



Digitization of Valuable Documents and its Benefits to its Clientele in Public Libraries: A Case Study of Krishnadas Shama Goa State Central Library

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Abstract

In this era of progression from the information age to the knowledge society, the libraries have greater challenges to face and adopt in terms of technology. The whole perspective of the library has now changed from a collection of books to a single-window knowledge portal. Digital preservation incorporates of different processes to confirm that digital resources will remain accessible, usable, and comprehensible in the future. Digital documents could be seen in every domain of government, legislative, executive, administrative, regulatory, and judiciary. These digitized records should be preserved and made available in a readable form whenever required by the users. Immensely fragile and rare books are converted from paper documents to digital formats by using a data imaging scanner and other devices. Data imaging aims to preserve records for a posterity so that historians, researcher's and users could use the documents to know about the past the present for the benefit of the distant future. This paper explains the data imaging process used at Krishnadas Shama Goa State Central Library in helping clientele to get information quickly and accurately and thus saving the time of the valued reader.

Key Words: Digitization, Preservation, Digital library, Goa state central library, Data imaging.

Introduction

Libraries are repositories of knowledge and the massive growth in digital resources has forced library professionals to use various information technology tools to manage and provide services to the users. To achieve greater efficiency in the rapidly changing environment, libraries are increasingly looking for new paradigms to deliver services to users on their desktops. Library portals play a critical role in creating a web environment where users can easily access information. It not only offers services but also upgrades scholarly communication and research among the patrons of the library. Digitization improves access to library resources. By digitizing the library collection information will be accessible to all without any impediments

Digitization has become a practical requisite and reality with technology intervention to provide improved access to information sources, preservation, and dissemination as required. The digitization process is extremely complex, difficult in the manner, and time-consuming and one needs highly qualified and experienced professionals to do the job efficiently. The information contained in traditional print materials like manuscripts, newspapers, chronicles, official correspondence and documents, journals published works cannot be used for a long time. As time goes by the information contained in them gets faded, brittle, and become unusable. Fortunately, technology has come to our rescue and has provided alternatives for preserving the valuable treasure house of information

Content is valuable and useful to anyone but the right content in the right form is the most effective to the right users. The vision, mission, and values of any library could become successful if it satisfies the user's need at the optimum level. The main objectives of the content management system are to control the publication of extremely complex workflows through their information lifecycle; through create/discover, Archive/Retrieve, Secure/Encrypt, Retain/Hold/Dispose of and Monitor and access. A website is a mirror of an organization. The Objectives of the digital library involves a single entity, technology to link the resources, universal access.

The State Central Library is the oldest Public Library in India and it was established on 15th September 1832 by then Vice Roy Dom Manuel de Portugal e Castro as 'Publica Livraria.' It had a beginning named as 'Academia Militar de Goa' (Military Training Institute). From September 1959, the Bibliotheca was detached from the Institute and put under the administrative control of 'Services de Instrucao e Saude' (Education and Health Services); it was then renamed as Biblioteca Nacional de Goa. The Books and Journals in Portuguese, French, Latin, English, and very few books in local languages like Konkani and Marathi is the collection of pre-liberation period. The total pre-liberation collection was about 40,000 volumes. The Library is named as Krishnadas Shama Goa State Central Library the founder of Konkani prose and father of Konkani literature in the written word of the 16th century. Since its inception the library has more than 1.8 lakhs book in different languages like English, Hindi, Marathi, Konkani, Portuguese. In this era of transition from the information age to knowledge society, the libraries have much greater challenges to face and adopt in terms of technology foremost. The whole perception of the library has now changed from a collection of books to a single-window knowledge portal. The library needs to develop

user-centered and strategic planning and policy has now become part of effective library service management

Literature Review

Digitization of library material provides an excellent opportunity to disseminate the documentary heritage and increase access to the library collection of rare documents which are of great importance to historians, researchers, and users. The technology behind digitization is undergoing a drastic change. Digital preservation of old rare documents and manuscripts are essential because it contains valuable information about society and culture.

