



New reflections on the Manuscript conservation –technical aid through digitization

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Abstract: The paper enlightens how to preserve the manuscript collections in digital environment. Considering the importance of manuscript as a source of historical & cultural information, it is very important to initiate projects aimed to preserving them and making them accessible in ICT environment to information seekers. The study goes into depth to investigate the digitization process of manuscript. Paper mainly analyses about post preservation of manuscript as a digital data.

Key words: civilization, knowledge, manuscript, knowledge

Introduction

As we all know that, our ancient civilization had a richest culture and knowledge representing thousands of years of history. The manuscripts, which were written in different languages and scripts are preserved on treated Palm leaves, Birch barks, Silk cloth, Wood, Tamra Patras and handmade paper, inscriptions on stone etc. They are spread all over the country and abroad and are preserved in libraries, museums, temples, Mutts, monasteries etc. These manuscripts contain invaluable knowledge in medicine, science and mathematics, literature, art and architecture, theology, philosophy, music and dance etc. These sources not only provide information on these subjects, but also throw light on the history and culture of the nation. In the past as a result of natural calamities like floods, wars, fire, and foreign invaders a good collection of old manuscripts were destroyed. Manuscripts and other old documents

have been conserved with other artifacts like buildings, sculptures, paintings, monuments etc. Now the concept of preservation has changed. The manuscripts are preserved with the modern digital technology by converting to Analog or Digital copies of the original. At present the preservation techniques are coupled with the word Access, which is to provide information to those who need it in shortest possible time, with the new technologies like Internet, CD-ROM etc.

A relatively new concept, digitization has been hailed as a way to preserve historical items for future use. "Digitizing refers to the process of converting analog materials into digital form digitization deals with acquiring, scanning, converting, storing and retrieving in standardization & organized manner with the help of modern technical gadgets. In libraries the most obvious benefit of digitization is to preserve and provide the aggregation of



various resources, in digital form, using digital technology, and resources are preserved for future generation and simultaneously made accessible for current use.

For example, one of the giant IT firm, Google Book Search has partnered with over forty libraries around the world to digitize books. The goal of this library partnership project is to “make it easier for people to find relevant books – specifically, books they wouldn't find any other way such as those that are out of print – while carefully respecting authors' and publishers' copyrights.

With technology constantly improving, digitization is preservation choice that may help items last well into the future. Also, it is not only the conversion of manuscripts to digital forms, but also, need to think of safeguarding and securing the data for the future. In this manner, the digitized data can be preserved on the magnetic disk drives or tape drives and can be accessed and used forever.

As the digital technology has evolved to a greater height, the same digitized data can stored on the central storage system or server and also over the cloud. Which will give the high freedom for the user to access the data any time and from anywhere? Cloud provide such a high freedom, high accessibility and high security to the user in all the manner.

