

Some Thoughts on Library Space and Its Contents

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“Space is being reconfigured around broader education and research needs, and less around the management of print collection. In effect, space is shifting from infrastructure to engagement...”-Lorcan Dempsey^[41]

Abstract: The library is a theater of continuity and change. The application of information and communication technology (ICT) in the library sphere has its profound effect. This paper attempts to describe how the library space and contents negotiate with each other in the advent of ICT. The intersecting point of library contents and space and the possible change in the future and its effect is also discussed.

Keywords: Born digital, reborn digital, maker’s space, digital humanities library, citizen librarian, binary

1. Introduction

Library is a techno-social space where it is desirable that social requirements determine the evolution and shape of technology. Library is in the process of managing its collection ever since it has opened up in the public domain. The transition of the library from a private space to public sphere has its implication on its very physical structure. It can be witnessed in today’s library everywhere. Till recently knowledge was searched and retrieved in a singular format of book or in printed material. With the advent information and communication technology (ICT), the whole range of library collection, its service, its very existence has encountered with a great metamorphosis moment. If the practice of printing and publication of books of yesterdays might have shaped the physicality of library that exists today, it’s possible the ICT revolution of today can alter the face and soul of library of coming days beyond recognition.

The new technology has progressively altered the form of reading material, its production, users’ reading habit, mode of dissemination etc. The large corpus of digital content can be stored in a lesser physical area of storage in comparison with printed contents that available in hard form. The fundamental changes in cultural output have necessitated similar changes in library policy. The advent of e-content, e-entertainment and e-creativity has called for new method to accommodate these new contents in the realm of library.

2. Types of Contents

Libraries are arena of four kinds of materials.

- Print
- Digital
- Digitized
- Others

2.1.Print

When the reading material are started to get printed out with the arrival of Gutenberg's printing machine, it has set off a culture which facilitated mass consumption of reading material. At the beginning, it was religious contents that had been printed out most out of these earlier printing presses. This technology would survive and later the whole gamut of academic activities would breathe its first in this medium. The success of printing technology in dominating the containers of knowledge contents for some centuries is in ample display in the shape of the great libraries of the world that existed even today. The print culture in one hand brings about the change in literacy rate and overall growth in amassing knowledge and its dissemination process. In other hand it also meant huge requirement of physical space for the storage of this knowledge on print.

2.2.Digital content

The digital and digitized contents that could be found in the library system today could be of two kinds- online and offline.

These contents are also known as born-digital or the documents which came into being in the digital domain alone. It has no physical counterpart and that poses some philosophical problems that require further research. These contents are available in CD, DVD formats or can be accessed online through internet. At the core of the digital material lies the binary code by which digital contents are formed.

2.3.Digitized content

Digitized contents are those which are digitized from its print avatar. It's scanned and rendered in binary codes and stored in a computer hard drive. The requirement of physical storage space and maintenance become redundant with the digitization. This changed state of the contents can be known as re-born digital contents.

2.4.Others

The others refer to all the contents that lie between print and digital contents. It involves microfilms, microfiche, photographs, lithographs, manuscripts, inscriptions etc. These are documents which are of vital importance to not only libraries but archives, museums and other memory institutions. The digitization drive cannot capture all the data from these cultural artifacts of the yore. In many cases, it lost the spatio-temporal imprint that these memory contents bear. Therefore, it is also necessary to preserve these materials in its original form

3. Literature Review

3.1.General overview

In this paper the author laid stress on the existence of a clear-cut content management strategy as a precursor to the actual formulation of the requirements for any software. The proper strategy in place may help in selecting the right software for the organization by looking beyond the maze of documentation that is available and identify its core competence based on its customizability. (White, 2002) This paper examines the issues involved with migrating an academic library's web site to a commercial content management system (CMS) within a campus-wide implementation.(Kmetz & Bailey,2005) This paper discusses why a content management system (CMS) for collection development is necessary in a distance education environment, restructuring technical services in preparation for a CMS implementation, and the actual building of a prototype.(Beach & Dial,2005) This paper discusses the implication of course management system in library set up.(Pin~a,2007) This paper focuses on learning and content management

systems(LCMS).(Süral,2010) This paper focuses on the implementation of audiovisual production technologies for preservation and demonstration of local tradition and Cultural Heritage (CH). A methodological framework is proposed for the production, digitization, authoring and presentation of audiovisual (AV) content, related to traditional music and dances (Dimoulasa et al, 2012) This paper discusses Researchers at the University of Tennessee Libraries experimented with crowdsourcing to determine if contributions by members of the public could be utilized to add citations and subject tags to a new online bibliography, Database of the Smokies (DOTS: dots.lib.utk.edu). (Baggett et al, 2014).