Koganuramath, Muttayya M. and Angad, Mallikarjun. (2010) discussed the various steps involved in the digitization process and efforts to preserve, manage, and provide access to scholarly information. They also discussed the digitization its importance and various steps involved in digitization prerequisites and discussed the practical experience of digitization of two major projects carried out by TISS library. The first one is that of digitization of 55 volumes (1952-2006) Sociological Bulletin and Indian Journal of Social Work 67 volumes (1940-2006).

IFLA (2014), Report discussed the goals of the institution, its function which will determine the design of new digital collection to the intended users. As digital collections and projects grow over time, it is useful to contemplate the future development and interaction with other collections from the same or other institutions, and also discussed workflow for creating the digital collection and Metadata, preservation of the digital collection and also recommends some useful recommendations regarding digitization and preservation and checklists

Bansode (2008) in her study on the digitization activities undertaken by Shivaji University, to preserve rare material finds that digitization is the solution for the preservation of and access to, rare manuscripts, and provides the complete budget required for the digitization of manuscripts and suggests best possible preservation and access strategy, according to the local needs of the users. The author provides valuable insight into the development of digital libraries in India and calculates the costs incurred in the digitization process. It is useful for setting up the infrastructure required for digitization and a guideline for preservation and access to rare materials

The Arts and Humanities Data Service (AHDS) describe digital preservation as "the preservation of digital materials and the preservation of paper-based materials and other artifacts through their digitization. Thus not only the materials in digital formats but also other printed and paper-based materials are also required to be covered considered in the process of digitalization by the library, archive, and other information organizations.

The uses of web portals or websites have a significant impact on the way libraries are organized which offer and facilitate access to information resources and services. The ways and methods that resources and information services are presented to users have changed because of the use of web pages. (Brake, 2004 and Turner, 2010).

Margaret Hedstrom and Sheon Montgomery (1998) reveals that libraries and archives play a critical role in organizing, preserving, and providing access to the cultural and historical resources of society. In the relatively stable world of hand-written, printed, and mechanically reproduced information, repositories managed to preserve scholarly communications, documentary evidence, and useful information for the scholars and for the general public. The digital technologies challenges the capabilities of libraries, museums, archives and other cultural institutions in the processes of production, distribution, storage of information and its preservation.

Karen Coombs (2008) noted that “the impel of a content management system dramatically changes the role of the web services staff” and requires training for the librarians and staff who are now empowered to provide the content

Srivastava and Kumar (1986) reveals that conservation and preservation are used synonymously although these two words have different implications though they are technically related to each other. In order to keep the object safe and in sound condition for future use from damage, destruction, decay or harm & loss, the conservation and preservation is necessary process. Preservation is the regular maintenance aspect and conservation deals with the curative treatment.

According to Narang, Asha (2003) the mission of a library is to preserve, disseminate and timely access to quality information in cost effective manner. The author explains the factors responsible for deterioration of books & manuscripts and highlights the significance of preservation the remedial measures to be taken from antiquity to the digital era. She also discusses the techniques for preserving the intellectual content of the rare books and envisages the future of digital restoration and preservation.

Browning and Lowndes (2002) recognized that strategy would be required as the variety of communication channels for libraries increased: "As local information systems integrate and become more pervasive, self-service authoring extends to the concept of 'write once, re-use anywhere', in which the web is another communication channel along with word processor files, emails and presentations, etc."

Black (2011) surveyed a study at Ohio State University Libraries, where the author describes how university libraries selected better content management software for maintaining their content. This study also describes the necessities for the content management system in a library, what types of system requirements are needed to support a massive allotted content model, and also shares the CMS (Content

management Systems) trial method used. The author further argued that now a day there are several possibilities of 2nd generation CMS, where many excellent, sturdy open-source CMS available but still libraries do not subsist the accurate content management system. For this purpose, the author surveyed this study and suggested that any library should practice in-depth trail method for selecting a better CMS in their information centres

Choy (2011) mentions that librarianship today requires more effort to stay connected with users. His emphasis that libraries need to be part of the new tools that users are using 24/7. Also suggest if users are using mobile devices as the de-facto interface in their transactions with the electronic world, libraries must have a presence to take advantage of the heightened convenience that is in the hands of our users.

