AN INVESTIGATION INTO THE DIGITAL SCANNING OF PHOTOGRAPHS IN ARCHIVAL COLLECTIONS

By

NELLAYSELVIEKUMARIE SUBRAMANY SOMERS

Dissertation submitted in compliance with the requirements for the Master's Degree in Technology: Library and Information Studies, in the Faculty of Commerce at the Durban University of Technology.

I, Nellayselviekumarie Subramany Somers, declare that this dissertation represents my own work, both in conception and execution.

Signature of Student

Date of Signature

APPROVED FOR FINAL SUBMISSION

Signature of Supervisor

Date of Signature

Supervisor: Prof G.D.J. Stewart. D.Litt.

Contents

List of Figures

List of Tables

Acknowledgements

I take this opportunity to thank the following people and institutions for their help and support:

Professor Graham Stewart (supervisor) for his encouragement, and interest in my research topic and for awarding me with the supervisor's award.

The National Research Foundation for the research grant for this project.

I am grateful to Professor Yonah Seleti, Director of the Campbell Collections, University of Natal for his interest, encouragement and support in the completion of my master's thesis.

Thank you to the staff from the various Libraries, Archives and Museums that took the time to complete and return the survey questionnaire.

Dr Dale Peters for her encouragement, and for sharing her knowledge and experience in the digitisation of archival collections. Ms Colleen Goldsworthy for her willingness to discuss my thoughts and concerns on the subject of copyright in the digital world. Dr Dale Peters and Ms Colleen Goldsworthy for the training and technical knowledge on the digital scanning of photographs in archival collections. My colleague Ms Hloni Dlamini for her willingness to assist with my duties in the office, especially in the final stages of my thesis.

The staff at the Research Office, Durban Institute of Technology, in particular Mr Sundeep Singh for the encouragement and efficient administrative assistance.

The Research office of the University of KwaZulu-Natal for funding the registration fees of the International Conference on Digital Libraries, which was held in Delhi, India, 24 February to 27 February 2004.

A special thanks to my family for their support and a special thanks to my mum for the hot meals and her kind and loving hospitality.

Abstract

This study was aimed at investigating the digital scanning of photographs in archival collections with a view to highlighting some of the key issues in the provision of a digital imaging service.

In the course of the research, a blend of literature study, personal experience as a professional librarian, and a survey of current practice at South African institutions with digital image collections provided the basis for the formulation of a set of policy guidelines.

In addition, the study considers the impact of the crucial issue of intellectual property rights in the digital era on both users and creators of photographs.

Moreover, it is hoped that the proposals and recommendations presented here will go some way towards remedying the shortcomings in the policies and procedures adopted by South African digital collections (academic libraries, museums and other archival collections) revealed by the survey. These guidelines are, therefore, also offered as a source of reference and advice to future digital imaging projects in South Africa.

Issues identified as having still to be resolved include skills development in the handling of photographs that are a unique and rare source of research material, the impact of intellectual property rights and copyright on the accessibility of digitally scanned photographs, standardisation of image capture, and the creation of national policies for the protection of intellectual property rights.

Acronyms

ADPI	Analog and Digital Peripherals inc.
AHDS	Arts and Humanities Data Service
ARL	Assets of Research Libraries
CC	Campbell Collections
CEDARS	CURL Exemplars in Digital Archives
CISTI	Canadian Institute for Scientific and technical Information
CLIR	The Council on Library and Information Resources
CPA	Commission on Preservation and Access
CURL	Consortium of University Research Libraries
DALRO	Dramatic, Artistic and Literary Rights Organisation
DISA	Digital Imaging South Africa
DMCA	Digital Millennium Copyright Act
EAD	Encoded Archival Description
ECPA	European Commission on Preservation and Access
ERPANET	Electronic Resources Preservation and Access Network
HEDS	Higher Education Digitisation Service
ICA	Institute of Contemporary Arts
IFLA	International Federation of Library Association
IFRRO	International Federation of Reproduction Rights Organisation
IMLS	Institute for Museums and Library Services
IP	Intellectual property
IPR	Intellectual property rights
ISO	International Organisation for Standardisation
JICP	Joint International Committee for preservation
JISC	Joint Information Services Committee
LC	Library of Congress
MDLC	Museum Educational Site Licensing Project
NEDCC	Northeast Document Conservation Centre
NHA	National Humanities Alliance

NINCH	National Initiative for a Networked Cultural Heritage
NISO	The National Information Standards Organization
OAI	Open Archives Initiative
OAIS	Open Archival Information System
OCLC	Online Computer Library Center
PADI	Preserving Access to Digital Information
PASA	Publishers Association of South Africa
QC&A	Quality Control and Access systems
RLG	Research Libraries Group
RRO	Reproduction Rights Organisation
SAPCON	South African Preservation and Conservation
SEPIA	Safeguarding European Photographic Images for Access
TASI	Technical Advisory Services for Images
TEI	Text Encoding Initiative
TRIPS	Trade Related Aspects of Intellectual Property
UKOLN	The UK Office for Library and Information Networking,
UNESCO	United Nations Educational, Scientific and Cultural Organization
URL	Uniform Resource Location
WCT	WIPO Copyright Treaty
WIPO	World Intellectual Property Organization
WPPT	WIPO Performances and Phonograms Treaty
WWW	World Wide Web

Chapter 1. Introduction

1.1. Introduction to photographs

At the dawn of the 21st century we are witnessing rapid developments in technologies that are changing the fundamental ways that people find and retrieve the information needed to carry out their studies, work, and other everyday aspects of their lives. The impact of digital technologies on teaching, learning, and research presents difficult challenges as well as exciting opportunities, that we are only are beginning to glimpse through the Internet.

Historical photographic collections are an essential part of our cultural heritage. The growing interest in photography, as a form of artistic expression as well as a visual record of past times, has raised questions about how to treat photographic materials in a responsible way. These questions are relevant not only to collection keepers in archives, museums and libraries but also to individuals with their own family photographic albums.

“Photographs speak a universal language, and as a record of past times appeal to a large audience. However, many of them are fragile and the preservation of the wide variety of photographic materials is a problem for all institutions. Digital imaging, offering new opportunities for access and care, is now widely explored for its role in the management of photographic collections. In 1999 the European Commission on Preservation and Access (ECPA) initiated a project aimed at the long-term preservation of all kind of photographic materials and defining the role of new technology in collection management” (Deegan and Tanner, 2000: 32).

1.2. Digitisation

Historical photographs constitute an important part of our cultural and documentary heritage. Many people are interested in historical photographic collections, as a scholarly resource or as a form of artistic expression. Given the vulnerability of many

of these photographs and the great demands from the public to see them, it is important to find ways to facilitate access and at the same time to relieve stress on the originals. That is why many institutions have embarked on digitisation projects. Digitisation however requires not only special knowledge of the digital imaging process itself but also an understanding of historical photographic materials, how to handle them or their reaction to light.

Photographic materials have complex physical and chemical structures that present special preservation challenges to the librarian and archivist. Since the birth of photography in the late 1830s, many different photographic processes and materials have been utilized, each subject to deterioration through time and with use. Although deterioration is an ongoing natural process, much can be done to slow the rate at which it takes place in photographs.

To prevent photographs from deteriorating, preventive conservation actions such as maintenance of a good environment, promoting proper care and handling through staff and user education, and the use of good quality storage housings, will have a more lasting, positive impact on the preservation of a collection.

Structure of Photographs

Photographs are composite objects. Since the advent of photography, many different materials have been used to make a wide variety of photographic materials. A typical photograph consists of three different components:

- Support
  The support layer may be glass, plastic film, paper, or resin-coated paper.
- Binder
  The emulsion or binder layer, most commonly gelatin, but also albumen or collodion, holds the final image material or image-forming substance to the support. Papers for ink jet prints are often coated with synthetic materials.
- Final image material

The final image material, made of silver, color dyes, or pigment particles, is usually suspended in the emulsion or binder layer (Roosa, 1992).

1.3. Identification

Identification of various types of photographs requires a basic knowledge of the history of photographic processes, as summarised in the following timeline.

1839-c1860	Daguerreotypes
1839-c1860	Salted paper prints
1851-1890	Glass plate negatives (general)
1851-1885	Collodion wet plate glass negatives
1880-1920	Gelatin dry plate glass negatives
1889-1951	Nitrate negatives (introduced by Kodak; ceased production in 1951; dates of production outside the United States vary)
1850-c1900	Albumen prints
1885-1905	Gelatin and collodion printed-out photographic prints
1880,1900-	Black-and-white gelatin developed-out photographic prints
1934-	Acetate negatives introduced for sheet film
1935-	Chromogenic color film and transparencies(introduced by Kodak; Kodachrome® was the first process)
1948-	Instant black-and-white process (introduced by Polaroid; sepia first, then black-and-white in 1950)
1960-	Polyester film introduced
1963-	Instant color print process (introduced by Polaroid; Polacolor was the first process; SX 70 was introduced in 1972 and Polacolor 2 in

	1975)
1985-	Electrostatic, ink jet, and dye sublimation prints become increasing used for printing photographic images

Table 1: Some common photographic processes, when they were introduced and when they were most popular (Roosa, M. 1992).

Photographs provide the look of things that have long since disappeared. Ostrow (1998) states that, it is their nature as evidence of things past and documentary sources for history, and not necessarily their aesthetic value that makes these collections valuable to researchers.

Pictorial collections are used by scholars in a variety of fields, for example, architectural historians, environmental researchers, and social and political historians. While research libraries have focused primarily on scholars as their principal audience, the fact remains that scholars are no longer the majority audience of a significant number of historical pictorial collections. Such collections also are very heavily mined, directly or through professional picture researchers, by publishers, news magazines, advertising firms, and the like.

Therefore, in addition to their use as primary documentary evidence, historical photographs serve to illustrate scholarly publications already written, as coffee table picture books, educational electronic publications, news stories, and magazine advertisements. Users also acquire copies of items for personal reasons, both aesthetic and sentimental. As a result, libraries with pictorial collections increasingly serve as stock photo agencies. The universal reach of digital images on the Internet provides a means to respond to this escalating demand to furnish broader access.

The development of digital technology and the escalating demand for broader access has created many concerns with regard to:

- the ease with which images can be reproduced
- the relative low cost of doing so,
- the availability of user-friendly technology which requires minimum skill,

- the speed with which the images can spread via the internet
- and the fact that the process has made the many checks and balances relied on by curators, librarians and archivists in the past obsolete and difficult to control.

These concerns have created a need for permission contracts, fee schedules, and use limitations to be developed across the profession to help ensure that these assets are not stolen and reproduced for additional use or multiple distributions.

Chapter 4 discusses the following factors that should be considered when drawing up permission contracts and policy documents for providing a digital imaging service:

- The design and creation of the order form, which forms the basis of the contract
- The service fee structure
- The legal and ethical issues
- Encryption
- Negotiating, contracting and payment issues
- Technical production
- Modes of delivery

Historical photographs are unique and a rare source of information, desirable for use by publishers, authors and collectors as they have an inherent monetary value, hence they need to be protected.

The scanning of photographs in archival collections is a major trend of the 21st century. And because it is new, it has also given rise to many questions to which librarians, archivists and technicians have tried to find answers.

The extent of the problems is varied and new to South Africa where solutions are sought through experiment, together with guidance from experts, many of them based in Europe and the United States. This present study hopes to provide solutions to key problems faced by South African photographic archivists.

1.4. Terminology

For the sake of clarity, it is important to define some of the terms that will recur in this research report. For the purposes of the project a digital image, in this sense, is defined simply as any resource that can be stored or rendered (i.e., made meaningful) by a computer. A digital image is composed of a set of pixels (picture elements), similar to dots on a newspaper photograph or grains on a photographic print, arranged according to a predefined ratio of columns and rows. Each pixel represents a portion of the image in a particular colour, or shade of grey. Digital imaging is the practice of managing graphical information in a format that can be understood by computers.

Several terms have been used interchangeably at various times to try to encapsulate the concept of a library full of digitised data that represents information and knowledge. These terms include the electronic library, the virtual library, and the library without walls, as well as the more recent term, digital library. Recognizing the problem, the partners involved in the Digital Library Federation a consortium of 24 research libraries, have come up with the following working definition of the digital library: "Digital libraries are organisations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities" (Digital Library Federation, 2004).

Generally historic photograph collections in libraries and archives are used heavily for research purposes, hence the physical deterioration of the photographs caused by the repeated browsing of the photograph albums. The primary objective of limited handling is achieved in the digital conversion of this valuable resource.

Digital imaging holds great promise for providing wider access to the world's cultural heritage and it has the potential for developing new audiences and broadening cultural appreciation.

This investigation was motivated by the many questions, concerns and issues that emerged as a result of the researcher providing a digital imaging service at the Campbell Collection, University of KwaZulu-Natal, where the Digital Imaging South Africa (DISA) initiative is currently being piloted. (Peters and Pickover, 2001).

The aim of this study was to conduct an investigation into the digital scanning of photographs in archives to highlight some of the issues of providing a digital imaging service.

This project investigates the emerging standards for providing a digital imaging service and discusses intellectual property rights, copyright issues, the criteria for drawing up a contractual licence form and guidelines towards a policy for providing a digital imaging service. A survey was conducted to establish the terms and conditions under which other institutions in South Africa provide a digital imaging service (See chapter 5).

This project aims to contribute to the development of a set of procedures and guidelines appropriate to the digitising of a photographic collection and to make recommendations on issues relating to copyright, image size and resolution of photographs. It is hoped that the report will contribute to the development of a national policy, based on international standards and the researchers' experience of providing a digital imaging service to the users of the Campbell Collections.

This project makes no pretence to be a comprehensive introduction to the complex area of providing a digital imaging service. But the researcher has attempted to highlight some of the fundamental issues that need to be addressed with regard to providing a digital imaging service. Archival institutions are becoming increasingly dependent on research for answers to a myriad of unresolved issues in providing a digital imaging service. The most commonly used indicators in this case are journal articles, list servers, research reports and the Internet. A review of current findings from the literature is presented in Chapter 2, in the specialised introduction to Chapter

3 (Intellectual Property Rights) and the draft policies and procedures presented in Chapter 4.

The intended audience for this study therefore encompasses all individuals and organizations that have a role in the creation and preservation of digital resources. These include the funding agencies, researchers and digitisers and publishers, through to the organizations, who may assume responsibility for the long-term presentation and use.

This research project has the potential to be used as a guide in other archival institutions as scanning projects develop in South Africa.

1.5. Chapter Synopsis

This research project is divided into six chapters. Chapter 2 reviews the literature relating to digital archiving of photographic projects. The draft policy and procedures developed as part of this research have been shaped by a study of current and international policies and practices see (Chapter 4), analysis of the rapidly evolving intellectual property rights environment (see Chapter 3), and the contingencies of dealing with the challenges of a large, archival digital imaging service. The researcher's experiences in the digitisation project at Campbell Collections, gives perspective to the complex assortment of legal, technical and logistical issues to providing a digital imaging service.

Chapter 3 (Intellectual Property Rights) traces some of the milestones in the evolution of copyright law. It also provides an overview of copyright and ownership, with a specific focus on *photographic* copyright and ownership and how copyright affects photographic researchers. This discussion also covers the duration of copyright in photographs and copyright protection in the new digital era. The section on public domain material and the case studies will be of particular interest to archivists, librarians and individuals of private and public collections.

Chapter 4 presents the guidelines towards a policy for providing a digital imaging reproduction service. Chapter 4 first focuses on planning and management of a digitisation project, the implementation and management of the workflow and finally the sustainability of the project. There is discussion of the issues of fee structure, service structure, and differential charging. Also included in this section is a draft policy for planning and implementation of a digital imaging project and a draft policy for reproduction and publication of photographs, digital reproduction service charges and publication user fees applicable at the Campbell Collections.

Chapter 5 discusses the results of the survey conducted to establish the existence of digital imaging guidelines and policies for providing a digital imaging service at other archives and museums in South Africa.

Chapter 6 concludes with recommendations for the digital imaging of photographs in archival collections and this is followed by an extensive set of annexure. Annexure 1 is an annotated bibliography of websites. Annexure 2 a glossary; Annexure 3 a copy of the survey cover letter; Annexure 4 a copy of the informed consent form used in the survey; Annexure 5 is the survey questionnaire; Annexure 6 contains the Campbell Collections reproduction order forms, one for publication, and the other for non commercial use. Annexure 7 contains a copy of the Campbell Collections photocopying / reproduction policy and fees.

