

# Implementation of Digital Archive Center

Dr. Kamran Shavarebi<sup>1</sup>, Md. Atikqur Rahaman<sup>2</sup>, Md. Mahfuzul Islam Shamim<sup>3</sup>

<sup>1</sup>Associate Professor, Dean, Faculty of Science, Technology, Engineering and Mathematics, International University of Malaya-Wales, Kuala Lumpur, Malaysia

<sup>2</sup>Assistant professor, Department of CIT, Faculty of Computer Science and Engineering, Patuakhali Science and Technology University, Patuakhali, Bangladesh

<sup>3</sup>Md. Mahfuzul Islam Shamim, PhD in Project Management Student, International University of Malaya-Wales, Kuala Lumpur, Malaysia

**Abstract:** Archives are vital concentrators of knowledge because of their role in centralizing access to records. Records are essential extensions of human memory that can be used to help bind society together and serve as tools of social justice and reconciliation. Digital archive is all about maintaining and adding value to a trusted body of digital information for current and future use; specifically, we mean the active management and appraisal of data over the life-cycle of scholarly and scientific materials. Digital archiving is an activity that ensures data is properly selected, is properly stored, can be accessed, integrity of the data is maintained over time and data is secure and authentic. Defines digital archives strictly in functional terms as repositories of digital information that are collectively responsible for ensuring, through the exercise of various migration strategies, the integrity and long-term accessibility of the nation's social, economic, cultural and intellectual heritage instantiated in digital form.

**Keywords:** Records; Re-cycling; Store; Easily accessed; Interegration; Authentic; Data Center

## 1. Introduction

Digital archive is the series of actions and interventions required to ensure continued and reliable access to authentic digital objects for as long as they are deemed to be of value. This encompasses not just technical activities, but also all of the strategic and organisational considerations that relate to the survival and management of digital material. Disaster recovery strategies and backup systems are not sufficient to ensure survival and access to authentic digital resources over time. Digital data inundation has far-reaching implications for: disciplinary jurisdiction; the relationship between the academy, commerce and the state; and the very nature of the sociological imagination. (Beer and Burrows, 2013)

This paper focuses on three aspects of digital archive research. It begins with a discussion of needs and opportunities that distinguish current efforts from previous attempts to organize research programs on digital preservation. It then describes some potential frameworks for research. The paper concludes with some recommendations for research programs that are methodologically and conceptually sound as well as useful to a broad community. . In this paper we describe the implementation of digital archive center for any private industries that can be also for a bank .Our archive center will be consists of two identical archive systems each archive system again consisting five components :an archive server ,a data base server ,an optical disk library ,optical disk driver, and network communication system. An image management system recurred to catch the analog data management and convert into digital form and then it will be stored in our datacenter.

## 2. Background

Lifecycle management of digital materials is necessary to ensure their continuity. The DCC Curation Lifecycle Model has been developed as a generic, curation-specific, tool

which can be used, in conjunction with relevant standards, to plan curation and preservation activities to different levels of granularity. The DCC will use the model: as a training tool for data creators, data curators and data users; to organize and plan their resources; and to help organizations identify risks to their digital assets and plan management strategies for their successful curation. (Higgins, 2008)

In (Springob et al., 2005) this paper, they present there a compilation of Hi spectral parameters for more than 9000 optically targeted galaxies in the local universe that have been observed by us and our collaborators over the last 20+ years. All of the Hi-spectra have been reprocessed in a homogenous manner, and a single set of algorithms has been used to extract spectral parameters, which can then be corrected to physical parameters taking into account the instrument- and processing-related complications such as spectral resolution, source extent, pointing offsets, and signal-to-noise. They use both empirical evidence and the results of simulated observations to produce recipes for deriving these physical parameters from the observed ones based on all of the information available from the digital spectra themselves.

This article (Farquhar and Hockx-Yu, 2008) introduces the motivation for this work, describes the extensible technical architecture and places the Planets approach into the context of the Open Archival Information System (OAIS) Reference Model. It also provides a scenario demonstrating Planets' usefulness in solving real-life digital preservation problems and an overview of the project's progress to date. In this article (Erwin and Sweetkind-Singer, 2009) the project partners created preservation environments at both universities, created and populated a format registry, collected more than ten terabytes of geospatial data and imagery, wrote collection development policies governing acquisitions, and created legal documents designed to manage the content and the relationship between the two nodes.