3.2.Case Study

This paper describes development process of an in-house content management system for the Coalfield Web Materials and the Mine of Information projects currently running at the University of Wales Swansea (Roberts, 2002). The author in this paper delineates the development process of a content management system based website for JICA, UK. In details it has described the process of this development. Navigational functions and various issues in development along with training and supporting users are also described. (Rogers & Kirriemuir, 2003) In this paper author discusses about content management system for digital material. It considers three digital library software namely fedora, GSDL, and Dspace for its purpose. Digital content management system is a software system that provides preservation, organization and dissemination services for digital collections and the case study involving three software was observed in University of Arizona library setting in key areas of digital content management: preservation, metadata, access, and system features (Han, 2004) In this case study the author describes hybrid library system, hobbes, which integrates content management system with other internal tools of the organization in order to provide seamless service in the user end.(Sennema, 2004) This paper presents a case study of a library systems department's experience in choosing and implementing a content management system. By sharing this process others may be helped as they look for solutions and face similar situations.(Huttenlock et al,2005) The purpose of this paper is to describe the creation of a content management system (CMS) for the Kent State University Libraries & Media Services web site. It describes the requirements for the site and for the CMS, the CMS architecture and components.(Wiggins et al,2005)The author in this paper attempts to find the problem faced by the user while navigating through the library web page. The purpose of this paper is to describe the systematic implementation of a CMS at Texas A&M Libraries. It discusses overall management strategy of the organizations along with the impact of implementation of content management system and management of the same. (Goodwin et al, 2006) The purpose of this paper is to document how the library at Tecnológico de Monterrey, Monterrey Campus came to use the open source Drupal with other freely available tools as the basis for an extensible platform for current and future information discovery gateways. (Garza,2008) This article presents a case study that documents use of wiki to publish a library reference source for the forced migration information community.(Mason, 2008)This paper introduces The Gait Analysis Laboratory Content Management System, the institution is a pioneering one in the field of treatment of children walking disabilities, and this paper involves contemporary approach using a Content Management System for surgery and research alike. The system provides the ability for surgeons to edit data and extract specific reports for research using the Internet from any location and at any time. The CMS has the functionality to save patient details, create referrals and make appointments, information which can be used for

specific reports, during the surgery process, and for research around the world. (Shadlou et al, 2011).

The use of web content management system is widespread. In this article the author dealt with user centered annotation tool for web content, FLERSA (Flexible Range Semantic Annotation), the tool has been built in order to illustrate how a WCMS called Joomla can be converted into its semantic equivalent thus extends the benefit of semantic web. The tool allows both manual and automatic semantic annotations, as well as providing enhanced search capabilities. The paper provides a starting-point for further research in which the principles and techniques of the FLERSA tool can be applied to any WCMS. (Navarro-Galindo, & Samos, 2012) This case study describes Indiana University Libraries' use of Omeka for online exhibits of digital collections. (Hardesty, 2014).

3.3.System specific

This paper proposes a metadata model suitable for personal content management system. Semantic technologies are used to define and link formal representations of these schemes. (Poppe et al, 2008) This paper aims to discuss the course management system WebCT, an online course management system. (Adeyinka & Mutula, 2010) this paper discusses all the challenges through a set of tools developed which first semi-automatically explicate the content repository semantics into a knowledge base and establish semantic bridges between this backend knowledge base and content repository. (Laleci et al 2010) This paper brings together historical, archaeological and technological results, generating a multimedia database containing information of different types, for example a detailed historical record, as well as graphical descriptions with virtual recreations of industrial heritage, or Geographical Information Systems (GIS) and technical analysis. Once this information has been developed and standardized, the results can be included in the platform of a virtual museum (VM) devoted to industrial heritage, using a Content Management System(CMS). (Rojas-Sola et al, 2010) The cultural organization has to face challenges like huge data and financial losses that affects trust of the public. In this article a model is designed to address fundamental operational and security concern in a standalone case but which also can be adaptable in broader management scenario. (Liagkou, 2011) The main purpose of this paper is to improve a web content management system (WCMS) product line for future implementations by identifying software commonalities in WCMS-based web applications. WCMS plays a central role in modern web application development: most large public and internal web sites are based on a WCMS foundation. This research identifies reusable solutions from existing WCMS implementations using problem diagrams and structured goal modeling. From configurations were matched with atomic e-business models by linking them to the strategic competencies through bottom-up goal modeling. The practical implications of this research as laid out is twofold: WCMS developers now have a method to improve their product line based on e-business models; and requirements engineers implementing WCMS can use this model to apply reusable software and prioritize requirements. Both will potentially have a large impact on the effectiveness of implementations since most web applications are developed with WCMS (Souer et al, 2011)