The research involved extensive and growing literature much of which is available freely on the World Wide Web (WWW), and also in print and electronic journals and trade association websites. Comprehensive references to these resources are included in the List of references and in Annexure 1.

Chapter 2. Review of the literature relating to digital archiving of photographic projects

2.1. Background to historical photographs

Historical photographs are an extraordinary form of a primary source document. Accordingly, the Campbell Collections of the University of KwaZulu-Natal has amassed a major collection of historical photographs, approximately 30 000 prints, and negatives that document historical events, personalities, Zulu chiefs etc. Databases and inventories provide access to the images in the library where professional staff provide assistance in finding the images desired. Photographs are documentary records, hence their proper use requires adequate citation when published or exhibited. Each use must be accompanied by proper credit to the supplying institution and to the photographer or creator (if known).

Prior to the digitisation of the historical photographs at the Campbell Collections the original photographs were directly handled and copied which contributed to their deterioration. Digital scanning of the photographs prevents damage to the original while researchers enjoy easy access to the images by way of the computer. Through the digitising process, these images can be searched, viewed and copied without any handling of the original photographs.

Photographs are in constant demand, however, in the last decade there has been a marked increase in requests for the oldest photos of Durban and of Zulu chiefs and personalities. Publishers, property owners, historians, anthropologists, architects interior decorators and students are just some of those interested in the oldest photos. Many date back to the early 1900s. These historical photos are increasingly seen as a reliable source of information.

To satisfy this demand for historical photographs the library began digitising in 1999 and has since captured some twelve thousand images.

Background to digital archiving

Digital scanning and archiving is, essentially reformatting information for the preservation of the original, and for the ease of print reproductions to facilitate the sale of photographic prints and for web access.

The advantages of digital imaging are that the images will not deteriorate; they allow for the identical reproduction from copy to copy, they can be easily linked to textual description and catalogue records, and they allow more access to permanently inaccessible media. Digital imaging can enhance interest in the holdings of a collection but it is not a replacement for the original.

An overview of digitisation efforts

In this review of literature, I will provide a brief overview of some of the digital library initiatives across the world that are addressing the issues, and the challenges that are confronting libraries in their desire to go digital. Some undertakings are on a European level, some on a national level, and others on a much more local level. Some activities cover subject areas, such as economics or the humanities, others cover types of material such as periodicals, rare books, or images, while still others focus on the issues and challenges surrounding digital libraries, such as intellectual property, digitisation techniques, or management.

A large number of activities are being undertaken with respect to digital libraries with several libraries, large and small, involved in digitisation projects. Among the more significant projects are digital conversion projects at research institutes and university libraries (such as DISA) and include some collaborative efforts.

Several issues must be addressed before undertaking a digital project. For example is the original in good condition? would the institution benefit from the sale of reproduction and increase the visibility of the holdings? how does one decide on the

initial scope of the project and its immediate and long-term goals? Answering these questions involves identifying institutional needs and the type of original material to digitise, deciding whether the image is being created for a use-specific project or a use-neutral archive, and assessing the budget, (see references to Chapman (2000) in the Chapter 4 discussion).

One of the most important questions to ask is how a digital initiative can support institutional priorities. For example, upper management may perceive digital imaging as a priority because they believe it offers a promising way to improve access, which will support an institution's goal of attracting more visitors.

Such was the case at the Library of Congress (LC), where the American Memory Project answered an institutional need to create new paradigms for access to library resources. In the past, visitors had to physically visit the LC to use its resources. Managers recognized that the Library's vast store of information could be used more broadly if it were available online (Campbell, 1999). Providing online access to the Library's visual materials was consistent with management's goal of expanding the library's resources through new means of access and represented a powerful way to distribute information (Colet, 2000).

As mentioned earlier, many institutions around the world are digitising photographic collections. The American Memory project at the Library of Congress is rich in digitised photographic materials. Klijn and de Lusenet (2000) discuss many European libraries that are embarking on digitisation of the visual heritage, and the European Commission on Preservation and Access (ECPA) has set up the SEPIA project (Safeguarding European Photographic Images for Access) which is funded by the European Union to investigate ways of safeguarding photographic collections, including digitisation for access (www.knaw.nl/ecpa/sepia), (Deegan and Tanner, 2002 : 50).

The investigation of the digital scanning of photographs in special collections was made possible with a wide range of resources available on the World Wide Web.

Within the cultural and educational communities, there are today many different types of guides to good practice written for particular disciplines, institution types or specific standards. These include the Text Encoding Initiative's *Guidelines for Electronic Text Encoding and Interchange*, Cornell University Library's *Digital Imaging for Libraries and Archives*, the Digital Library Federation's Guides to Quality in Visual Resource Imaging, the Getty Trust's *Introduction to Vocabularies* (1998), and *Introduction to Metadata* and the UK's Arts and Humanities Data Service (AHDS) series of discipline-based *Guides to Good Practice*. In creating the National Digital Library, the Library of Congress has been assiduous in providing documentation and discussion of its practices; similarly, the National Archives has published its internal *Guidelines for Digitizing Archival Materials for Electronic Access*, and the Colorado Digitization Project has brought together in a web portal a wide-ranging collection of administrative, technical, copyright and funding resources (NINCH, 2002).

The difficulties faced by libraries entering the digital future are more likely to be concerned with ownership, permissions and access to digital resources as opposed to pure issues of intellectual property rights, Copyright will need to be considered when preserving digital materials for long-term access, and it may be necessary to obtain permission from the rights holder for any reformatting (see Chapter 3 for a more extensive discussion of this issue). Given that laws, customs and practices differ from country to country, Librarians must be warned that there are significant issues to be considered when preserving, reformatting or emulating data. As Day (1999) points out: solving rights management issues will be vital in any digital preservation programme. Typically, custodial organizations do not have physical custody of digital objects created or made available by other stakeholders (e.g. authors or publishers). Instead they will negotiate rights to his information for a specific period of time. Permission to preserve digital information objects will also need to be negotiated with rights holders and any such agreement may, or may not, permit end user access. A digital archive will have to collect and store any relevant rights management

information which could be stored as part of the descriptive metadata (see also Chapters 3 and 4).

Over the last few years, a variety of issues has surfaced concerning the application of intellectual property law to the new technological environment. Some of the problems related to the development of information networks raised fundamental questions, such as:

- What is protected and for how long?
- What formalities are required for protection?
- What constitutes potential infringement?
- What uses are not infringement?
- Where does private copyright fit in?
- What are the difficulties of enforcement, and how can they be overcome?
- Should we include the copyright notice on / with the scanned image?
- Should the patron sign a form saying this is a one time only use?
- Is it advisable to enter into a contract which states the conditions under which permission was granted and also the publication details, viz name of publisher, place of publication and the date.

Failure to have clear information on copyright or who owns the copyright to works created or produced during employment within an institute can create problems at a later stage as demonstrated in the Jurgen Schadeberg and Jim Bailey saga (1997 - see also case studies, Chapter 3).

Digitisation technology and digital scanning of photographs are influenced to a certain degree by the concepts of copyright and intellectual property, and the effort of providing this service is influenced by available technology, cost and legal ramifications.

An investigation dealing with the issues of digitisation, copyright and intellectual property has to concern itself with and evaluate the emergent digital technologies

against a set of traditional preservation criteria and proven preservation management models of major role-players in this field.

Building a digital library is expensive and resource intensive. Before embarking on such a venture, it is important to consider some basic principles underlying the design, implementation, and maintenance of any digital library.

A local example of an international collaboration to build awareness and capacity is provided by the JICP: the Joint International Committee (IFLA and ICA) for preservation in Africa, who in partnership with the University of Natal and UNESCO, presented a workshop on Digital technologies as a preservation management strategy at the Campbell Collections in December 2000. The workshop was designed to assist preservation administrators, librarians and archivists and museologists to evaluate the emergent digital technologies against a set of traditional preservation criteria and proven preservation management tools and also evaluate the role of digital technologies.

The workshop was held to enable participants to make appropriate and informed decisions in the development of effective strategies for the implementation of image processing systems that support long term access to electronic records.
The workshop addressed related issues in developing realistic objectives and expectations in the planning and management of digital conversion projects. (Peters, 2000).

2.2. Standards

The National Digital Library Program of the Library of Congress, the California Digital Project, and the Colorado Digitization Program have all made available their guidelines and best practice recommendations for all aspects of imaging projects, and these can be helpful when considering adopting a standard for digitising a collection (Besser and Hubbard, 2003).

2.3. Capturing the image

Appropriate scanning procedures are dictated by the nature of the material and the product one wishes to create. There is no single set of image quality parameters that should be applied to all documents that will be scanned. Decisions as to image quality typically take into consideration the research needs of users and potential users, the types of uses that might be made of that material, as well as the arti-factual nature of the material itself. The best situation is one where the source materials and project goals dictate the image quality settings and the hardware and software one employs. Excellent sources of information are available, including the experience of past and current library and archival projects on the Internet. The pure mechanics of scanning are discussed in Besser, *Procedures and practices for scanning* (1997), Besser and Trant, *Introduction to imaging: issues in constructing an image database* (1995) and Kenny and Rieger's, *Moving Theory into Practice: Digital Imaging for Libraries and Archives* (2000).

It is recommended that professionals intending to undertake imaging projects consult these sources to determine appropriate options for image capture. Decisions of quality appropriate for any particular project should be based on the anticipated use of the digital resource.

2.4. Fee Structure

Simon Tanner's report, *Reproduction charging models and rights policy for digital images in America art museums* (2004) funded by the Andrew Mellon Foundation, was used as a guideline to discuss some of the issues on fee structure, service structure, differential charging, payment methods and turnaround times, rights and licensing service, and a typical transaction (see Chapter 4).

"When works pass into the public domain" is a handy chart by Lara N Gassaway (2003) Director of the Law Library and Professor of Law, University of North Carolina, Chapel Hill. An adaptation of her chart combined with Besser's diagram

(1999) is reproduced in Chapter 3 (see Figure 2).While the chart helps to determine the duration for many copyrighted works where the facts are fairly straight- forward it is less helpful in more complex situations.

The digital publications project checklist by Vogt-O'Conner (1992) is a useful reminder of the issues one must address in planning a digital publications project or contract. The checklist looks at the technical production issues, the legal and ethical issues, the content and context use issues of digital images and products, and negotiating contracting and payment issues when selecting material for scanning (see Chapter 4, Table 4).

Cooperative projects are common in the library world and especially so when it comes to grants. Recently the University of KwaZulu-Natal teamed up with the DISA project (see Chapter 1). The project started in 1999 after successfully receiving funding from the Andrew Mellon Foundation (2003).

2.5. The DISA experience

Considerable experience has been gathered at the Campbell Collections of the University of Natal, now know as University of KwaZulu-Natal, pioneering the use of digital technologies for libraries, museums and archives in South Africa. The researcher's own insight into digital technologies draws extensively on her experience gained through working closely with the DISA project team.

A workshop on digital imaging was held at the University of Witwatersrand, Johannesburg in September 1997. Sponsored by the Andrew W Mellon Foundation (2003), this was the starting point of the DISA initiative to undertake an imaging project in South Africa.

The Mellon Foundation has a global programme of digitising significant collections and making these available to scholars, and the DISA project is the first

library/archive project in South Africa to be undertaken on a national rather than a regional or institutional basis.

As a result of the DISA project, (http://disa.nu.ac.za/), a pilot digital imaging project across the major universities and research institutions in South Africa, was established at the Campbell Collections in 1999. Funded by the Andrew W Mellon Foundation, DISA has aimed in its first phase to investigate and implement digital technologies to enable scholars and researchers from around the world to access South African material of high socio-political interest that would otherwise be difficult to locate and use. It has aimed to provide South African archivists and librarians with knowledge and expertise in digital imaging (Peters, 2003).

2.6. The Campbell Collections historic photograph conversion project

The historic photograph collection forms the first systematic digital conversion project undertaken at the Campbell Collections. The collection comprises some thirty thousand images, mainly black and white sepia toned prints, that are a rich visual documentation of the late nineteenth and early twentieth century, mainly of Natal and Zululand. The late Dr Killie Campbell, the daughter of Sir Marshall Campbell, an early Natal settler and sugar baron originally compiled the collection from various sources (Website: http://khozi2.nu.ac.za:).

In her paper, “Digitising heritage,” Dale Peters (2002) reflects on some of the challenges faced by cultural heritage institutions in digitising and putting online collections of South African heritage. The paper outlines experiences shared in the (DISA) project, together with reference to local and international models.

Digital imaging projects inevitably raise issues of intellectual property rights and copyright questions; hence the following chapter is devoted to a discussion of the many issues that should be addressed before embarking on digitising a collection.

The positive effect of interdisciplinary collaboration is particularly apparent in the many articles and monographs which aim to review analyze and explain the development and applications of new technologies in imaging within information management. More significantly, such collaboration has provided the foundation for the digital library projects, which have been reported in journal articles, conference proceedings, and institutional and special committee reports, which distil the essence of a wealth of combined expertise and collective experiences.

Some of this literature can at times seem somewhat intractable, for example, there is a considerable amount of 'grey literature' where some exceptionally useful work appears in elusive print publications or else is exclusively available at web sites of varying quality and accessibility. Duplication of information in different formats is very common, and authoritative information on critical issues, such as standards, is often either unavailable in a published version or rapidly superseded. Moreover, the extent to which assumptions, methods, results, and conclusions may be generalised is often prevented by quick changes in technology and by the specifics of individual project objectives.

However, it is possible to identify some signposts. *Library Hi tech News* is probably the best single source for current information about the funding and progress of digital library projects. Recent issues include short items on many of the organisations most actively involved in promoting digital imaging for education and research, including the Library of Congress, the Commission on Preservation and Access (CPA), the Association of Research Libraries (ARL), the Research Libraries Group (RLG), OCLC, and the Canadian Institute for Scientific and Technical Information (CISTI).

Most of the above organizations have task forces or special interest groups working on digital library projects that are responsible for commissioning publications (see for example Kenney and Chapman, Digital Resolution Requirements) and sponsoring conferences. Most of the organizations involved in digital projects also have web sites recording or announcing their publications and activities; particularly good are the Colorado Digitization Project site (http://www.cdpheritage.org/ see also Annexure 1 :

Annotated Bibliography) the IFLA (International Federation of Library Associations) site (http://www.ifla.org), and the sites of research libraries actively pursuing networked digital projects.

Another information source, which stands out is the American Library Association's Library Technology Reports, which are invariably thoroughly researched, exhaustive in coverage, extensively documented and highly authoritative.

In conclusion, it may be said that, while many issues are still to be resolved, the research and professional literature on digitisation offers a wealth of guidance, both in terms of broad theoretical perspectives on the place of this technology within the domain of information management, and in terms of practical experiences and the sharing of lessons learned. While this chapter has presented a review of literature relating to the broad area of archival digitisation, Chapter 3 narrows the focus to the key issue of intellectual property rights, which modern digital technology has brought centre stage in any digital imaging enterprise.

Chapter 3. Intellectual property rights

3.1. Introduction

In the past, intellectual property issues were considered complex, obscure, and highly technical; they were only of interest and concern to intellectual property attorneys, legal scholars, technology developers, and rights holders.

The rapid growth of the Internet has highlighted intellectual property on a scale unprecedented in history, as it relates to the development of an inclusive global information society.

This chapter traces some of the milestones in the evolution of copyright law. It also provides an overview of copyright and ownership, with a specific focus on photographic copyright and ownership and how copyright affects photographic researchers. This discussion also covers the duration of copyright in photographs, and copyright protection in the new era. Solutions are offered to some of the more commonly occurring problems that may face archivists, librarians and individuals responsible for private and public collections.

Hopefully, this chapter will promote a general awareness and act as a catalyst for action to clarify policies and so influence the changing copyright and ownership environment.

The information in this chapter does not constitute legal advice. It contains interpretations of the copyright law by the researcher. For specific advice on copyright it is advisable to contact a specialist copyright lawyer.

One of the reasons intellectual property rights (IPR) and the protection of digital images have become such pressing issues today can be traced back to the birth of a fairly recent new technology: the launch of World Wide Web in 1994. Unlike other reproduction processes, a digital copy of an image can produce an infinite number of

perfect copies or clones, indistinguishable from the original; the World Wide Web provided an instant global distribution system.
Cultural and educational institutions are veritable warehouses of intellectual property. Among the intellectual property in their care are works of art, photographs, manuscripts, books, films, videos and sound recordings.