Feather, J (1996) reviews the preservation of library materials with particular reference to the definition of the problems involved in preservation, media, materials and the environment, preservation of digital information, preservation policies and library use, physical aspects of preservation (library buildings, library materials), management issues involved in preservation, and the experiences of organizations and institutions in preservation (British Library, IFLA, UNESCO).

Harvey, R (1993) in his study presents a detailed review of all aspects relating to the preservation of library materials which includes an overview of problems in preservation, causes and solutions of preservation, why library materials deteriorate, surveying and controlling the library environment, careful handling of library materials and educating & training for library users and librarians, disaster preparedness, book maintenance, repair procedures and binding, preservation of the intellectual content by reformatting to other media, technological and corporate strategies and the development of library preservation programmes.

Purpose of Data Imaging

The main purpose and reason of data imaging is to ensure the protection of information of enduring value for access by present and future generations. Data imaging is revolutionizing the traditional concepts of preservation, access, and archival of information. Some important purposes which fulfil the aims of it are:

- For sustaining the historical value of information
- For reducing the effects of declining and deteriorating factors
- For saving the space and time in all respect.
- For creating information survive a lifetime
- For providing worldwide accessibility
- For backup

Characteristic of Digital Libraries

- Digital libraries are the digital face of traditional libraries which encompass electronic and paper material that include both digital collections and traditional collections.
- Digital libraries include digital materials that exist outside the physical and administrative bounds.
- Digital libraries includes all the processes and services considered as the backbone and nervous system of libraries. However, such traditional processes, though forming the basis digital library work, will have to be revised and enhanced to accommodate the differences between new digital media and traditional fixed media.
- Digital libraries ideally provide a intelligible view of all the information within a library, no matter its form or format
- Digital libraries will serve particular those communities or constituencies widely disseminated throughout the network.as traditional libraries do now.
- Digital libraries will require both the skills of librarians and well as those of computer scientists to be viable.

Initiatives Taken in Digital Preservation at Krishnadas Shama Goa State Central Library

Preservation of knowledge is fundamentally not about the past but also of the future. The core mission of the public library is to reserve knowledge which has helped to pass that knowledge for the future generation. The public library has tended to shift their emphasis away from preservation to access. The digital technologies has provided librarians new tools to collect & organize information and share it more broadly through digitization by transforming the way libraries have developed and expanded access to their resources and services. Digital preservation comprehends a broad range of activities designed to the extent the usable life of the machine-readable computer file and protects them from media failure, physical tools, and obsolesces

The public library has a rich collection of manuscripts and rare books of olden history which dates back to the 16th and 17th centuries. The collection though old and fragile has got various readers, researchers, and historians who come to the library for reference. Since the original collection cannot be given for reference due to its brittle and delicate nature the process of books scanning is done which goes through various processes and converts physical books, manuscripts, old collection of newspapers, and rare books into digital media by using an image scanner. By doing this would facilitate the researcher, historians, and users to use the information required for the academic pursuit.

The Data Imaging Centre at Goa State Central Library aims at digitising all the old and fragile documents. Digitisation facilitates the availability of manuscripts and rare books in an efficient manner. Preservation of materials that are created originally in digital forms into images using scanners, digital cameras and using other technologies Thus, preserving the document for use for the future generation so that they know the valuable and glorious history of the past generation. Scanning the valuable documents reduces the loss of

important information. Digital preservation enables to add life and store the rare brittle and fragile documents which thus enhances the retrieval of information efficiently.