The preservation of digital data for the long term presents a variety of challenges from technical to social and organizational. The technical challenge is to ensure that the information, generated today, can survive long term changes in storage media, devices and data formats. This paper presents a novel approach to the problem. It distinguishes between archiving of data files and archiving of programs (so that their behavior may be reenacted in the future). For the archiving of a data file, the proposal consists of specifying the processing that needs to be performed on the data (as physically stored) in order to return the information to a future client (according to a logical view of the data). The process specification and the logical view definition are archived with the data. For the archiving of a program behavior, the proposal consists of saving the original executable object code together with the specification of the processing that needs to be performed for each machine instruction of the original computer (emulation). In both cases, the processing specification is based on a Universal Virtual Computer that is general, yet basic enough as to remain relevant in the future. (Lorie, 2001)

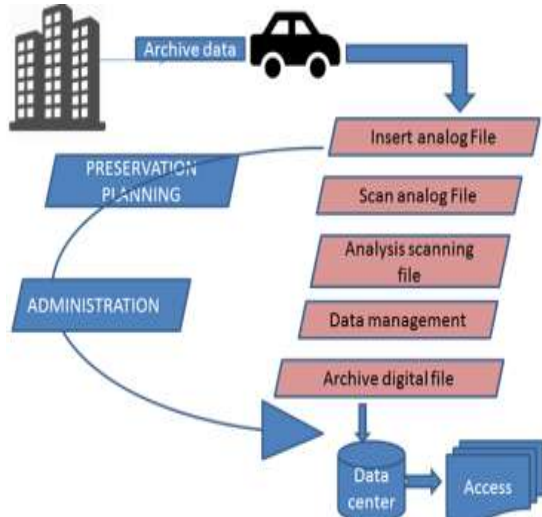
### 3. Methodology

In our proposed model we are going to introduce a new model which can change archive system of any industries. It saves our time .We can easily access data from our data center without having tension about analog file management .Figure 1 shows that how to manage our file system with the help of digitalization



**Figure 1:** Digital Archive System

**Figure 2:** Illustrate our proposed ideal approach and how to continue our work.



**Figure 2:** Proposed model for digital Archive

At first we are going to select a perfect location for our data center. Our data center can be located at places where plenty of such resources are available well maintained and well monitored data center can result in direct energy optimizations, .E- waste minimization and developing thin client devices, these can contribute a lot in the process.

The most important step is how to collect the data file from the data producer. At first we have to deal with them for collecting their archive and we will provide strong safety with their industries ‘archive.

#### 3.1 Collecting Analog Archive data

We will collect Paper Files, Excel Spreadsheets; Progeny files, Cyrillic files, Slides of various testing images, JPEGs of various testing images, PowerPoint presentations, Researcher’s memory .All of the above represents a vast resource which can be lost from their organization. Our Preservation Plan takes into account the preservation policies, legal obligations, organisational and technical constraints, user requirements and preservation goals and describes the preservation context, the evaluated preservation strategies and the resulting decision for one strategy, including the reasoning for the decision.

#### 3.2 Data Preservation Planning

We should have a plan to make a trustworthy digital archive data center which has a powerful tool to optimize data center as it is software defined technology and provides improved distributed infrastructure management.

#### 3.3 Administration System

For have to provide evidence of fundamental commitment to standards, best practices We may involve external community experts in validating/certifying practices .We have to commit to transparency and accountability.

#### 3.4 Data Manipulation

After getting data at analog form, we will image of data or can scan the data. After scanning we will process data to ensure appropriate infrastructure for acquisition, storage, and access.

#### 3.5 System Security

After processing data at digital form, we will assure security of systems for digital .We will establish policies and procedures to meet requirements. We set up feedback mechanisms for problem resolution; negotiate evolving requirements between providers and consumers.

#### 3.5 Data center

After completing all the process we will through our digital archive into our own data center . Our data center will provide external facility for storage of information and business operation models. They have become critical for the very functioning of a big business enterprise.

## 4. Results and Discussion

It is critically important that digital files within digital collections retain their authenticity, accessibility and 'understandability' over time, through effective digital archiving and preservation. Effective management of digital collections is a challenging business. More than any other part of the cultural analog documents, the Archives digital documents has worked develop, implement and evaluate solutions, especially in the areas of digital appraisal, digital preservation and accessibility to digital collections. The digital archives approaches to digital record keeping, its metadata models, its policies, practices and procedures – these can all be deployed across domains facing the challenges of digital collection management.

## References

- [1] BEER, D. & BURROWS, R. 2013. Popular culture, digital archives and the new social life of data. *Theory, culture & society*, 30, 47-71.
- [2] ERWIN, T. & SWEETKIND-SINGER, J. 2009. The National Geospatial Digital Archive: A collaborative project to archive geospatial data. *Journal of Map & Geography Libraries*, 6, 6-25.
- [3] FARQUHAR, A. & HOCKX-YU, H. 2008. Planets: Integrated services for digital preservation. *International Journal of Digital Curation*, 2.
- [4] HIGGINS, S. 2008. The DCC curation lifecycle model. *International Journal of Digital Curation*, 3.
- [5] LORIE, R. A. Year. Long term preservation of digital information. *In: Proceedings of the 1st ACM/IEEE-CS joint conference on Digital libraries*, 2001. ACM, 346-352.
- [6] SPRINGOB, C. M., HAYNES, M. P., GIOVANELLI, R. & KENT, B. R. 2005. A digital archive of HI 21 centimeter line spectra of optically targeted galaxies. *The Astrophysical Journal Supplement Series*, 160, 149.