With the development of technologies that allow for digital display, distribution and replication, both use and users are changing rapidly, forcing cultural and educational organizations to re-examine nearly all aspects of their policies governing intellectual property.

Intellectual property rights are codified from country to country in laws that vary in type, interpretation and use. Efforts have been under way for a long time to harmonize these various rights across countries and legal systems via treaties such as the Berne Convention and the Universal copyright convention, and by organizations such as the World Intellectual property organization (WIPO).

As more intellectual property is distributed on electronic networks, these efforts will become increasingly significant since it will be difficult to enforce the laws of individual nations when information freely and continually crosses geographical boundaries.

The evolution of the copyright law

Following Gutenberg's invention of the printing press in the 1440s, controls over printed publications and documents developed from being purely constraints on the reproduction of state documents until The British Parliament enacted the landmark Statute of Ann in 1710 which extended protection to individual authors.

In 1865, thirty years after the effective introduction of photography, the first copyright protection of photographic images came into being.

It was not until the early 1990s, at the dawn of the digital age, that significant steps were taken to extend copyright protection to digital images. The World Intellectual Property Act (W.I.P.A.) of 1996 extended the notion of "fair use" to the digital environment, including scanned or original digital photographs. (See Table 2 – Copyright law time, and the "Duration of Copyright" section in this chapter).

Two treaties were concluded in 1996 at the World Intellectual Property Organization (WIPO) in Geneva. One, the WIPO Copyright Treaty (WCT), deals with protection for authors of literary and artistic works, such as writings and computer programs; original databases; musical works; audiovisual works; works of fine art and photographs. The other, the WIPO Performances and Phonograms Treaty (WPPT), protects certain related rights (that is, rights related to copyright): in the WPPT, these are rights of performers and producers of phonograms.

The purpose of the two treaties was to update and supplement the major existing WIPO treaties on copyright and related rights, primarily in order to respond to developments in technology and in the marketplace. Since the Berne and Rome Conventions were adopted or most recently revised more than a quarter of a century ago, new types of works, new markets, and new methods of use and dissemination have evolved. Among other things, both the WCT and the WPPT address the challenges posed by today's digital technologies, in particular the dissemination of protected material over digital networks such as the Internet. For this reason, they have sometimes been referred to as the Internet treaties.

More than five hundred years have passed since the invention of printing by moveable type that prompted the need for copyright protection. The table below highlights significant events in the evolution of copyright law (Medley, 1996).

It is interesting to trace the changes in American copyright law that have followed technological innovations, culminating in legislation concerned with digital technology in the 1990's. South African copyright law has been largely influenced by the American model.

1440s	After Gutenberg invents the printing press, the British government begins a form of copyright, which is intended to control what printers can publish.
1556	The British Crown grants the Stationers' Company a monopoly on printing, mainly to limit the Protestant Reformation by blocking heretical writings.
1600s	Pressured by growing private commercial interests, the British government gradually gives up its copyright control to authors and publishers.
1710	The British Statute of Anne is the first statute to recognize the rights of authors. Authors win the exclusive right, renewable after 14 years, to publish their new works.
1789	The U.S. Constitution recognizes intellectual property. Article 1, Section 8 empowers Congress "to promote the Progress of Science and useful Arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."
1790	The first U.S. federal copyright law protects the author of any "book, map or chart" for a renewable term of 14 years.
1802	Protection of prints is added.
1831	Protection of musical compositions is added.
1865	Protection of photographs is added.
1886	The goals of the Berne Convention provided the basis for mutual recognition of copyright between sovereign nations and promoted the development of international norms in copyright law to replace the need for separate registration in every country. The treaty has been revised five times since 1886. Of particular note are the revisions in 1908 and 1928. In 1908, the Berne Act set the duration of copyright at life of the author plus 50 years, expanded the scope of the act to include newer technologies, and prohibited formalities as a prerequisite of copyright protection. In 1928, the Rome Act first recognised the moral rights of authors and artists, giving them the right to object to modifications or to the destruction of a work in a way that might prejudice or decrease the artist’s reputation. The United States became a Berne signatory only in 1988.
1870	Protection of paintings is added.
1909	The federal copyright law is revised due to developing technology.

1976	After 20 years of study, Congress adopts the Copyright Revision Act of 1976. Leaps in technology, including motion picture, phonograph, radio, television and photocopiers, had strained previous copyright protections.
1978	The 1976 Act goes into effect. Authors can better control the use of their work. Federal copyright law pre-empts state copyright law, making it more uniform.
1988	The United States became a Berne signatory in 1988. The major changes for the U.S. copyright system as a result of Berne were: greater protection for proprietors, new copyright relationships with twenty-four countries, and elimination of the requirement of copyright notice for copyright protection.
1990	Congress passes the Visual Artist Rights Act, which protects artists' rights of attribution and integrity. Covers paintings, drawings, photographs, prints and sculpture.
1994	The Working Group on Intellectual Property Rights sponsored the Conference on Fair Use (CONFU). Established in September 1994, CONFU was the venue for a discussion of issues of fair use in the electronic environment. CONFU participants developed guidelines for fair use of educational multimedia, and proposed guidelines in a number of areas including interlibrary loan, electronic reserves, digital images, and distant education. According to the final report, issued in 1998, “it was clear that fair use was alive and well in the digital age, and that attempts to draft widely supported guidelines will be complicated by the often competing interests of the copyright owner and user communities”.
1996	**World Intellectual Property Organisation (WIPO)** WIPO convenes to bring international copyright law into the electronic age. Delegates from 160 countries considered two treaties on international intellectual property law during a Diplomatic Conference convened in December 1996 in Geneva, Switzerland. The delegates adopted new versions of the proposed treaties resulting in a new approach to copyright issues. The Conference adopted a statement ensuring the two treaties would “permit application of fair use in the digital environment”. The

	treaty language emphasized “the need to maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information.”
1998	**Digital Millennium Copyright Act** President Clinton signed the Digital Millennium Copyright Act (DMCA) into law on October 28, 1998

Table 2: Copyright law timeline

(Medley, 1996 : 18)

The image market

The control of photographs and other visual resources is a vital issue for both private and public collections. The questions and issues related to who "owns" the rights to use and reproduce photographs are complex and can vary significantly depending on acquisition circumstances, age of the image, provenance, status of the previous "owner" and a number of other variables.

Physical ownership, copyright and reproduction rights coexist in a continually shifting legal and technological environment. As the market for images continues to grow, it is important to understand the rapidly changing environment in which researchers, collectors, curators, and publishers must work**.**

The interest in historic images and their value has grown remarkably as a result of film documentaries, the awareness of the fine arts market, and the voracious appetite of multimedia for visual resources such as photographs. Digital media, including CD-ROMs, Internet, and the World Wide Web, and the ease of reproducing, retouching and distributing material, have further fuelled the demand.

Copyright and ownership: general background

Copyright is part of a group of intellectual property rights, which provide legal protection to creators of works of the mind. Copyright in South Africa is governed by the Copyright Act No. 98 of 1978, as amended and the associated Regulations and it

grants owners of copyright (authors and other creators of intellectual property) the right to:

- Reproduce the work;
- Create derivative works based on the original work;
- Distribute copies of the work;
- perform the work,
- display the work in public.

Copyright is a property right, which means that ownership can change hands many times. Copyright can be sold, bought, given away or bequeathed in a will. This makes it difficult to know who owns the copyright of an artifact at any particular time.

The most recent provision of copyright law basically tells you who owned the copyright at the time of the creation of the work. It is important to bear in mind that the present owner of that object, for example painting, sculpture, photograph, may not be the *copyright* owner, as the object and the copyright may have been given, sold, or bequeathed separately.

As long as the requirements of the Act are met, copyright subsists automatically and no formal registration is required.

South Africa is a signatory to the International Berne Convention (see above) that obliges South Africa to give recognition and protection to copyright works from signatory countries.

The Berne convention is an international treaty, and as a member South Africa is obliged to afford the same level of protection to other countries' copyrighted work as afforded to its own.

The countries listed below are African signatories to the Berne Convention (Webster, 2004).

Algeria,
Botswana

Benin,
Burkina,
Faso,
Cameroon,
Cape Verde
Central African Republic Chad
Cote d'Ivoire
Djibouti
Egypt
Equatorial Guinea
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritano
Mozambique
Namibie
Niger
Nigeria
Rwanda
Senegal
Sudan
Swaziland
Togo
Tunisia
Zambia
Zimbabwe

Who owns copyright?

Defining ownership of copyright can prove to be problematic. In general the creator is the owner except when the person is employed to create the materials. The "employee relationship" is therefore a critical factor.

Copyright ownership can also be unclear when freelance photographers are paid to create a work, but as they are not "employees", they usually own the copyright of their photographs.

Copyright is a serious issue and it is essential to understand questions of ownership and intellectual property rights.

- Who owns copyrights?
- Are they in the public domain? If not, can permission be secured?

The general rule is that the owner of copyright is the person who does the creative work. As mentioned above, however, there is an important exception to this basic rule that applies when the work is created by an employee within the scope of his or her employment. In this case the employer of the person who does the creative work is considered to be the copyright owner.

Copyrights in photographs are initially owned by the photographer, although they may either be assigned to another party or transferred to the photographer's employer under the work-for-hire doctrine. For example, the fact that a photograph appeared in a company's magazine does not necessarily mean that the company owns the copyright in the photograph. The company may only have a licence to use it once in its magazine.

If a photograph is copied, it is not granted copyright because this act of copying is an act of infringement of the original object's copyright. In some countries in order for new material to gain copyright, it must show some added intellectual content, but this does not apply in the UK, where, for instance: two people taking the same picture of a statue, own copyright in their own photograph because they have created it. In mainland Europe, however, for the photograph to acquire copyright it would have to show creative content, for example with the use of lighting or special effects.

In the United Kingdom copyright is totally automatic: there is no need to

- register the work,
- pay fees or
- Undergo any bureaucracy.

Copyright is only acquired when

a) The material is new (i.e. not copied), or
b) The material is in a fixed format.

Copyright does however have a universal definition. It is the exclusive right in relation to a work embodying the result of intellectual activity, to control the commercial exploitation of that work.

Works subject to copyright

Subject to copyright are those categories of works which have been brought into existence by a person's intellectual creation and can be classified into:

- Literary Works;
- Musical Works;
- Dramatic Works;
- Artistic Works (which includes images);
- Sound recordings;
- Films; TV broadcasts

Literary Works covers all written works handwritten, printed, published and basically everything in machine readable form, including digitised images.

Artistic Works include graphic works, paintings, photographs (which have additional special conditions attached to them) slides, sculptures, your signature, overhead projector transparencies and Power Point materials.

There is however some confusion about the status of works and which classification scheme they come under, and this is a crucial issue that has to be clarified for the specific rules and condition to be applied.

Digital images do have copyright because they are fixed (and can thus be copied) and the same principle covers all material on the internet, both textual and in the form of images.

The complexity of rights in an electronic environment

To provide some insight into the shifting status of an object from the perspective of rights management, let us consider the classification of a chemically-based (non-digital) photograph. In its original form, the photograph is classified as an Artistic Work, but when this has been digitised and becomes a machine readable code, the image is then classified as a Literary Work. If this digital image is then printed out, it then becomes an Artistic Work again, and as there are different rules for artistic and literary classes, it can be appreciated that copyright requires effective tracking mechanisms (TASI, 2002).

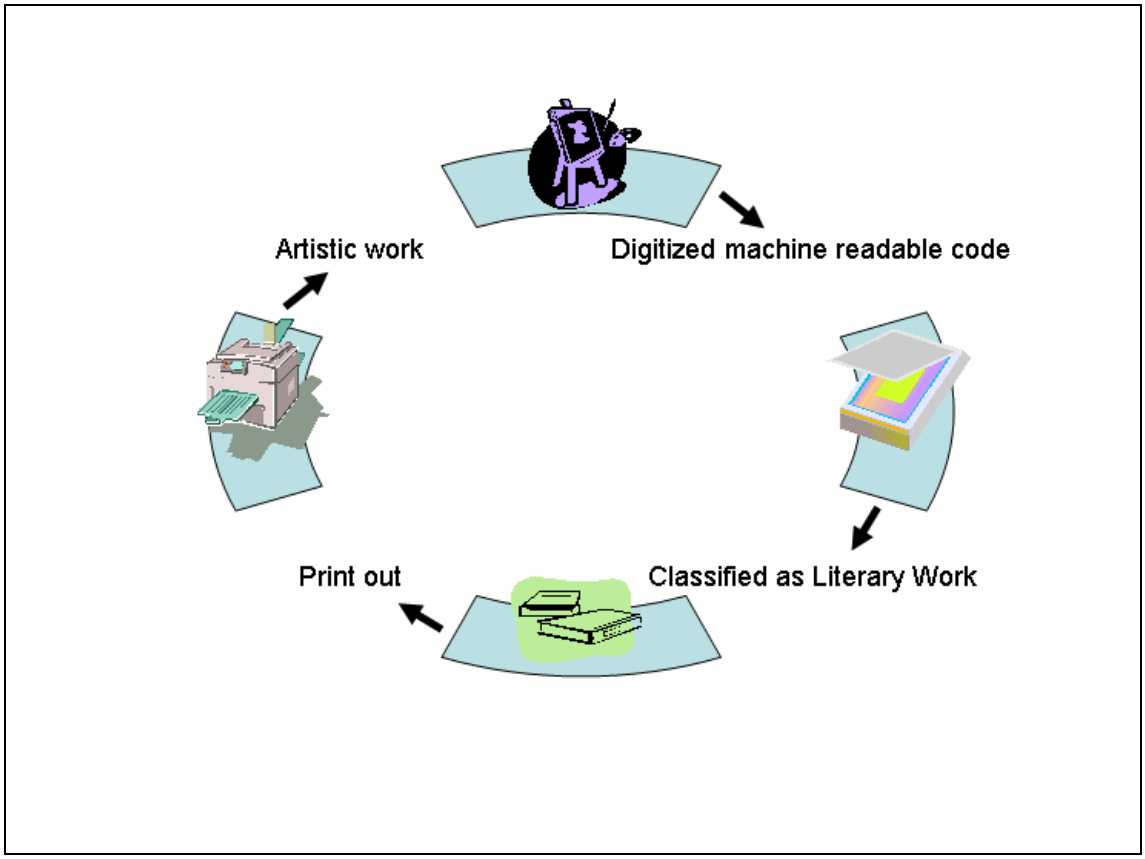

Figure 1: The shifting digital copyright cycle

As defined in the South African Copyright Act 98 of 1978, Literary work includes, irrespective of literary quality and in whatever mode or form expressed,

- Novels, stories and poetical works
- Dramatic works, stage directions, cinematograph film scenarios and broadcasting scripts
- Text books, treatises, histories, biographies, essays and articles
- Encyclopaedias and dictionaries
- Letters, reports and memoranda
- Lectures, speeches and sermons
- Tables and compilations, including tables and compilations of data stored or embodied in computer or a medium used in conjunction with a computer, but shall not include a computer programme.

An artistic work is further described as, irrespective of the artistic quality thereof,

- painting, sculptures, drawings, engravings and photographs;
- works of architecture, being either buildings or models of buildings
- works of craftsmanship not falling in the above.

The purpose of copyright law is to protect the interests of the copyright owner, the author and the publisher. They are the creators of the intellectual property and there is thus a moral as well as a legal imperative to respect their rights.

3.2. Intellectual property law and ownership

Let us think about what intellectual property law can tell us about the nature of our ownership of archival records. Copyright law draws a firm distinction between the physical ownership of an item and the copyright in that item.

Just because an institution has in its collection a letter, or photograph, or film, it does not mean that the institution owns the copyright in that work.

There are a minimum of four scenarios regarding the ownership of the physical and intellectual property found in archives.

The first of these consist of items placed in deposit. In this instance the archive owns neither the physical item nor the intellectual property of the item that has been placed on deposit. This item is dependent upon the terms and conditions of the deposit agreement and is likely to be severely limited by these.