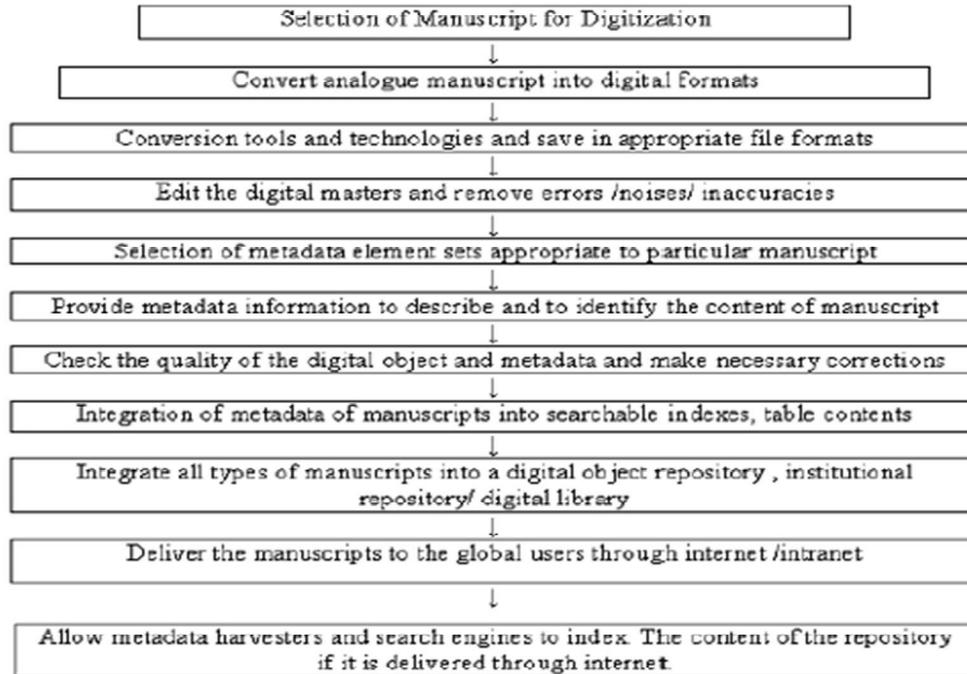
Workflow of Digitizing Manuscripts

Digital format implies any kind of bit stream with the extensions like PDF, JPEG, TIFF, PNG, XLS, GIF, etc. If a document is created in digital environment and available in a digital format, it can be called a “born digital” object. If a document is only available in physical format it can be converted into digital format through digitization process.

After converting analogue objects into digital objects, there will be a need of quality control that may check quality of digital masters. The digital masters should be stored in appropriate file formats and appropriate feature (e.g. resolution, size) metadata elements are required to describe and identify a document. After metadata creation, the manuscripts are to be integrated into the repository which can be made accessible through on line mode (The work flow of digitizing manuscripts is given below figure): Digital Preservation and Cloud Storage Cloud Storage and Digital Preservation concerns the management of digital content over time to ensure ongoing access. It can be defined as: “the series of managed activities necessary to ensure continued access to digital materials for as long as necessary, beyond the limits of media failure or technological and organisational change. This definition emphasises both the technical and organisational challenges involved in maintaining digital materials over time. This can assist you in acting on advice in this



guidance and starting to work on your activities.
digital preservation as a major part of



The growing volumes of digital materials requiring preservation in archives (a collection of historical documents or records providing information about a place, institution, or group of people) come from many different sources including those created or acquired in digital form from parent organisations and donors; or via digitisation of existing physical collections. These types of digital material may have different characteristics and preservation needs.

What is Cloud Storage?

Cloud Computing is a term that encompasses a wide range of use cases and implementation models. In essence, a computing 'cloud' is a large shared pool of computing resources including data storage. When someone needs additional computing power, they are simply able to check this out of the pool without much (often any) manual effort on the part of the IT team, which reduces costs and significantly shortens the time needed to start using new computing resources. Most of these 'clouds' are run on the public Internet by well-known companies like Amazon and Google. Some larger organisations have also found value in running



private clouds inside their own data centres, where similar economies of scale begin to apply. Whilst we are specifically concerned with the potential utility of cloud-based archival storage solutions, it is useful to briefly consider the generally accepted characteristics of a typical cloud service.

These characteristics are:

- Available when required ('on demand'), without the need for lengthy procurement and configuration processes;
- Available on standard networks such as the Internet, without special requirements for obscure or proprietary networking, protocols, or hardware;
- Able to offer additional capacity as demand increases, and less as demand falls ('elastic');
- Capable of only billing customers for the storage they use.

All providers of cloud infrastructure services are able to offer cloud-based storage solutions. Archives, however, typically have additional requirements beyond the simple availability of a place to store data files. However, a number of specialist providers have also emerged to offer value-added services. By using them it is possible for archives to layer additional processes and procedures on top of generic cloud services in order to build the systems that they require.

Although digitization seems to be a promising area for future preservation, there are also problems.

The main problems are that digital space costs money, formats change, and backwards compatibility is not guaranteed. Higher-quality images take a longer time to scan, but are often more valuable for future use. Fragile items are often more difficult or more expensive to scan, which creates a selection problem for preservationists. Other problems include scan quality, redundancy of digitized books among different libraries, and Copyright law.

However, many of these problems are being solved through educational initiatives. Educational programs are tailoring themselves to fit preservation needs and help new students understand preservation practices. Programs teaching graduate students about digital librarianship are especially important.

There are Groups such as the Digital Preservation Network, which are striving to ensure that "the complete scholarly record is preserved for future generations.

Conclusion

Preservation of manuscripts is not new concept. Along with traditional methods of preservation, modern techniques of digital preservation are being adopted all over the world. Policies are being made in each individual country to preserve its cultural heritage by proposing strategies and policies at national level. It is the responsibility of each of us to preserve them with modern



digital technologies. The present technology and available expertise is enough to digitize the existing manuscripts, but one of the important limiting factors is motivation and monetary support to be considered.

Also, Preservation issues, copyright, intellectual copy right issues, bibliographic integrity, identification, standards are important issues to be kept in mind while proceeding digitization.

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