This research was conducted to develop and evaluate a prototype of Web-based Basic French courseware (EASIFRENCH) for Basic French subject at diploma level. This paper also engaged of web applications that offer various facilities in providing interactive, effective and innovative learning environment. (Ismail & Nordin 2012)

The objective of this paper is to present a comprehensive survey of security issues in Reputation based Trust Management system (RTMS) also known in short as Reputation Management Systems for P2P networks. It is also discussed various security related attacks on p2p system and is categorized them as networked related and peer related attacks.(Selvaraj & Anand, 2012) This article examines the popular claim of Content Management Systems (CMSs) that providing a rich toolset and leaving the use under learner control is beneficial to learning.(Lust et al ,2012). This article discusses using effectively worker's knowledge in a knowledge management scheme. This paper presents a methodology of lean knowledge management systems based on semantic technology, which are designed for the needs of small and medium sized manufacturing companies. The underlying system architecture foresees a semantic wiki-system as the system's interface to workers(Zapp et al,2013) The goal of this article is to introduce the 6As model of social content management in order for business managers to deal with social media resources effectively (Adel M. Aladwani, 2014).

The literatures available on the topic are very vocal about various modes of content management systems in the different organizational set up. But the gap is noted in the description of the intersection area of library space and its content in the context of new technological development. In the following the attempt is made to shed some light on this area keeping in mind the socio technological change that would shape the future development.

4. Maker's Space

According to makerspace.com Maker's space is a community center with tools^[40]. This space is interchangeably used as hackers space, hack space and fab labs, makers space is a open community lab^[39]. The library of the future, it is hoped can accommodate the community experience with technology and emerged as a maker space. It should make way for open space where people gathers to experiment exhaustively in digital realm. They will try their hand in creating open hardware, open software and alternative media. The hardware ranges from the robot^[38], tools for community use, open software involves apps, video games, free software learning videos, vernacular wikis, mash up, video essays etc. The library space can unleash creative potentiality of the people. The new information creating commons will not only read and write coming in to this future library but edit images/videos write codes for apps design video games and in the process may produce new cultural artifacts in an open and free manner. By introducing entertainment media like video games under the roof of a library it is desired the user will learn the tools not in a passive way but they will be active participant in creating these tools themselves so that it may form new information container for coming days as such videogames can become a new media for telling stories and histories. Similarly vernacular wiki can plug the gap of knowledge which existed in vernacular Indian languages.

Indians are famous for their frugal innovative ways or which is known as *jugad* in Indian language. Claude Levi Strauss, the famous French anthropologist named the pattern as *bricolage*. These skills, if used for this purpose, can work wonder in the context of knowledge production.

Library space cannot be like formal schools where strict guidelines are followed. On the contrary in these maker's spaces or the future libraries there should be complete freedom to be accorded to users who may play around the digital tools and create as per their requirement.

5. Cultural Considerations

Maker space is a potent tool for countering the post colonial hegemony of information emanating from particular geo-political sources in west. The contents that are going to be created in these spaces are going to diversify the basket of cultural produce. India is a country with variety. Therefore, the more maker's space like library is created the more possibility is there of democratization of information.

6. Social Networks of Open Content

Each community should have constructed at least one maker's space in their community library. It will create this community's unique footprint in the universe of information. The contents thus created could be under common licensing and open for community use. The produce of the communities can be hosted in a network so that creative labour of one community is freely accessible to others. Eventually a common social network for research and developing scholarship can become a reality.

7. Digital Humanities Library

Digital humanities are an emerging field which mainly stress on the use and application of computing tools for the learning and researches of humanities. And humanities is a study of cultural artifacts that are produced by men. By this very explication, it is apparent that library is a natural theater of this particular approach/method of digital humanities to take root. The digital humanities library is strived to achieve much more than that. In order to turn library a true 'peoples university', it is imperative to turn it into a cradle of humanities research and digital scholarship. This library can play a role of laboratory for the pursuit of knowledge in social science and humanities. It provides an open and free ambience where people learn, create and share open knowledge. This new paradigm can transform every person of the community to a citizen librarian. This citizen librarian is an empowered form of people who are not only consumer but creator and disseminator of knowledge.

Digital humanities library is a neutral place^[37]. It can pose critical question regarding the nature of service of library administration-its openness, democratic tendencies and inclusive character and the role of librarian to realize the dream of new age library.

8. Conclusions

To conclude it can be mentioned that the library of future we cannot predict. With the change of technology and subsequent change in the very container of knowledge and knowledge acquiring process, it is bound to change the very idea of library. The future library may be a very fluid thing and may not rest in one place. It can very well exist in a network. The library as a thing even may be the thing of the past and it turn out to exist process of learning itself. In the present context however, the light is shed on the future shifts that library space can achieve and its implication for our country.

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