Second, if the archive owns the physical item, through donation, purchase, or some other mechanism, then the question of ownership of intellectual property gives rise to three possible scenarios:

- the archive owns the intellectual property rights to the item,
- a third party can own the intellectual property,
- or the work is in the public domain.

Third, if the archive has ownership of both the physical item and the intellectual property rights in the item then it is free to exploit the material.

The fourth scenario is where a third party owns the copyright in works that are physically owned by an archive. Most archives find themselves in this situation. Since reproduction and distribution are the exclusive rights of the copyright owner, the archive will need to,

- seek the permission of the copyright owner in order to make and sell reproductions,
- or make use of one of the exceptions to the exclusive rights of the copyright owner found in the law, especially if the copyright owner is unknown or cannot be found.

Reproduction and distribution of materials under this scenario must be made without any direct or indirect commercial advantage.
Copying with the intention of generating revenue could in theory make your reproduction of the copyrighted work illegal and thus make your institution liable for substantial civil and criminal penalties.

For the vast majority of our cultural heritage materials, copyright either resides with the creators of works or their estates, has never existed or has expired, and the works are in the public domain. With works in the public domain owners or caretakers cannot assert copyright ownership, but may have access policies that effectively restrict or hinder the use of the materials in their care.

Infringement of copyright

Copyright can be infringed or violated by a person who is not the holder of the copyright and who, without the consent of such holder, reproduces literary works, musical works, artistic works, photographic works, computer programmes, cinematographic films, sound recordings, broadcasts, programme carrying signals and published editions.

Only the Copyright owner is legally allowed to perform the above activities or give permission for someone else to perform a restricted act. Thus anyone wishing to do any of the above one must gain permission from the copyright owner. This ensures protection of the commercial interests which belong to the copyright owner. Infringement of copyright is both a civil and a criminal offence.

The author or owner or his/her licensee (in some cases) can take legal action to stop infringements of his/her rights. This can include seizure of the infringing material, claims for damages and an interdict preventing further infringement of his/her rights. The courts have the power to award additional damages where there has been a flagrant breach of copyright. The Copyright Act also makes provision for criminal penalties – a fine (a maximum of R5000 per infringement) and/or imprisonment of up to three years for a first conviction. The maximum fine and/or infringement penalty for a second conviction is R10 000 and/or five years (Vista University Library Services).

There are some defences against infringement of copyright, the most important of which is Fair Dealing. “Fair use” or “Fair Dealing” essentially permits the use of

copyrighted work without the need for copyright clearance, provided this use promotes “the Progress of Science and useful Arts” (Wikipedia. Fair use, 2005).

3.3. Archival principles and the control of public domain material

Archives have the task of taking care of the objects placed in their care. As custodians of the collection one of the main functions of an archive is to protect the intellectual property rights of the owners. Archives have the responsibility to pass on the collection to its successors in good condition. Yet archives also have the responsibility to make available and distribute knowledge about their holdings to the public.

The International Federation of Reproduction Rights Organisations (IFRRO), representing creators and their publishers in South Africa and the world through a network of reproduction rights organisations, held its 2001 Annual General Meeting in Cape Town and in consultation with the Publishers’ Association of South Africa (PASA) and the Dramatic, Artistic and Literary Rights Organisation (DALRO) adopted the following resolution.

- Copyright should be recognised as the lifeblood of authors and publishers.
- IFRRO should consider South Africa’s central role in the development of African cultural, intellectual, and economic renewal and its leadership role in the Millennium Recovery Plan.
- That authorship, publishing and the dissemination of works in South Africa is threatened by insufficient copyright protection.
- It should recognise further, that in order to make South Africa’s Copyright Act compliant with the Agreement on Trade Related Aspects of Intellectual Property (TRIPS), some legislative gaps in terms of both the substantive and the enforcement requirements of TRIPS must be closed.

- Acknowledgement that South Africa is one of the signatories of the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT).
- Seek to promote an effective and enforceable copyright legislative framework that encourages creativity and enables the exploitation and collective management of copyrighted works in the 21st century. (IFRRO 2001).

As the legislative protection of intellectual property tightens, archives are obliged to comply with the law while continuing to make their collections as accessible as possible to the public

Photographic copyright and ownership

In considering the copyright and ownership of photographs, it is helpful to start with the premise that the author is usually the initial owner, but as we have already noted there are exceptions to this rule. If the author is employed by a newspaper, magazine or similar periodical, and the literary artistic work is made by him during the course of his employment, then the employer is the owner of the copyright insofar as the copyright relates to its publication in a newspaper, magazine or similar periodical.

Nevertheless, the author or photographer remains the owner of the *balance* of the copyright in the work. Where a person commissions the taking of a photograph and agrees to pay for it, and the work is made in pursuance of that commission, the person who commissions the work is the owner of the copyright in such work.

Where a work is made under the direction and control of the State or a prescribed international organisation, the state or such international organisation is owner of the copyright in such work.

Photographs are defined as Artistic Works by the Copyright Act. This includes printed or digital photographs. Copyright owners of photographic works have control over the following rights in relation to their works,

- reproducing the work in a material form for example print, scan or save an electronic copy,

- publishing the work, and
- communicating the work to the public for example place on-line or e-mail.

Who owns copyright in photographs?

The photographer is the first owner of copyright, however depending on the circumstances the copyright may be assigned to the person or organisation who commissioned or paid for them.

Duration of copyright

Copyright in photographs lasts for the life of the author plus 70 years from the end of the year of the author's death.

For many years authors and publishers have used libraries and archives as sources of images to illustrate their articles and texts. Typically they would visit an institution, browse and select photographs, then order copies for publication. Occasionally the institution charged a fee for non-academic publications or commercial uses. They usually required a credit line to indicate the source of the image, and sometimes a copy of the published article or book. Rarely was any attention paid to the context of the intended use or accuracy of presentation of the image, and few controls were in place to follow-up on the proposed or future uses of the images.

Today, however, researchers and authors face a daunting task when seeking illustrations, and must address challenging question such as the following.

- What rights do you obtain when you purchase or acquire a photograph?
- If one has a physical copy in hand, can one copy it and use it for one’s own private or commercial uses?
- Can one restrict others from reproducing the image from their original copies?
- Can one sell copies of the photograph for others to use?
- Can one display the image in one’s office reception room or public space?

- Can one post a scanned copy on one's Web page or as part of an electronic publication?
- Can one continue to use copies after one sells the original image?
- If you sell or buy an image through an auction or on consignment, do you or the auction house control future publication of the image?

Several factors are involved in determining ownership of a photograph, including copyright law, the ownership status of the seller or donor, and the rights that are transferred as a result of sale or gift.

Once a work such as a photographic image has been created and fixed in a tangible form, it is protected under copyright law and several very important rights are assigned to the copyright holder. They may permit or restrict the following.

- Copying or reproducing the work (such as print or electronic reproduction of a photograph).
- Preparing derivative works (such as scanning to create a digital copy of a photograph).
- Distributing or marketing copies of the work (such as posting digital copy on the Internet, selling posters or postcards, or copy prints of the image).
- Publicly displaying the work (such as in museum or gallery).

Each of these four rights is separate and the copyright holder or designee may permit or restrict others from using the material in any or all of these ways. In addition, they may retain, assign, or license each of the rights listed below, in whole or part, to another party.

- Licence a single right, such as reproduction for publication, or include all aspects of copyright ownership for a given work.

- Restrict use to a single instance, such as one print edition, or unlimited use, such as permitting unlimited print and electronic reproduction.

- Grant rights for a finite period of time, or for unrestricted use.

Obtaining permission can be a complex and sometimes frustrating process, particularly if any or all of the rights have been transferred to another party. Unfortunately, there is no central repository of information about the rights held or transferred, and in many cases significant research is required to locate the owner of the copyright. In addition, there is no requirement for the copyright holder to grant permissions or to respond to requests. An additional frustration arises from the fact that failure of the copyright holder to respond does not imply permission.

Fair use

The doctrine of fair use is one of the most well know exemptions to copyright law. This exemption allows for the use of copyrighted material, without permission of the creator or the copyright owner, in a limited number of contexts and for certain purposes, including criticism, commentary, news reporting teaching, scholarship or research. Fair use is essential for research and teaching, which builds systematically on the work of others. Fair use is situational and is determined on a case-by-case basis by balancing four factors against each other to estimate the relative social benefit of an unauthorized use against its cost to the copyright owner.

In determining whether a use falls within this exemption a series of criteria, popularly called the “four factors” are applied.
These factors are:

- purpose or character of the use,
- the nature of the copyrighted work,
- the amount and substantiality of the portion of the work used in relation to the copyrighted work as a whole
- and the effect of that use on the market.

The following is a brief explanation of the issues embedded within the above four factors.

- *The purpose or character of the use*

This addresses the question of what the work is being used for and who is using it. If the work is to be used for teaching and research it is more likely to be considered fair use rather than if it is to be used for a commercial endeavour.

- *The nature of the copyrighted work*

What forms or attributes are unique to the work, and how does this uniqueness come into play as it is used? Is the work original, a compilation, or a derivative work?

- *The amount and substantiality, of the portion of the work used in relation to the copyrighted work as a whole.*

Here too consideration of how much of the work is being used is made, and whether this portion is a substantive percentage of the work. Fair use is more likely to be accorded for modest portions that are used rather than complete or nearly complete works. This interpretation is clearly problematic for images, which by their nature do not lend themselves to be used in portions or segments.

- *The effect of the use on the market for the work*

Will the use interfere with the present or potential ability of the creator or copyright owner to make a living from the work? This factor requires some predictions or assumptions about the potential market for a work or the economic value of the work, and also impacts strongly on images, which are often complete works in themselves.

The calculation of fair use ranges from the obvious to the highly complex. It may seem obvious, for example, that copying a photograph for a scholarly article for research purposes is fair use, but not if same information was used in a feature film on a publicly accessible Web site. In every case, the distinction between fair use and infringement is a judgment call that requires understanding of the principles underlying the law.

For the digital archivist, one of the key factors in fair use is the potential impact of the use on the marketability of the item in question. In the digital environment building a case for fair use is troublesome for several reasons:

- the ease of duplication of digital files

- the difficulty in controlling duplication of digital files,
- the commercial nature of the Internet has made the market impact test of “fair use” difficult for any materials available on the WWW.

Digitising a photograph creates a derivative work, a right not addressed under fair use that requires permission of the copyright holder. Also, a compelling case can be made that any digital posting has the potential to significantly affect the market for a given image. It would be difficult to show that making a digital copy of a photograph available on a CD-ROM or on the Internet would not have an effect on the potential market for the work.

As with the entire issue of intellectual property rights, widespread use of the Internet has raised the stakes significantly. By enabling rapid and broad distribution, Internet transmission increases the potential for copyright infringement to do real harm to the owners of a work. Laws and policies change much more slowly than technology. Most were established long before the advent of the Internet and digital imaging, and are still grappling with issues related to past developments such as photocopying and video. Recently, however, international agreements have addressed the problems, (see Table 2, above) and the US Congress has led the way in moving to amend and update copyright law. Researchers and publishers should be aware of the changes, and periodically monitor the revisions.

What is DALRO?

The Dramatic, Artistic and Literary Rights Organisation (DALRO) was conceived as a multi-purpose copyright society to act on behalf of authors and publishers in South Africa by administering a broad spectrum of copyrights in literary, dramatic and Artistic Works. Through its international affiliations and its bilateral agreements with foreign societies, authors and publishers, DALRO currently administers public performance rights, broadcast rights (radio and television) and reprographic reproduction rights in published works (DALRO).

DALRO has reciprocal agreements with Reproduction Rights Organisations (RROs) in other countries. If works of mandating South African publishers are copied in those countries, then the RRO will forward the fees to DALRO to be distributed. Similarly, if a work published in a foreign country with which DALRO has a reciprocal agreement is copied in South Africa, then the fee collected may be sent by DALRO to the foreign RRO to be distributed to the rights' owner.

DALRO belongs to the International Federation of Reproduction Rights Organisations (IFRRO), which links RROs worldwide. Their commitment to the rigorous application of international IP agreements is reflected in their 2001 resolution discussed earlier in this chapter.

Issues and concerns arising from providing a digital imaging service in archives

Archives can make a fair use case for charging a fee for reproducing an image that is in the public domain.

A patron may want to use a photograph for

- Personal / private use
- Academic research
- Publication

For personal, private or academic use, the patron will pay a reproduction fee that covers the cost of providing just the digital copy. A separate fee is charged for the compact disc (CD) or floppy disc. This charge is currently between five rands (R5) for a floppy and ten rands (R10) for a CD.

When calculating a fee structure for providing a digital imaging service the following factors should also be taken into account.

- The staff time to do the paperwork, deal with the person, telephone calls, etc.
- The difference between a user fee and a reproduction fee

How copyright affects photographic researchers

Virtually every original print of historical photographs (where the photographer is not known) published before January 1923 is now in the public domain. This means that anyone possessing an original image from 1922 or before can copy, prepare derivative works, distribute, or display the photograph without needing to obtain permission. The most common method of controlling reproduction of public domain images is to limit access to the original photograph.

In the pre-digital era (pre ± 1980) IPR legislation was adequate protection for authors, inventors, musicians or publishers. However, the advent of digitisation allowed perfect copying techniques linked to quick and efficient dissemination, and soon led to major IPR violations (e.g. Napster mp3 music file swapping).

Copyright law was recently amended by the Digital Millennium Copyright Act which changed Internet copyright in many ways. In particular, it put all sorts of legal strength behind copy-protection systems, making share programs illegal and reducing the reality of fair use rights.

The absence of a copyright symbol on a work of intellectual property does not mean that the work is in the public domain and may be freely copied. Any work created after March 1, 1989, is protected without the notice of copyright. A creative work is protected from the moment the work is fixed in a tangible form of expression. A photograph posted on the Internet does not necessarily mean that it is in the public domain. Copyright rules apply to the Internet. But you might consider the law of fair use to determine if fair use would permit copying.

The Digital Millennium Copyright Act, passed on October 1998, has significantly changed public domain timelines and is an excellent example of the shifting legal environment. The act (strongly supported by businesses with valuable intellectual property about to enter the public domain, such as Disney, and the estates of creative individuals such as the Gershwins) places a 20 year moratorium on materials entering the public domain. The effect is to freeze January 1923 as the date prior to which

materials lapse from copyright protection and enter the public domain (See Figure 2, below). The net effect is that no new material will enter the public domain until 2018. The impact on unpublished materials is unclear as the act does not specifically address such material. A further complication is a recent legal challenge to the extension of protection outlined in the Digital Millennium Copyright Act that, if successful, would return everything to the 1976 calendar year. Clearly, the copyright environment is changing and process of researching copyright status is becoming even more complex.