PRESERVATION SECTION



Dry cleaning of books



Book Scanner



Scanning work in progress

Methods of Preservation:

Three are various methods for eliminating insects etc. from the library. Like fungi and bookworms can be removed from the library materials by wiping with liquid chemicals. Termites can be destroyed by gammexane powder, white arsenic powder, or DDT powder. The other methods for preservation of library materials are:-

- **FUMIGATION** - Fumigation is one of the most important methods of preservation being adopted by the Central Library. Cupboard fumigation using thymol crystals can be undertaken for fungi infested books. Dichlorobenzene crystals, carbon bisulphide are some other fumigants use in the fumigation method.
- **INSECTICIDES:** - Rodents, Lizards are killed by mixing food with poison like wayfaring and spilling them in corners of the stack rooms. Compounds containing nitrogen and sulfur are effective in killing rats & other rodents.
- **MASS DEACIDIFICATION:** - Deacidification refers to chemical treatments meant to slow down the acid hydrolysis and embrittlement of books and paper documents that had been printed on acidic paper. It is the most effective method to preserve books and manuscripts in the original form especially if materials are treated before they become brittle. There are three methods of deacidification

- Using diethyl zinc vapors
- Magnesium alkoxide as liquefied gas
- Mosphaline vapor
- **LAMINATION:** This method is used for preserving archival types of documents for manuscripts or where the paper has become too brittle. Papers are first separated and cellulose acetate foil is fixed at the top and at the bottom of the paper, on which a thin transparent tissue paper is placed. This is then subjected to high pressure so that cellulose acetate paper gets fixed on the original paper, thereby providing permanent protection.
- **COLD STORAGE:** - The degree of the longevity of any library material depends on the temperature level and relative humidity. These two are strictly controlled in the cold storage area.
- **TEMPERATURE AND HUMIDITY CONTROL:-** It is advisable to keep microforms, computer floppies, magnetic tapes, audio-video cassettes at an ideal temperature range 17-22 degree celcius and relative humidity not exceeding 40-50% use of air conditioners, dehumidifiers, sun control films, Venetian blinds, ultraviolet filters, tinted glass rill reform the growth of insects, fungus and provide longevity to library material

Some of the digitized manuscripts are:

- Arts Malabarica e Lusitania (18th century),314 pages-This work is a grammar of Malabar language with interpretation in Portuguese
- Baltazar Costa, De Arte Tamulica 1731, 88 leaves. The book deals with the grammar of Tamil Language with annotations in Portuguese. This also contains the "Catechism of Christian Doctrine"
- Thomas Esteveao, Discurso Sobre a Vida de Jesus Christo Nosso Salvador au Mundo,1731, 88 leaves, illustration. This book is known as "Krista Purana" originally written in 1616.
- Ribeiro,Diogo. Vocabulario da lingua canary,1626.466,422 p-The author updated the Vocabulario dos Padres da Companhia de Jesus by adding new colloquial words
- Anotacoes as Constitucioes do Santo
- Breves Resolucoes Moraes em Forma do Repertorio Alphabetica – Gracia Fray Antonio and Fray, Antonio 1689

OFFICIAL GAZETTE

It is the legal newspaper of a country or an administrative part of a country which publishes the text of new laws, decrees, regulations, treatises, legal notices and court decision. Some of the Gazettes which are digitized are

- Official Gazette 1838
- Official Gazette 1843-44
- Official Gazette 1882
- Official Gazette 1848
- Official Gazette 1845
- Official Gazette 1846
- Official Gazette 1842
- Official Gazette 1917
- Boletim Official 1865-1878

EARLY IMPRINTS

The only extant copies of some of the works printed in Goa during the 16th and 17th Centuries are found in the library. These works are written by European missionaries in Portuguese and roman script is used for local languages like Konkani and Marathi. Some of the imprints which are digitized are

- Croix, Etience de la Discursos Sobre a Vida de Apostelo Sam Pedro-2 volumes- The book contains a discourse on the life of the apostle of St Peter
- GOA, Arcebispado cpnsticebispado do Goa. Goa, Collegio de S Paulo, 1643, 2 volumes-Rules and regulations of the Archibisorpric of the Goa on church matters
- D'Almeida, Miguel. Jardin dos Pestores (Goa ,Collegio de S Paulo,1658)270, 3 leaves- Garden of the Shepherds of Feast of the year is a doctrine book, it contains sermons and homilies

CHRONICLES

A chronicle is a history of facts and events arranged in a chronological order. A chronicle contains important historical events and generally is without any analysis and interpretation. Some of the chronicles digitized are

