes information to survive longer, etc.

Questions to be answered/addressed during the planning phrase include

- Who will oversee the project?
- Who will work on the project?
- Will all of the stakeholders participate in the project?
- What is the focus of the project?
- Who is the audience for this project?

- How will materials be selected for digitization?
- Are there legal issues that will need to be addressed?

How will they be handled?

- Will all of the work be done in house or will any of the work be outsourced?
- How much will the project cost?
- How will the project be funded?
- How will the project be presented/ displayed?
- How will the project be marketed to potential users?
- How will ongoing maintenance be handled?

Items digitized without considering the full scope of the project may not address the needs of the organization or of its users. Time spent planning is indeed critical to a successful digitization project. Many resources address these questions and others. Among them are:

How do you manage a digital asset?

It has become clear that a digitization project needs to be maintained and managed on an ongoing basis. This is become:

The technology- hardware and software-used for accessing the materials will change and need to be updated. If the material is housed on the Internet, the server and web site will need ongoing maintenance to ensure that the materials are accessible. The content will need to be maintained included for example, errors corrected, new information added and additional metadata

included. If the content points to other web sites, those links will need to be checked and updated on a regular basis. This type of maintenance helps the material stay “fresh”. Users will return to a site that does not seem to have gone stale (which can be identified by things such as bad links, outdated or incorrect information or even pages that load incorrectly).

How do you preserve a digital asset?

Ensuring that digital assets are available for the long-term means that you must continue to think about and attend to their needs. When an item is preserved, it is maintained in safety, kept in a perfect condition, prevented from decaying and kept from changing. It is important to recognize that an institution spends both time and money preserving its other assets; so preserving the digital assets is a natural outgrowth of that activity.

Digital asset migration

Migration means moving the image to new file formats when those formats become available. A project may not want to migrate immediately, but wait to ensure that the new format will be considered a standard format. One should assume that even those CDs stored in archival conditions will degrade over time, thus moving those images to new media is critical to ensuring that they remain usable;

- One should also check periodically to make sure the media is not physically disintegrating or becoming compromised.

- Storage of the high quality original image. This has already been mentioned, but there is more to say. Store the original images (e.g. - TIFF formatted files) in archival conditions with.

Software's selection

Now a day many open source GNU software (like greenstone, d-space, etc) is available for digital library and it is of great benefit especially for developing countries. In using such software it must be realized that a certain amount of expertise is required to enable any particular software to meet the needs of the particular Digital Library System being developed. Cost is often a very important criterion for proprietary solution not only the initial costs of setting up the system but also the ongoing cost of maintaining it.

When digitization is complete, each book exists in three formats

The first is color page images scanned from the copies of document. Every page is included, from front cover to back.

The second format is HTML, which offers users a faster download and the ability to easily adjust the font size of the display as desired.

The third format is SGML. Although similar to HTML in its mechanics (tags enclosed in angle brackets, elements, attributes), SGML, provides more precise encoding and is infinitely customizable.

Digitization a worthwhile endeavor for a library:

Definitely yes but initially we have to pay a lot for

copyright for the responsible person for concerned document.

Benefits of Digital Preservation of library resources

- Digitization brings the library to the user
 - Digitization brings information to the user, at work or at home,
 - With a Digital Library on the desk top, user never need visit a library building,
 - There is a library wherever there is a PC and a network connection, etc.
- Improved access- searching and browsing
 - Support full text searching- finding information in paper-based material is very difficult,
 - Search systems are improving,
 - Hypertext linking, etc.
- Information can be shared more easily: placing digital information on a network makes it available to everybody- mirror sites improve access further- duplication of paper material is very expensive.
- Easier to keep information current: information can be updated continuously much more easily.
- Information is always available
 - Not limited by time and geography(any time, any where and any format),
 - Materials are never checked out, MIS-shelved or stolen.
- New forms of information become possible: digital representation can support features and manipulations not possible in print form (e. g.- chemical structures, mathematical equations and multi-media).
- Wider access: a digital library can meet simultaneous access requests for the same electronic document by easily creating multiple instances of the requested document. A digital library can thus meet requirements of much larger population of users.
- Allow collaboration and exchange of ideas
 - Technology of Digital Library is closely related to e-mail and teleconferencing,
 - Potential for convergence,
 - Integration with Km, etc.
- Digital Library's may save money
 - Hard data is not yet available,
 - Conventional libraries are expensive- building, professional staff, maintenance,
 - Today's DLs are also expensive- but as technology costs decline and improved tools become available, DLs may eventually prove to be less expensive, etc.
- Improved preservation: it is easier to copy digital information, without errors- no fear of maintaining one physical object permanently, so rare publications and

artifacts may be preserved better by providing access to their digital versions.

Limitations of Digital library

Digital Library's are not without their limitations, at minimum for the time being. The very large volume of print material that already exists and the comfort attached to reading from print material, means that print and digital material are going to co-exist for a very long time to come. Following are some of the key issues facing Digital Library's today:

➤ **Technological obsolescence**

- **Hard-ware:** The major risk to digital object is not physical deterioration, but technological obsolescence of the devices to read them. While the life-time of optical and magnetic-optical cartridges are only about one decade and more time (Solution- reasonable refreshing schedule and use of widely marketed devices than special purpose devices).
- **Software:** A more serious problem is software obsolescence. It has been pointed out that the variety of software formats far exceeds the number of hardware devices manufactured and that these programs come and go more quickly than the hardware does (Solution- Libraries should rely on standards like MARK and SGML, which are expected to exist for the foreseeable future).

- **Cost of content refreshing:** digital preservation will be an ongoing operation, requiring considerable recurring expense. This is a key issue for digital archiving. However, given the declining costs of technology, if a library can understand how it will fund the first refresh cycle in five to ten years, it can expect that the next refresh cycle will be so cheap as to be insignificant.
- **Right management:** it is very easy to copy, replicate, massage and distribute digital information. Enforcing copyright in digital environment is a major issue.
- **Inter-operability:** another key issue is that of interworking of different digital libraries. Given the distribution of library resources around the world, no one expects that there would be a single digital resource. This means that we need methods for finding either individual items or collections in different places and assembling virtual collections that users can search or browse.
- **Network bandwidth:** with the exploding number of users, multi-media content, web site and applications, bandwidth available for accessing digital library's is going to be a serious issue. Even a single speed CD-ROM drive provides faster access time than a 56 KBPS modem. As another example, over a 64 KBPS ISDN takes 4 seconds which is a definite lag.

Conclusion

Digital preservation is the digital world challenge for librarians and archivists but if proper planning and suggested steps would follow it greatly helps to carry out preservation process in effective manner. Finally preserved resources will add significant value to the users.

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