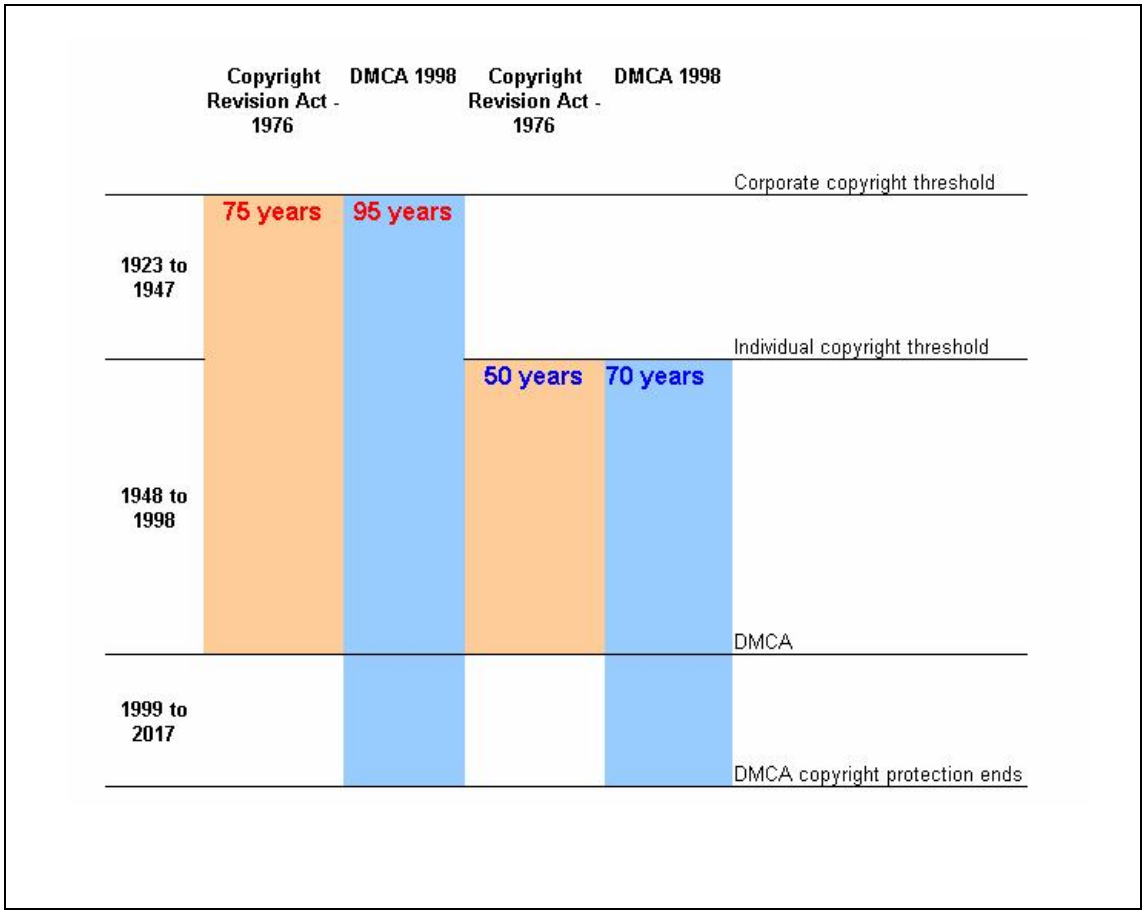

Figure 2: Public domain time chart

(Besser,1999)

Access and use of unpublished materials or those created after January 1923 can be much more complex, since each of the four rights of the copyright holder can be controlled separately. For example, it is possible to acquire a physical print of an image through purchase or gift, without obtaining any other rights to the image. The

copyright holder may retain any or all of the four supplemental rights associated with subsequent use of the work.

Copyright has little impact on reproduction of historical images in the public domain from public or private collection, despite the many policies and release forms involved. Here, too, limiting access to the original print is the most common method used to control reproduction and use of images. Collections with well articulated rights policies have begun to indicate in their release forms and reproduction contracts that they provide access only, and in no way warrant copyright permission. The onus is on the researcher or publisher to establish copyright status, and obtain any necessary licenses or permissions needed for the intended use.

The copyright and intellectual property environment is constantly evolving to reflect changes in technology and use practices. The pace of this movement has increased dramatically with the advent of scanners, digital reproduction, and the Internet. Although the Internet evolved as a tool for education and research, its recent transition from a largely non-profit medium to a more commercial entity has profoundly altered the tone of the Internet to one of ownership and control. Other factors that are affecting the rate of change in the area of copyright licensing and use include the following.

- Giant corporations like Microsoft and its wholly owned subsidiary Corbis entering the field of digital image licensing.
- Enhanced tracking and reporting capabilities of watermarking software and related services.
- Increasing marketplace for licensing and use of images.
- Aggressive efforts of publishers and producers in the review and recommended revision of copyright law, and archives.
- U. S. participation in international copyright and intellectual property treaties.
- Ease of digital copying and distribution and the potential for loss of revenue, attribution, and subsequent control of uses once material has been posted without permission.

In 1986, the United States finally joined the Berne Convention, which has further complicated the ownership and use environment. For example, in the U.S. copyright notices were no longer required to be displayed with images to maintain protection. This means that even if a copyright notice is not displayed the creator or designee still has the right to control use of the image, and permissions are required prior to use.

Duration of copyright in photographs

The duration of copyright in SA in respect of Literary and Artistic works is fifty years from the death of the author. In the case of works of joint authorship the death of the author is deemed to be the death of the last surviving author. In respect of photographs the copyright will expire 50 years after the date the work is made available to the public with the consent of the owner.

The following guide provided by Leeds University provides a useful checklist for the photographic archivist.

To find out whether a photograph is still protected by copyright, one can generally make the following conclusions:

a photograph does not have copyright protection if it was taken by a known photographer, who died before 1 January 70 years ago, or taken by an unknown photographer and published before 1 January 70 years ago,

a photograph has copyright protection in all other cases.

The general rules for published photographs are as follows;
Copyright expires 70 years after a known photographer's death, or 70 years after the publication of the work of an unknown photographer. However, there are a number of exceptions to this, due to copyright legislation in place before 1989.

- Known photographer; photograph was taken before 1 June 1957; copyright expires 70 years after the death of the author.
- Known photographer; photograph was taken on or after 1 June 1957 and before 1 August 1989; photographer died more than 20 years before publication; copyright expires 50 years after the end of the year of first publication.
- Known photographer; photograph was taken on or after 1 June 1957 and before 1 August 1989; photographer died less than 20 years before publication; copyright expires 70 years after the end of the year of the author's death copyright applies; protection is for a maximum of 125 calendar years unless published commercially, in which case a photograph is protected for only 50 years from the end of the year in which it was created

Unpublished material

The rules for unpublished material are more complicated, and are as follows.

- Copyright expires 70 years after the creation of any unpublished photograph taken before 1 June 1957
- Copyright expires on 31 December 2039 for any unpublished photograph taken on or after 1 June 1957 and before 1 January 1969, if the author died before 1 January 1969
- Copyright expires on 31 December 2039 for any unpublished photograph taken on or after 1 January 1969
- Copyright expires 70 years after the creation of any unpublished photograph taken after 1 January 1969
- Therefore all unpublished photographs taken since 1 June 1957 are currently protected by copyright.

Legal arguments against control of public domain material

There are a number of legal reasons why the license agreements that govern access to public domain objects and the use of reproductions of those objects may be suspect. Many repositories place copyright notices on their reproductions of public domain works. In Bridgeman v. Corel, the American court held that exact copies of public

domain works are not themselves copyrighted because they are not original (Bridgeman Art Library, 1999).

Making an exact photographic copy may require great skill and effort, but that alone is not enough to warrant copyright protection. Placing a specious copyright notice on these reproductions may actually place a host institution at risk. Including a copyright notice that one knows is false on a work is a criminal offence punishable by a fine. To date no archives has been charged with this offence, but in general it is sound institutional practice to obey the law.

3.4. The emergence of Quasi-copyright control over the public domain

Many repositories try to maintain a kind of quasi-copyright-like control over the use and further use of materials in their holdings. One strategy that many museums and some archives use to exert such quasi-copyright control is based on their ownership of the physical manifestation of a once copyrighted work.

In addition to using their control over the conditions of access to unique physical items to control subsequent use of those items, some museums and archives try to enforce a monopoly on reproductions of the unique public domain items in their collections. Reproductions are made available to researchers only if they sign agreements that limit what can be done with those reproductions. In an online environment, users are often required to "click through" an agreement that regulates the use of images and documents that would otherwise be in the public domain. Some of the terms and conditions that users have to agree to view and use the site are:

- They must agree not to use the material found on the site for personal or financial gain without prior permission, even if the work is in the public domain.
- The material may not be distributed or duplicated without the permission of the institution that holds the original material.
- The rights are normally reserved to the copyright owner.

- Copies of the digital images on the site are available for purchase, but permission is needed for commercial use, publication, manipulation, display, or distribution.

In the words of Robert Baron, the documents have become “prisoners” (2000).

Published works

The copyright issues surrounding published works are similar for digitisation as for reproducing any protected work. Digitising materials is a form of publishing. The original format is being changed, but copyright laws still apply to the items. There is a significant difference between reproducing copyrighted works by non-digital means and reproducing copyrighted works through digitisation.

Copyright protection in a new era

As we have seen, copyright protection depends on three factors:

- who created the work
- when the work was created
- and when it was first distributed commercially.

Generally the copyright is owned by the person (or persons) who created the work.

Since the invention of moveable type, copyright law has always evolved along with technology. With each new invention - camera, phonograph, and photocopier - a new challenge arises. The World Wide Web poses the latest, most daunting challenge to the status of copyright law.

Ownership rights of photographs, writings and artwork on the Web are fairly straightforward. With a few exceptions such as work for hire, a work's author or creator owns the right to distribute and profit from that work. The only requirements: the work must be original, and it must be fixed in a tangible medium, be it printed page or HTML.

Historical photograph collections generally consist of photographs that include

(a) copies of photographs that are kept with manuscript collections;

(b) photographic reproductions taken from mostly public domain regional history publications;
(c) copies of photographs loaned to the department which were returned to the donors; and
(d) photographs that are sometimes marked in one way or another but have found their way into the collections

The above categories have copyright implications and the difficulty of knowing photograph by photograph which of the above categories it falls into. Librarians and archivists have wrestled with this, some more successfully than others. A suggestion would be to run a label through the laser printer or scanner that contains the standard text on ownership rights “not to be reproduced with out permission”.

Copyright and digital cameras in the reading room

This has only recently become a critical issue for the custodians of archival collections. The Campbell Collections, for instance, seem to be receiving more and more requests from patrons who suggest they want to bring a scanner or digital camera in to the reading room to copy information from the collection. In June 2005 we had to review our policy and agreed to permit the use of digital cameras for bound newspapers and government publications, as we are not in a position to offer a reproduction service for bound newspapers, and government publications are very much public information.

There are advantages and disadvantages to providing this service. On the up side, allowing patrons to make their own digital copies saves our staff some time in completing photocopy orders and it saves researchers the effort of manipulating the content later. On the down side there is potential for duplication revenue loss, although it is likely that in many cases the patron would just go to general stacks materials instead to find similar material.

From the copying point of view it would seem that institutional liability would be reduced but not eliminated when the patron makes the copy as opposed to the staff.

The institution may still stand as a contributory infringer in these cases. Still one would think the impact on the market value of the work would be fairly minimal in the vast majority of cases of scanning images from published works, and the likelihood of litigation very remote. It would not be possible for the archive to anticipate when a patron wants to make one copy for a term paper, or fifty copies for their collectables business.

These days it seems that infringement happens. However, the archival collection needs to be aware of where and when, and whether the creator is materially impacted by the act.

3.5. Copyright and the internet – issues and questions

Whose area of jurisdiction applies when images are downloaded over the internet from for example, Australia or USA? Does the law of the country in which they were generated govern the images?

Response / answer
For infringements of copyright the jurisdiction of the nation where the infringement took place applies. Images are covered by the copyright law of the country in which they were generated and would automatically be protected in most other countries of the world, as most are signatories of the Berne Convention. The Berne Convention gives reciprocal protection to other countries copyright works

What is Encryption?
Encryption is a form of computer programming that protects online content from damage or theft by unauthorised persons.

What is being done?
Here are a few methods that have been conceived to try and deter some forms of "super-highway robbery":

Many corporations include legal notices that warn users from abusing the material on their Web sites. For instance, Disney Online spells out in no uncertain terms the

conditions of use for its site. Two and a half pages of terms begin: "By using this site, you signify your assent to these terms of use. If you do not agree to these terms of use, please do not use the site." Legal restrictions, jurisdictional issues and disclaimers follow. Disney also employs attorneys who survey the web for instances of copyright infringement.

Geoffrey Rhoads, an Oregon engineer, invented a technique that can prevent photographic Web images from being pirated. His method, hailed as a "digital watermark," hides invisible data inside an image. The data identify the owner of the image, and cannot be separated from the image without mangling it, rendering the image useless. Stock photography businesses, among others, will be able to use digital watermarks to protect their images.

A service named TrueSite alleviates the problem of the authenticity of web sites. TrueSite is a system that, for a fee, certifies a Web site as authentic. Its goal is to lend credibility to organizations who wish to conduct business on the Web, thereby increasing consumer confidence.

Once it determines that a site is authentic, TrueSite places the site's URL in a registry that users can browse from the TrueSite home page. Certified organizations may display a TrueSite logo, which links to a page that verifies the site's authenticity. Once at a verified site users can be assured that they are dealing with reliable information, and can feel safe entering personal data, according to a TrueSite press release.
Mark Burnett is the President of ADPI, the company that runs TrueSite. Burnett is convinced that his system is "the first step to making the Web a safe and reliable environment to conduct business." However, services such as TrueSite, while verifying the authenticity and / or provenance of a work, still does not guarantee copyright protection.

3.6. Case studies

Bailey v. Jurgen Schadeberg

Hazel Friedman in the *Weekly Mail and Guardian* (1996) reported that photographer Jurgen Schadeberg the ex-Drum photographer won the battle for ownership of his photographs against publisher Jim Bailey.

> The case centred on the issue of who owned copyright of the Drum photographs. Last week Bailey withdrew all claims to Schadeberg's pictures. Schadeberg's victory could now unleash a flood of suits by photographers who believe they have been exploited by both South Africa's outdated copyright laws and publishing companies that continue to profit from their work.
>
> In the interesting case of Bailey v. Jurgen Schadeberg the court ordered that Bailey must allow Schadeberg access to the historical photographs that he took during the fifties and the sixties so that he could make copies for his new publication. Schadeberg had taken the photographs whilst he was in the casual employ of Bailey but he retained the copyright to his photographs. They did not enter into a firm agreement at the time of the contract therefore Bailey had to pay damages to Schadeberg for the use of his intellectual property.
>
> When Schadeberg worked for Drum in the 1950s South African copyright legislation was based on a feudal law derived from Britain. Called the Patents, Designs, Trade Marks and Copyright Act of 1916, it stipulated that copyright ownership rested solely with the "proprietor".
>
> In his Supreme Court application the photographer argued that the constitutional protection of freedom of artistic creativity was being violated by current copyright legislation. He subsequently tried to challenge the validity of the law in the Constitutional Court on the grounds that the new Constitution protected the freedom of artistic creation which contradicted sections of the country's copyright laws. But at the time, the odds seemed firmly stacked against an argument lodged on ethical grounds.
> Schadeberg ultimately won his case on factual evidence. In his lengthy affidavit, Bailey alleged that Schadeberg was employed by Drum and was, therefore, not entitled to copyright of his pictures (Friedman, 1996).

Napster

Reich, J.F. (2005) discusses the Napster case in his article, “Napster, copyright and encryption.” He says one of the most talked about Internet-related issues involves peer-to-peer file sharing of copyrighted material, most notably in the Napster case.

The Napster issue, most specialists contend, is not a free-speech but rather a copyright issue. Napster was designed by a college student at the University of Michigan as a way to share music files. What Napster did was act as a database for users to upload and transfer their MP3 files, almost like a virtual swap meet. Although Napster lost the case, peer sharing has continued and appears to be re-shaping the distribution strategy of the mainstream recorded music industry.

Playboy Enterprises Inc. v. Frena

In the case between Playboy Enterprises Inc. v. Frena (1963), an electronic bulletin board operator, Playboy Enterprises claimed that Frena had violated its copyright by digitising one of its photographs and placing it on the bulletin board system, as this allowed another subscriber to download the image. According to the decision by the Florida Northern District Court "it does not matter that Defendant Frena may have been unaware of the copyright infringement. Intent to infringe is not needed to find copyright infringement. Intent or knowledge is not an element of infringement, and thus even an innocent infringer is liable for infringement; rather innocence is significant to a trial court when it fixes statutory damages, which is a remedy equitable in nature." (Timeline, 2005: 6).

Greenberg v. National Geographic Society

In 2001, two photographers claimed that the National Geographic Society (NGS) had violated their copyrights by including their photographs in the CD-ROM version of the NGS magazine. According to NGS they did not violate the two photographers' rights as Section 201 c of the Copyright Act permits the owner of copyright in a collective work, such as a magazine or encyclopaedia, to reproduce and distribute an individual author's freelance contribution "as part of that particular collective work, any revision to that collective work, and any later collective work in the same series." (Timeline, 2005: 10).

Reproduction of material for educational purposes

The law (presently under review) permits the making of limited numbers of photocopies of works for personal use, study and research, and teaching, without having to apply for copyright permission. Permission for photocopying does not extend to electronic or digitised copying and applies to a single reproduction request only. Subsequent reproduction of the same material would require a new request and a new fee would be payable, (see also “Fair Use” discussion, above).

3.7. Conclusion

While copyright law is a complex topic and varies from country to country the basic principles are the same throughout the world. A general understanding of these principles will suffice in ensuring that persons wishing to use or exploit the works of others are aware of the main pitfalls. Copyright in South Africa is governed by the Copyright Act No. 98 of 1978, as amended, and is regulations, which are presently under review. South Africa is a signatory to the International Berne Convention, which obliges South Africa to give recognition and protection to copyrighted works from signatory countries.