- Bocarro, Antonio, Decado 13 da Historia de India.Lisboa. Typ da Academia Real das sciences 1876-The author of this chronicle was appointed the keeper pf the Goa Archives in 1631. It provides information on the Portuguese naval engagement in the Gulf of Cambay and information on compulsory military training for the native in the village of Salsete. It covers the period of 1612-1617.
- Castanheda,Fernao Lopez do . Historia de descobrimento e con vista de India Pelas Portuguese. 8 livros.Lisboa.Typographia Poolandiana 1833- The author of this chronicle came to India in 1528. He was an eye witness to various events in India. His narratives cover the period from the discovery of India to 1541

Official Correspondence and Documents

Official documents are original documents that contain important information about a person, place, or events and thus serve as a primary source as important ingredients of the historical methodology

Some Of the Documents Which Are Digitized are:

- Archivo da Relaco de Goa compiled by Jose Ignacio de Abranches Garcia, Nova Goa, Imprensa Nacional 1872-1841-Documents referring to the organization and administration of Judicial Magistrate in Portuguese India are given in this work. It is an important source for the study of the History of Portuguese in India from 1600-1700

Some of The Books that are Digitized are as Follows:

- Documentos Konkani para a historia de Goa:1497-98-Centenario da India 1897-98-D' Andrade, Philotheio Pereira
- Documentos para a história da typographia portugueza nos séculos XVI e XVII-1881
- Bibliotheca concani ou subsidies para o Estudo Methodica da Lingua Concani-Cunha Rivara
- Breves Notas historica sobre a Bibliotheca Nacional de Nova Goa-1906-Ferreira, Octaviano Guilherme
- Bibliotheca de Nova Goa Relatónio do anno economico de 1893 a 1894-Gracias J Ismael

The Role of a Librarian Transforms into that of a Digital Librarian

The digital library concepts are rapidly changing traditional concepts. ICT and electronic resources have been used in the digital library and have changed the concept of functioning of the libraries and the role of librarians. Demonstrated skills and sophisticated competencies are needed for digital librarians to manage the digital information system (DIS) in the important areas of optical character recognition, imaging technologies, cataloguing, multimedia indexing, database technology, mark-up languages, user interface design, programming and Web technologies. Digital librarians manage vast amounts of data, preserve unique collections, provide faster access to information, facilitate dealing with data from more than one location, and enhance distributed learning environments. They also help to perform searches that are manually not feasible and offer to protect the content of the owner's information (Husler, 1996). Digital library collections will be more appreciated with the "intellectual processes and services" that a digital librarian might provide. A library is a place where the users hunt for information in form of books and digital information. Librarians are seen as the most trustworthy, cooperative providing more accurate information than search engines. The enormous and infinite changes in providing and disseminating the information with new electronic and digital resources. The new techniques and technologies permitting access to electronic knowledge resources and librarians have to change their role from traditional librarian to information scientists by learning and adapting new skills, new programming languages, and networking

Developing a Digital Library Using Open Source Software

Library users' value timely dissemination of information about library activities and services through library websites. Digital libraries do enable the creation of local content, strengthen the mechanism and capacity of the library information system and services. They increase the portability, efficiency of access, flexibility, availability, and preservation of content. Once the information is made digital, it can be stored, retrieved, shared, copied, and transmitted to its users at no extra cost and this could be done by giving a link on the library website or portal which could give access to the invaluable collection hosted by the digital library. Information systems should explore infinite possibilities.

Conclusion:

Rapid development in Information communication and technology has made it necessary for public libraries to change the way the information is collated, displayed, and accessed. Public Libraries need to make a paradigm shift in the way knowledge can be accessed. The provision of information has always been the criteria of a public library; however, how information can be collected, accessed, and presented has changed radically. Public libraries have a vital role to play as a productive participant in the learning process. Digitization enhances access and improves preservation, by data imaging the public libraries that can be made accessible in ways that were not earlier to use. Preservation is an important function of any library, archive, information organization, etc., to use the preserved materials for the present and future generations. The ultimate purpose of preservation is to ensure the protection of information of enduring value for access by present and future generations.

Note: Necessary permission are obtained from the Curator, Krishnadas Shama Goa State Central Library to use photographs in this article.

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