Recommendations

At the time of acquiring the photographs the archivist should get the donor to complete a standard donor form to establish and document who owns the copyright.

Researching the copyright status of a photograph is a vital part of preparing for print or electronic publication. Currently, the process of obtaining permissions is less complex for print than for electronic publication. Some of the steps are listed below.

- Identify the intended uses as completely as possible - will the material see print or electronic distribution, use an academic journal or for-profit publisher, what is the size of print run, etc. Also, will supplemental materials such as video or CD-ROM, or on-line presentation be a component of the project?
- Identify the warranties and permissions made by the collection. Do they provide access to the image, copyright permissions, or both? Also, for

materials still protected by copyright, such as published photographs created after January 1, 1923 or unpublished images, any donor or gift stipulations that may limit use should be noted. If necessary, obtain contact information for, and permissions from parties who may have an ownership claim to the images before publication.

- Check the current length of Copyright duration and date for public domain status. Determine whether the material was published prior to 1978. If not, copyright protection may have extended until 2003 or the life of the creator plus 50 years whichever is longest. If the material was not published, use will likely require permission from the copyright holder.
- Note whether the image is from an original print or copy print. Many collections have been built on copy prints from other collections. Rarely is reproduction rights transferred along with the copy print. Reproduction from published material may also involve the additional copyright claim of the author or publisher. Whenever possible, for reasons of both ownership and reproduction quality, locate and work with an original print rather than a copy.
- Determine if the work was created by a well known photographer or publisher. If so, the photographer, estate, or designee may retain ownership of some or all rights needed for publication. Also, materials created in other countries may be more heavily influenced by moral rights, potentially limiting some uses without additional permissions.
- Identify any fees for duplication and reproduction that are associated with the intended use. Also, note whether copies of the publication are required by the collection. Identify necessary credits and insure that they are included throughout the reproduction and publication process.
- Get all agreements and stipulations in writing from collections and copyright holders. Many publishers now require verification of permissions, such as reproduction, display or other rights that are involved in a given project.
- For your protection, maintain a file of correspondence related to your research, including written permissions and fees paid.

In his inauguration speech delivered at the International Conference on Digital Libraries held on 24 February 2004 in New Delhi, Dr A P J Abdul Kalam, recommended a review and modification of the copyright Act. He stated that the Copyright Act evolved when the rate of generation of new books and journals was low and it prescribed the protection period as fifty years.

He stated that in this millennium when the rate of flow of new books / journals has increased substantially, there is a need to re-look at the lock–in period of copyright documents. He urged the International conference to initiate action for reducing the copyright duration substantially. (Abdul Kalam, 2004: 14).

As fees continue to rise and the acquisition process becomes more complicated, many scholars are seeing the advantage of acquiring original images in their area of interest. When this involves private sources or auction, it is important to ask what policies affect the transfer of ownership, particularly for images less than 75 years old or unpublished material. Relevant questions include:

- What ownership rights reside in the image?
- Who controls any subsidiary rights not associated with the sale?
- Is any ownership rights transferred to the purchaser, or is only the physical copy of the image involved?
- What rights are transferred and what rights, if any, are retained, if an auction or dealer is involved? For example, do they retain any, rights to reproduce images?

Historical photographs have become a valuable resource for individuals and private and public collections. Hopefully, this essay will promote a general awareness and act as a catalyst for action to clarify policies and action to influence the changing copyright and ownership environment.

It is well to remember that it is impossible to restrict information without restricting knowledge. Property right are not always the most important thing. Having the

photograph out there in the world increases the cultural relevance of the object in the archives collection.

Having reviewed the literature pertaining to the digital archiving of photographs, and considered the crucial question of intellectual property rights, we can now integrate these into operational policies and procedures for practitioners. Chapter 4 offers a set of guidelines, based on a review of the literature and of best practice worldwide.

Chapter 4. Guidelines towards a policy for providing a digital imaging reproduction service

4.1. Introduction

The purpose of this chapter is to provide guidelines, applicable to the digital scanning of photographs in archival or special collection libraries. In the course of this chapter a set of procedures appropriate to the digitising of a photographic collection will be presented by drawing on the various issues and problems encountered in the implementation of a new digital scanning of photographs project at the Campbell Collections. Issues such as copyright, image size and resolution of photographs that may be used as a basis for a digital imaging service in an archive or special collection libraries, are considered.

Digital imaging is a process not a prescription, not so much a recipe as a series of choices that have to be made, in which we must balance competing requirements along the way. Guidelines tend by their very nature to be static or restricted to the specifics of the environment in which they were produced, whereas guidance looks at the way things flow, and adjusts accordingly. As we utilise this technology, we want to make informed decisions, to understand the consequences of choices made upstream to what flows thereafter, and to be prepared to right our course occasionally as things change. So it is in the spirit of guidance rather than prescriptive guidelines that the following material is presented.

The draft policy and procedures developed as part of this research have been shaped by a study of current and international policies and practices (Chapter 2), analysis of the rapidly evolving intellectual property rights environment (Chapter 3), and the contingencies of dealing with the challenges of a large, archival digital imaging service. The researcher's experiences in the digitisation project at Campbell Collections gives perspective to the complex assortment of legal, technical and logical issues to providing a digital imaging service.

4.2. Why digitise?

Before embarking upon the creation of a digital image collection it is important to first ask the question, why do you need to digitise and for whom? Do you have the resources to carry out the activities involved in the creation and management of a good digital collection project?

Before you start, ask yourself

Is the project

User driven? - High demand for or for enhanced access
Opportunity driven? - Money available so we can do something
Preservation driven? - High demand on fragile objects
Revenue driven? - We might make some money from it

Do we have

The money?
The skills?
The capacity?
The technical infrastructure?

Carry out

Benchmarking study
Copyright study
Feasibility study
Technical pilot study

Table 3: List of questions to ask before you start a digital collection project. (UNESCO, 2002).

The decisions taken at the conceptualisation and planning stage determine the kind of digital imaging reproduction service that will be made available at the implementation stage.

These guidelines therefore identify and discuss the key issues that are involved in setting the goals, planning and implementing a digitisation project with recommendations for best practice to be followed at each stage of the process

The digitization project (Colorado, 1999; see also Annexure 1) recommends that the following questions be consider before embarking on a digitisation project:

4.3. Considerations for project management

Setting the goals

The best managed conversion projects have clear goals. Brainstorming the first phase of project management is the time to talk about the desired outcomes. “Starting at the end” is an effective way to ensure smooth beginnings, says Stephen Chapman, of The Harvard University Library (Chapman, 2000: 1). “Project planning is the first and most important step in any digitisation project. Setting goals is a process of thinking about things from several angles before writing project plans. What are the possible outcomes for the collections? What are the potential benefits to users, to the collection managers, and to the institution? Is self-publishing or collaborative partnerships a better course to follow?”

A good management strategy for planning digital imaging projects is consultation and communication with all stake holders that will be involved in the digitisation project. “If people who work on the project understand the desired outcomes, they will provide better service; they will be aware of their individual contribution and how it relates to what others are doing” (Chapman, 2000). Participants will have a vision of the full project and stake holders will be better equipped to recognise when things are not going according to plan.

What is the purpose for digitising the collection?

Is there a demand for the content of the selected material in digital form?
Is your goal to increase access or decrease handling of fragile original (preservation? Increased access or both?).

Who is your intended audience?

This is a very important question, as it will determine the parameters of the project at all stages of its lifespan. The audience can be divided into primary (in your own service) a secondary (related to your service area), and tertiary (Internet users at large) user groups. What are the needs of your users and how can you best serve them? This question may apply to modes of access, what search features and web interfaces will be most helpful to your users, what types of browsing might be appropriate, how users intend to use the information, scanning practices appropriate to intended use of the materials, etc.

Use of digital images

One of the big issues that institutions should consider prior to implementing a project is the anticipated use of their digital image collections. Will the images be made accessible on a stand-alone workstation or via the World Wide Web? Will they be used for printing reproductions? What size will the prints be? Are there restrictions on access that must be honoured? (See Chapter 3).

What are the physical characteristics of the collection?

What is the format of the collection (negatives, black and white, colour, text and graphics, etc)? At what resolution will the images be scanned? In what format/how will the digitised images be stored (on CD's or tape)? If you intend to store images online do you have the appropriate server space?

The following extensive checklist is a useful tool in helping make digitisation selection decisions. The evaluation criteria listed in Table 4 can be adapted to various institutional settings. This checklist was compiled by Diane Vogt-O'Connor, (1992).

Answer each question yes or no. Evaluation factors:	Yes digitise	No don't digitise
Mission statement: Does the project fall within the repository or institution mission statement? If not, don't digitise.		
Scope of collections statement: Does the collection have sufficient intrinsic value to ensure interest in a digital product? If not, don't digitise unless the repository will redefine the policy to include the materials.		
Stakeholders' de-selection requests: Has the repository received requests to select the materials for digitisation from a stakeholder or reputable source? If so, are the requests challenged by equivalent requests not to digitise the materials? If so, don't digitise the materials.		
Donor Restrictions: Is the candidate material unrestricted? If so, digitise. Has the donor or creator of the materials placed substantial and non-negotiable restrictions on their usage that would prevent them from being digitised? If so, don't digitise the materials.		
Copyrights: Is the material either in the public domain or covered by copyright protections that your organisation has obtained? If so, digitise. If not, do you have reason to believe that you will be unable to obtain a license to use the materials? If yes, don't digitise until you have obtained		

copyrights or licenses/permissions.		
Privacy Rights: Does the material contain images of living individuals for which you have release forms (particularly for oral and video histories, medical records, personnel records, psychiatric counselling records, or photographs in which the individual is recognisable)? If yes, digitise. If no, do you have reason to believe you can't locate these individuals to obtain permissions or that they won't grant permissions? If yes, don't digitise unless and until you have the permissions.		
Publicity Rights: Does your country have a publicity law? If yes, does your material include images or recordings of famous individuals such as motion picture or recording stars, scientists, artists, or authors, living or dead? If yes, do you have permissions or licenses to use the images from the individuals or their estates? If yes, digitise. If no, don't digitise until you have permission or licenses.		
Sensitivity: Does the candidate material contain sensitive information, such as locations of sacred sites, burials, endangered species, fossils, threatened cultural resources or subsistence food gathering sites, or do the materials nominated present an unbalanced point of view or lack counterpoint perspectives? If so, are the project schedule and staffing adequate to seek consultations and permission-gathering activities from those groups affected and to consult with scholars of various viewpoints? If not, don't digitise the materials or digitise only materials that the committee is fully equipped to evaluate and put into context. Involve stakeholders on the Selection Committee or project staff.		

Evidential Value: Is the primary value of the materials evidential, or as legal or historical proof of an action or event? Does the material also have substantial informational and/or associational content of interest to a key audience? If so, digitise. If not, will translating the item from the analogue realm to the digital realm so erode the value of the item that it will no longer serve its primary purpose? If so, or if the value is seriously eroded or there is no audience, don't digitise.		
Authenticity: Is the item to be digitised authentic and not faked, forged, or altered substantially? If so, digitise. If not, will digitising the material lend a false authenticity to an inauthentic document or object? Is it impossible to correct the misconceptions through careful contextual documentation, captioning, and metadata? If so, don't digitise. Note: If the project involves substantial altering or retouching of a visual work for purposes other than parody or satire in potential violation of the Visual Artists' Rights Act, don't digitise the materials.		
Visual Accuracy: Will the proposed scanning technique be able to capture the appearance of the item accurately? If so, digitise. If not, can the project move to a more sophisticated scanning technique such as colour scanning to capture the information? If you can't capture the image accurately, don't digitise the materials		
Documentation: Are the candidate materials well captioned? If so, digitise. If wrongly, poorly, or incompletely captioned, described, and labelled, are the project staffing and budget adequate to provide good documentation within the project timeline? If not, don't digitise the materials.		

Contextualisation: Does the candidate material require substantial research and a sophisticated and expensive context in order to be useful? If so, can the project provide this context? If so, digitise. If not, will the ability to view the materials serially, but not side-by-side, decrease the value of the files to the audience significantly? If so, can the project provide a way to view materials side-by-side? If not, are there other items within the collection that can be selected instead on this topic? If the files are to be used, must a whole archaeological dig be reconstructed or must an archival finding aid be placed in the Encoded Archival Description (EAD) format or an equivalent effort? If so, are the project staffing and budget adequate to produce this contextualised treatment? If you can't provide the necessary context and the context is judged essential by the Selection Committee, don't digitise		
Added Value: Are the materials both valuable and available for the first time? If so, digitise. Does the project add value to candidate materials? If so, digitise. Does the project simply repeat work already in existence in an analogue or paper publication? If so, can the project be reworked so as to add value to the materials by improving access by creating: new audiences for rare or unique materials currently accessible to only a few? Links to separated materials via HTML, SGML, or XML coding? virtual collections of materials by the same creator; in the same process, media, technique, or format; or other linkage that are otherwise physically separated in real life on a single Web site or CD-ROM? new indices and finding aids that is electronically searchable? new search ability through post-scan processing via OCR or rekeying so textual files is fully searchable? new ways to analyse the originals by techniques, such as		

microscopic scans, 3-D scans, or similar techniques? usable files for research when the originals are too stained, deteriorated, or damaged for use by retouching or other treatment? If not, is the project staffing expertise and budget currently adequate to producing this new treatment of the material? If not, don't digitise the material until the digitisation provides some added value.		
Audience: Is the expected new audience for the digital images the same as the existing audience for the originals? If so, will the repository consider re-contextualising the digital product to reach a broader audience? If so, digitise. Will the digital project help reach the same audience more effectively? If not, don't digitise the materials.		
Supplementary Selection Criteria: Has the audience set up supplementary evaluation criteria that must be factored into the evaluation process, such as the Teacher Usefulness Criteria developed for the Library of Congress? (EDC) Does this selection accommodate these additional criteria? If so, digitise; if not, don't digitise		
Technology: Does the expected project audience require complex or sophisticated scanning techniques and viewing equipment to use the digitised images as envisioned? If so, is it likely that a sufficient percentage of the audience has this level of viewing technology? If not, replan the project. If so, will textual materials digitised require post scan processing, such as OCR processing or rekeying? Do images require retouching, very high resolution copying, colour capture, or extensive coding to maintain linkages and hierarchies? If so, can the work be done within the project budget and timeline, using the project staff? If not, don't digitise		

Condition: Are the candidate items either in stable condition or available as duplicates or copies for use in digitisation? If so, digitise. If not, are the candidate items so deteriorated or at risk that it would be difficult or damaging to originals to digitise or copy them? For example, is there a need to disbind a unique scrapbook or rare book, remove items from frames and mats, or place pressure on a cockled and brittle image? If so, is stabilising the originals too expensive and time consuming to do within the scope of the project budget and timeline? If so, don't digitise.		
Control: Are the original items accessioned, described, and placed in secure storage? If so, digitise. If not, would digitising them place the originals at risk by alerting potential thieves of valuable and vulnerable originals? If so, don't digitise.		
Duplication of Effort: Have you checked to see if the items have already been duplicated well elsewhere? If not well duplicated elsewhere, digitise. If digitised elsewhere, is the digital copy made of adequate quality? If so, obtain a copy from the other source and don't digitise the materials.		
Accessibility: Are the candidate items inaccessible, such as in cold storage? If so, digitise. If already easily accessible in multiple locations such as through widely distributed microfilm copies or in many published exhibition catalogues is there some special reason why digital copies are necessary? If not, don't digitise.		
Project: Are the candidate items given priority due to some thematic, cooperative, or grant funding priority? If so, do these priorities fit the institutional mission and collecting		

statements? If so, digitise. If not, don't digitise.		
Accumulation: Is the candidate material a grouped and linked body of materials that draw additional value by being related to other materials held by the repository? Are they already digitised, already selected for digitisation, or related to materials already well digitised by other organisations? If so digitise. If a single item and the effort are not for public relations alone or in response to E-FOIA, or are a request by a stakeholder, don't digitise.		

Table 4: Digitisation evaluation checklist - Diane Vogt-O'Connor, 1992.

Legal status

As has been discussed in Chapter 3, one of the largest concerns of new digitisation initiatives is the protection of the institution's intellectual property. Institutions intending to embark upon a digitisation project need to be aware at the outset that they must investigate the copyright situation involved for each item that they intend to scan and the legal position affecting access by users to the images that will be created by the project. This will affect the service delivery to the end user, especially if the institution intends to develop a business plan to market the images as a cost-recovery exercise. Institutions also need to consider the issues involved in ensuring the authenticity of the digital images created if they are to serve as surrogates for the original source materials.

Copyright

Copyright means that an author's right to original work of literature, music and art is legally protected. The time span for copyright depends on when the work was created and can differ between countries (see full discussion, Chapter 3). Copyright gives the owner an exclusive right of disposition over his or her work. Transfer of copyright

must be made in written form and signed by the owner of the copyright. When items to be digitised are in the public domain scanning institutions owns reproduction rights (Besser, 2003).

Copyright has also a moral element that gives the owner the right to be mentioned, for example when the work is published, and should prevent the work from being changed or corrupted. In developing a set of guidelines technical solutions for digital rights management must be considered.

Authenticity

An authentic image is what it claims to be, free from manipulation or corruption. There are three different kinds of methods in use to prevent or detect unauthorised changes in digital files. Digital signatures and digital seals, built on cryptography technology, and so called “watermarks” placed inside the images as identifiers are some techniques of ensuring the integrity of the digital file.

Watermarks: what works and what doesn’t

There are two types of watermarks currently in use for digital image files; visible and electronic (see discussion in Chapter 3, and responses to question 10 of the institutional Survey, Chapter 5).

Visible watermarks are applied on top of the image, very much as a seal is applied to an official document. Often these watermarks are the name of the institution who owns the file, that institution’s official seal, or some other identifying logo. In most cases a visible watermark is applied to surrogate files for use on the internet in image manipulation software packages like Adobe Photoshop. This step can be performed as part of a batch process to save time. In all cases, visible watermarks cover a portion of the image file.

Visible watermarks do not prevent users from downloading files; however, they can be difficult to remove depending on the complexity, size, and colour value of the design. The biggest drawback to visible watermarks is the obscuring of parts of the image, making use of that image file less appealing to some researchers.

Unlike visible watermarks, electronic watermarks are imbedded in the image file and they are invisible (e.g. digimarc). They are usually a numeric code licensed by an electronic watermarking firm. The numeric code is specific to the institution that owns the files. Electronic watermarks are usually applied as part of the filter mechanism in programs like Adobe Photoshop. In some cases, upon very close inspection, the file will appear grainy after an electronic watermark is applied. This phenomenon is difficult to see, however, without comparing the watermarked file to the original.

Electronic watermarks do not stop users from downloading files and they can be easily overcome through manipulation. For example, if a digital file holding a watermark is posted online at 300ppi, see page 88 (Section 4.6) for explanation of this term a user can quite easily download the file; open it into Photoshop, drop the resolution to 72ppi and enough of the watermark information is removed to make it no longer detectable.

This problem is resolved by posted watermarked images at low resolutions. The advantage to using watermarks, visible or electronic, is that the institution is making a concerted effort to identify the image files as property of that institution. Watermarks do not prevent theft, but they do help prove the intent of the institution to protect its collections (TASI, 2002).

Intellectual property management

The high costs involved in digitisation necessitate cost recovery by the institution in the form of a small compensation fee, similar to a photocopying service. Most institutions offering a digital imaging service have developed self-sustaining

operations based on licensing the use of images for which intellectual property rights are held by the institution.

Implementation steps can be identified as follows.

- Investigate the legal position in relation to making digital copies of the relevant source materials as the very first stage of the digital imaging project.
- Take steps to prevent unauthorised changes in the digital files created during the project.
- Put in place a clear policy on access to and use of images within the completed digital project including, if appropriate, provision of copyright disclaimer forms (see end of this chapter for draft policies for digital imaging services and copyright notification). The following illustration is an example of a copyright notice as it appears on the Campbell Collections website (http://khozi2.nu.ac.za).

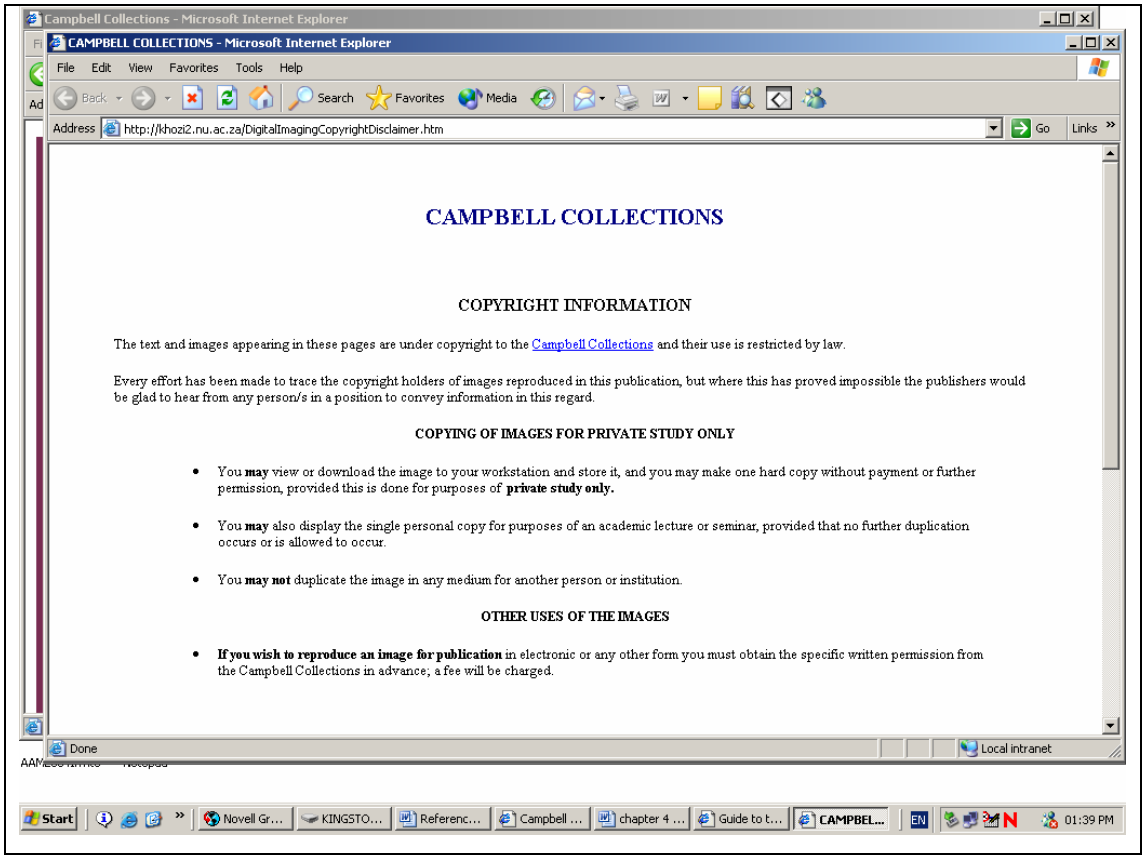

Figure 3: Example of a disclaimer notice

Questions to consider with regard to funding

- Have you secured a funding source for this project?
- Have you considered local, state, national, philanthropic, or collaborative sources?
- What parts of the project will funding support? (Physical resources, hardware, software, networked access, personnel, dedicated space, vendor services, etc.
- What about plans for maintaining access into the future (ongoing costs)? Is there a long-term institutional commitment to this project?

4.4. Project planning

While setting goals represents the thinking or brainstorming of the first phase of a project, the second phase is the planning phase, and the time invested in writing planning documents will pay off during the production and implementation phase of providing a digital imaging service. These planning documents, such as job descriptions, procedures manuals or instruction sheets for selection, handling, scanning, metadata creation and quality control, flowcharts or other workflow diagrams, data element list, a plan of work and project budget, can also serve as guidelines for other institutions planning digital conversion.

Several elements are essential to the plan of work

Who will do the work?

Digitisation projects require a combination of skills from a variety of staff with different areas of expertise. The following areas identify skills that may be important to any digitisation project.

Project management skills

- Knowledge of cataloguing, and metadata schema.
- Familiarity with conservation methods
- Understanding of photographic techniques and methods

- Subject matter specialists (curators, archivists, scholars, librarians, academic staff)

Database development and administration skills

- Computer programming skills
- Web design and development skills
- Artistic/graphic design skills

Identify the team that will be required to complete the project. Digitisation projects generally require the services of many different departments and / or individuals, whose availability should be considered when planning the project timeline and workflow. Administration, technical services staff, cataloguing specialists, the information technology department, subject specialists, curators, librarians, preservation/conservation staff, academic staff, and others may all be involved in the digitisation of a collection.

Sample project staff and their roles:

- Project manager
- Selector, Conservator, Preparations Technician
- Cataloguer, Metadata Analyst
- Scanning Technician or Photographer, Quality Control Technician
- Programmer or other Database Developer to integrate metadata and images
- Systems Administrator, Network Administrator
- User Interface Developer or Designer (WSDSG, 2005: 15)

What is your time frame?

This is an important consideration, especially for grant-funded projects. As a rule, everything usually takes longer than you plan for. It is helpful to breakdown the project schedule into proposed duration, with milestones and expected completion dates.

Costs

It is advisable to consult established projects for guidance on the relative cost of various procedures is e.g. HEDS. There is also a detailed review in *DigiNews* by Steven Puglia, of the national Archives and Records Administration (UKOLN. *The Digitisation process,* 2004: 3).

Selecting scanners

Choosing the equipment for scanning your originals will depend largely on the characteristics of the collection: in general terms, photographic materials are usually scanned on a flatbed scanner while bound volumes and oversize flat materials such as maps and plans require a digital camera or an overhead scanner.

Generally make sure that your requirements match the capability of the scanner(s) that you buy. Look carefully at the resolution the scanner is capable of: the scanner will often be listed with a maximum optical resolution and an interpolated or software resolution. The optical resolution is the figure to look out for: interpolated resolution uses software to “guess” the values of pixels that are between those that the scanner can optically register.

The purchase of a scanner will have the greatest impact on quality of images for the majority of digitisation projects. The choice of scanner for your project will depend on numerous factors including overall project goals, format, size, and condition of materials to be scanned and available budget. Several technical factors will also influence your purchase including available optical resolution, bit depth, size of scan area, speed, connectivity, and ability to handle different formats and materials in your collection (DISA, 2005).

Scanner recommendations:

- Before a scanner is bought, vendors should be required to deliver measurable digital results from relevant image quality evaluation tests. The issues of main concern in performance are: spatial resolution, tonal reproduction, colour reproduction, noise, and artefacts detection.
- The dynamic range of the scanner is important: it describes the tonal density of the information that the scanner will be able to capture and, generally speaking, the higher this is the better, particularly for dense originals such as photographic prints and transparencies (UKOLN, 2004: 4).

The importance of scanners cannot be over-emphasised in this discussion. A good flatbed scanner is often the keystone of a photographic scanning unit.

Production-level flatbed scanners usually have either an A4 or an A3 sized scanning area. In order to choose a flatbed scanner, you need to know what size your originals are, whether they are reflective (i.e. light is bounced off them to capture the image, as in photograph prints) or transmissive (light is passed through the original to capture the image, as in transparencies) the resolution and bit depth you will be capturing and the volume of the work (UKOLN, 2004: 4).

Workspace

Providing a comfortable, safe, and secure workspace for a digitisation project can increase productivity and quality of images by reducing operator fatigue and potential damage to collections. Proper climate control and security are important if collections are likely to stay in the lab for extended periods of time. A workspace for digitisation should offer a controlled lighting source to maintain consistency and quality of images. Changes in room lighting can affect how images are represented on computer monitors and may introduce challenges to accurate calibration.

Projects considering outsourcing digitisation are recommended to visit vendor facilities to ensure that the workspaces provided meet the criteria above.

Quality control

A consistent quality control review process is an important component at every stage of a digital imaging project. Without this activity it will not be possible to guarantee the integrity and consistency of the image files. Steps need to be taken to minimise variations between different operators as well as between the different scanning devices in use. Scanners must also be regularly controlled to verify accuracy and quality. A quality control program is needed both for in-house and out-sourced projects see also, (WSDSG, 2003: 24).

In-house or outsource to vendor?

Every organisation should carefully consider the pros and cons of outsourcing digitisation projects or conducting them in-house. The following are some points to consider for both strategies.

In-house pros:

- Setting up a digitisation unit gives the institution the value of equipment and trained staff for future projects.
- The handling and storage of originals can be closely controlled.
- Requirements for image quality, access, and scanning can be adjusted as you go, instead of defined up front
- Direct participation in development of image collections that best suit your organisation and users
- The experience gained by doing projects in-house helps organisations understand the overhead not only in creating digital collection, but also in maintaining and delivering them.

In-house cons:

- Requires large initial and ongoing financial investment in equipment and staff
- Longer time needed to implement imaging process and technical infrastructure
- Limited production level
- Staffing expertise not always available

- Institution must accept costs for network downtime, equipment failure, training of staff, etc.
- Need to enforce standards and best practices

Outsourcing pros:

- Pay for cost of scanning the image only, not equipment or staffing
- High production levels On-site expertise
- Less risk
- Vendor absorbs costs of technology obsolescence, failure, downtime, etc.

***Outsourcing cons*:**

- Organisation has less control over imaging process, quality control
- Complex contractual process: image specifications must be clearly defined up front, solutions to problems must be negotiated, communication must be open, and problems must be accommodated
- Vendors may know more than their clients or may presume a level of understanding on part of library/museum/archives that they may not have
- Lack of standards with which to negotiate services and to measure quality against
- Originals must be transported, shipped, and then also handled by vendor staff
- Possible inexperience of vendor with library/archival/museum/historical society communities.

Both approaches have their merits but there are certain situations where the choices are clear-cut.

Metadata definition and management

The creation of quality metadata is a key component for the responsible management and long term preservation of the digital files produced by your project. Metadata is the term used to describe traditional descriptive cataloguing applied to digital files in addition to information needed to retrieve, access, and manage those files. Frequently

metadata creation begins with pre-existing descriptive cataloguing, finding aids, or accession records that are extended by adding information about the digital files.

There is no one standard for metadata creation that meets all the needs of all types of collections and repositories, however most common metadata schemes include the following sets of information which are useful in the management process.

Descriptive Metadata

Is about the content and form of the digital asset to enable search and retrieval.

Administrative Metadata

Metadata that includes information about ownership and rights management.

Structural Metadata

Structural metadata records information about the internal structure and relationship of resources to facilitate their navigation and presentation.

Technical Metadata

Technical Meta is data that describes the features of the digital file, such as resolution, pixel dimensions, compression, etc (NINCH, 2002: 13).

What kind of standard information are you going to record?

The starting point for the metadata in all digital projects is the catalogue data. The nature, amount, and quality of the catalogue data vary with the collection. Very often, the existing catalogue data are enhanced with additional data created as part of the project. In some cases, links lead to a finding aid encoded in EAD or to a collection-level record for a particular digitisation project. Records for individual items are then stored in local databases developed in a variety of packages, including Filemaker Pro, Access, Informix, and SQL Server. Controlled vocabularies are used as in conventional indexing.

Information about the original object, the digital object, technical details, administrative information, and preservation-related information is captured at various points during and after the digitisation process. The information is usually stored in the image file header and/or local systems.

Whichever software you have determined to use, you need to decide what kind of information you are going to record, and what your cataloguing standards are going to be.

Recording the information about the images will most likely be done in either a simple commercial database or a spreadsheet. Then these records will be converted to text files for viewing with the images on the World Wide Web.

Before you begin your project, it is important to determine the set of descriptive fields you will use and to control the terms you will put into each of those fields. You will also need to establish regular quality control checks of this information throughout the project.

There are certain pieces of identifying information such as “Name” and “Date” which will, of course, be necessary to record, but it is also important to record technical information about the scan itself, such as "Scan Date" and "Resolution". This information may not necessarily be viewed with the images on the Web, but this information will be important for future viewing of the image (e.g. colour management systems will need some of this information). See Figure 4 (below) for an illustration of data capture using the software program, Access.

It is also important to create a unique catalogue number for each image, which should be entered into the database as well. This should either be done automatically within software or manually by the operator at the time of capture. It is bad practice to go back and do it at a later date as people are likely to forget and data will then be lost forever.

The following fields must be included in the cataloguing.

- Cataloguing information about the original object, as available (i.e. Title, Creator, Date, Original Location of object, Medium).

- Indexing information as needed. Indexing consists of creating a list of keywords which are used to identify the object in a variety of ways, in order to have the image database become searchable by keyword. For instance, keywords for a painting of a river may be "bridge", "Thames River", "boat", or "impressionism". These standards should be determined by either the project coordinator or curator, depending on the needs of the project.
- Date Scanned
- Resolution Scanned at
- Type of Scanner
- Initials of Scanning personnel

Figure 4: Access data capture

Back-up, disaster recovery, and security copies

Back-up procedures and disaster recovery plans should be in place with specified provision for the imaging system and should be considered during the planning and selection process. Detailed information on back-ups and disaster recovery should be obtained from vendors. It is preferred that security copies be stored off-site in an area with stable environmental conditions and with adherence to the manufacturer's specification for the storage of the media.

4.5. Preservation

Digital Preservation

The key to digital preservation is the establishment of a managed environment. It will be absolutely necessary to develop a strategy for ensuring long-term access to, and preservation of, assets. This will require choosing a combination of tactics, such as documentation, redundant storage, refreshing, migration, emulation, and resource sharing, that best suits the institution and its resource limitations, such as storage capacity.

The primary preservation strategy is to practise standards-driven imaging. This means, first, creating digital image collections in standard file formats at a high enough quality to be worth preserving, and second, that sufficient documentation is captured to ensure that the images will continue to be usable, meaning that all necessary metadata are recorded in standard data structures and formats.

The secondary preservation strategy is redundant storage: images and metadata should be copied as soon after they are created as is practicable. Multiple copies of assets should be stored on different media, most commonly, hard disks; magnetic tape, used for most automatic backup procedures; and optical media such as CD-ROMs and in separate geographic locations. One of the most common causes of data loss is fire or water damage to storage devices in local mishaps or disasters. All media should be kept in secure archival conditions, with appropriate humidity, light, and temperature controls, in order to prolong their viable existence; additionally, all networked information should be protected by security protocols.

Migration, the periodic updating of files by resaving them in new formats so they can be read by new software, is where preservation starts to become more problematic. Reformatting allows files to continue to be read after their original format becomes defunct, but it involves transforming or changing the original data, and continued transformation risks introducing unacceptable information loss, corruption, and possible loss of functionality.

Emulation takes the alternative approach of using software to simulate an original computer environment so that "old" files can be read correctly, presuming that their bit streams have been preserved. Emulation is a common practice in contemporary operating systems

In reality, no one yet knows what the best preservation strategy or combination of strategies will be. Whichever is chosen, it will be necessary to run regular—annual or biannual—checks on data integrity and media stability and to be prepared to enter into a migration program within five or so years?

Preservation issues in digitising historical photographs

The European Commission on Preservations and Access (ECPA) has set up the SEPIA project (Safeguarding European Photographic Images for Access) which is funded by the European Union to investigate ways of safeguarding photographic collections and this project provides guidelines on the preservation issues in digitising historical photographs. The SEPIA project aims to point to a few of the numerous preservation issues in digitization of photographs and offers practical advice about capturing devices, the effects of light and heat generated by the scanners during the process of the digital scanning of a photograph, digital cameras and some basic advice in choosing imaging devices.

Digitisation of photographs has quickly become common practice in a great many institutions. While the intricacies of intellectual property rights have been discussed earlier, digitisation provides an excellent opportunity to disseminate historical images widely and greatly increases access to collections. However, during the digitisation process and in choosing equipment, some practical aspects should be observed to prevent damage to the originals and to ensure that preservation requirements are met.

Analyse and select the material you wish to scan. Be aware of the problems attached to certain types of material and the difficulty of identifying photographic processes correctly. A specialist photographic conservator can be called upon to advise you. The decision to use a scanner or a camera should be guided by the material to be digitised.

In general, a scanner will not cause physical stress to an original. However, if the photograph is in poor condition, or if it concerns materials of large format or if relief surfaces are involved, a digital camera should be used instead of a flatbed scanner. Cameras have the advantage of not coming into direct contact with the material.

An alternative approach is first to make a photographic copy with a traditional camera which is then used as an intermediate for scanning. This is also advisable when there is a risk that the original will have to be re-scanned several times. The photographic intermediate can, if properly stored, also serve as a long-term reference copy. For instance, with the use of 70 mm roll film, negatives of good quality can be made that can be processed rapidly by a film scanner.

Consider carefully whether it is worthwhile to invest in expensive equipment. The more sophisticated the equipment, the more expertise is required to achieve optimal results. It may be necessary to hire professionals or invest heavily in the training of staff to get the most out of an advanced imaging device. Outsourcing can be a more economical option for the imaging process itself (as opposed to selection and preparation, or providing descriptions and metadata). It may also result in greater flexibility if a vendor can offer a variety of technical solutions. Sometimes it is possible to let a vendor do the imaging on-site or to rent equipment.

About capturing devices

- Flatbed scanners are the most frequently used device for digitising historical photographs. Flatbed scanners can be found in a wide price range and in most cases can safely be used to digitise photographic materials, both transparent and reflexive, with fairly good results.

- Overhead scanners are specialised flatbed scanners which light the object from an overhead arm above the object. The advantage from a preservation point of view is that the object does not come into direct contact with either the glass or the lid of the scanner. Overhead scanners are specialist, professional devices that are mostly used for scanning bound books.
- Drum scanners are mainly used in pre-press and graphics studios for large-format, high-quality commercial photographs; they can produce images of superb quality. However, they are also very expensive, and there are serious preservation issues associated with their use for historical materials because of the use of liquids in mounting originals (which is done to achieve optimal quality).
- (Micro) film scanners and slide scanners have been developed specifically for transparencies, particularly roll film, which can be processed relatively quickly with very good results. As they cannot be used for all materials, they may be a less attractive choice for a historical collection containing a variety of formats. A preservation argument discouraging the use of film scanners is the risk of too much pressure on older roll film. In general, the use of any device where the film is moved through the scanner poses risks in terms of preservation. Film scanners are also on average still more expensive than flatbed scanners.
- Digital cameras (or cameras with digital backs) are gaining ground as technology develops and prices go down. When a digital camera is used, the object is lighted with lamps as in conventional studio photography, and the light and heat generated by the lamps may be a preservation concern. An advantage of digital cameras is that materials do not come into direct contact with the equipment, which makes them a good choice for digitisation of mounted materials or materials with relief surfaces. The *Thomas Baines and the "Great Map": route of the Goldfields Explorations Company's Expeditions 1869-1872* manuscript map of 1872, which is owned by the Campbell Collections was made accessible to scholars and the general public alike on a CD-ROM. (Stiebel et al. 2001). By virtue of its very large size a digital camera was used to reproduced the map in digital form. The digital

camera is high tech equipment that requires skill and knowledge and is not as "user friendly" as the flatbed scanner.

As flatbed scanners are at the moment the scanning device most frequently used, these guidelines focus on the specific preservation problems associated with their use. However some advice relates to digital cameras as an alternative.

From the perspective of conservation, the level of light is a critical concern when digitising directly from originals. Direct digital capture setups require approximately four times more light than traditional photography. Using customised setups or different lighting solutions, or both, can solve problems caused by excessive levels of light. For example, halogen light produces a great amount of heat and thus is potentially problematic. The following is a brief discussion on the effects of light and heat generated by the scanners during the process of the digital scanning of a photograph.

- **Light**
  The light sources in scanners are usually either halogen bulbs or cold cathode tubes (fluorescent tubes). Research shows that, because of the short exposure time and the relatively low amount of ultra violet (UV) light, scanning does not usually pose a threat to most photographic materials. Also, as the light moves over the material, at each moment during the actual scanning only a small section of the material is lit.
- **Heat**
  The scanner's mechanism and light source will produce additional heat, resulting in a drop in relative humidity (RH). The temperature on the glass bed may increase to around 40° C, and detrimental effects may be observed if the heat acts as a desiccant on the photograph and causes physical stress. Effects of heat and temperature stress that may typically be observed at this temperature include: changes in the wax on waxed paper negatives; curling of emulsions/film bases; layers starting to separate; and the shrinking of film base.

- **Exposure time**

  Remember that by setting a higher scanning resolution, the exposure time to the light of the scanner can become considerably longer. Be aware that older scanners may make consecutive scans to produce a colour image. Modern scanners will usually make a pre-scan and even a calibration scan prior to the final scan. This increases the exposure to light and heat.

To be on the safe side, minimise the time an item is placed on the glass bed of the scanner.

Digital cameras

With a digital camera lamps are used to light the object, and the light and the heat generated by the lamps (rather than by the imaging device) need to be monitored. The light can be more intensive and the exposure time will be longer as the whole object is lit for a certain period of time (whereas with flatbed scanners the light moves, with only a minimal part of the surface being exposed at every specific moment). Therefore, when lighting objects for imaging with digital cameras, strobes or cold cathode tube fixtures should be used. These should not be too close to the object, and light should be blocked off from the object itself until the actual moment of capturing. The heat of the lamps may dry out materials and cause temperature stress. The time that the object is kept in the lighted area should therefore be limited to a minimum.

Whether a digital camera or a scanner is used, in the working area heat will inevitably build up in the course of a working day; ambient conditions should therefore be monitored at all times.

Basic advice for choosing imaging devices.

- Most scanners meet basic requirements from the point of view of preservation. Therefore, in planning to buy a scanner, it is usually justified to focus on aspects of performance and go for the one that best meets your demands for quality, speed, depth of field, etc.

- Given the cost of specialised high-quality equipment and the skills required for operating it, for small projects outsourcing may be a viable alternative.
- In choosing the equipment, consult the literature on quality and targets and carefully study the specifications of the equipment.
- Remember to check whether the software that comes with the device is sufficient for your needs. The importance of good software in the digitisation process is often underestimated.
- Do not buy your equipment in a shop around the corner. Use a vendor that supplies professional photographers and offers good service.
- Preferably buy all equipment from the same vendor so you can rely on them to make sure everything works together.
- Make sure to test equipment and software extensively using your own materials before you take any decisions about what to buy. Consider asking colleagues about their experiences.
- Do not use an automatic feeder as there is a high risk of materials getting stuck, wrinkled or torn.
- The speed of a scanner may be an important consideration not only terms of efficient workflow, but also in terms of preservation: with a slow scanner material will be exposed to heat on the glass bed for a longer time.

Some scanners have hardware for scanning installed in the lid; because such lids can be heavy, they may cause damage to materials (SEPIA, 2000)

4.6. Project implementation: managing the workflow

Digital imaging guidelines

The following guideline identifies the technical requirements for digital imaging of photographs and discusses and makes recommendations for developing best practices

for capture, and workflow considerations to be followed at each stage of managing the process of digital imaging.

Technical overview of analogue to digital conversion

Spatial resolution

A common definition of spatial resolution is the ability to capture and reproduce spatial details

Ppi, dpi, and lpi are all abbreviations used to describe resolution. They may be defined as follows:

ppi (pixels per inch) refers to on-screen or digital resolution and should be used by those who are creating the image files. The most common screen resolution is 72 ppi.

dpi (dots per inch) should be used when talking about printers that refer to "d" as a printing dot (e.g., ink jet printers, laser printers). For example, many colour ink jet printers have a resolvable resolution of 300 dpi. To optimally reproduce an image, the resolution of the scan should be 300 ppi. Note that some scanners still use the term dpi to indicate scan resolution.

lpi (lines per inch) should be used when talking about printing (offset, gravure) in which "l" describes the lines of the halftone screen. For example, many museum publications are printed with halftone screens of up to 200 lpi. To optimally reproduce an image at 200 lpi, the digital file should have a ppi resolution of 1.5 to 2 times the screen frequency (i.e., 300-400 ppi).

While dots per inch (dpi) should normally only be used for printers, for input resolution, (i.e. scanners and digital cameras) and on-screen resolution (i.e. monitors) pixels per inch (ppi) normally should be used. A pixel is in general a much smaller physical unit than a dot. When a scanner’s specifications reflect that it has a maximum resolution of, for example 600 dpi, it means in practice that the scanner optically samples a maximum 600 pixels per inch (ppi).

Tonal reproduction

Tonal reproduction is the single most important parameter for determining the quality of an image of all image quality metrics. In practice tonal reproduction determines how dark or light an image is as well as its contrast.

Colour reproduction

The main challenge in digitisation of coloured source documents is to reproduce them with maintained colour representation on screen or on printouts.

There are several colour models for defining the properties of the colour spectrum. The most used are RGB (red, green and blue) and CMYK. The CMYK model is based on cyan, magenta, yellow and black. Printing and photographic systems are built on the CMYK model which is also called subtractive. RGB and is the model used by monitors and scanners.

Each of these three colours is defined as a colour channel, and on a 24-bit monitor each channel has 8 bits representing 256 shades.

Examples of targets in use for colour and grey scale.

- Kodak colour separation guide and gray scale (Q13 and Q14)
- Kodak Q-60 colour input target (IT8)
- RIT process ink garmut chart

Master Image File

A master file is an uncompressed and unedited version of the image. A master file version is created for archival purposes. It serves as long term source for derivate files. It can serve as a surrogate for the original image. It is of a high quality and a very large file size. The master file is used for creating high quality print reproductions, which are usually stored in the TIFF format. A 600 dpi image resolution is generally accepted as standard (see DISA and Indiana policies later in this chapter).

Good digital imaging projects scan a high-quality “master” or archival image and then derive multiple versions in smaller sizes or alternative formats for a variety of uses.

There are compelling preservation, access, and economic reasons for creating an archival-quality digital master image: it provides an information-rich, unedited, research quality surrogate, and ensures rescanning will not be necessary in the future. A high-quality master image will make the investment in the image capture process worthwhile. Since user expectations and technology change over time, a digital master must be available and rich enough to accommodate future needs and applications**.** The master image should be the highest quality you can afford; it should not be edited or processed for any specific output; and it should be uncompressed. Intensive quality control should be applied in creating master image files.

Derivative Image Files

Derivative files or access files are created from the master digital image, and are used in place of the master file, usually for general Internet or network access. It is compressed for speed of access and is usually stored in JPEG file format.
Derivative files typically include an **access image**, which is sized to fit within the screen of an average monitor or other delivery mechanism and a **thumbnail image**, which is small enough to load quickly and linked to the larger access image. With the proper image editing software it is not necessary to subject source materials to multiple scans as derivative files can be created from the high quality master images. Control over the distribution of master and derivative image files, from the point of view of copyright control, has been discussed in Chapter 3.

The thumbnail version

A thumbnail version is a very small image usually presented with the bibliographic record. It is designed to display quickly online and it allows the user to determine whether they want to view or access the image. It is usually stored in GIF or JPEG file formats and is unsuitable for printing. Thumbnail versions are not suitable for images consisting primarily of text, musical scores, etc (see Figure 6 and Figure 7 below).

File Naming Conventions

Systematic file naming is important for system compatibility, interoperability, and to demonstrate ownership of the digital asset. General practice indicates using a convention with an eight-character file name with a three-character extension to accommodate different systems; the characters are alpha-numeric, lowercase, and do not utilise spaces, tabs, or any characters reserved for system use (i.e. \ / ? * |, etc.).

The first two or three characters can be an alphabetical unit-specific identification and the remaining characters a numeric digital object identifier. For example: a01-07.tif (Album 01-image number 07, TIFF).

The Western States Digitization Program recommends the following general principles for scanning digital images (WSDSG, 2003).

- Scan at the highest resolution appropriate to the nature of the source material
- Scan at an appropriate level of quality to avoid rescanning and re-handling of the originals in the future, the policy should be scan once
- Create and store a master image file that can be used to produce derivative image files and serve a variety of current and future user needs
- Use system components that are non-proprietary
- Use image file formats and compression techniques that conform to standards within the cultural heritage community
- Create backup copies of all files on a stable medium
- Create meaningful metadata for image files or collections
- Store media in an appropriate environment
- Monitor and recopy data as necessary
- Document a migration strategy for transferring data across generations of technology
- Anticipate and plan for future technological developments

Quality Control Workflow

A quality control program should be conducted throughout all phases of the digital conversion process. Images should be inspected while viewing at a 1:1 pixel ratio or at 100% magnification or higher.

Quality is evaluated both subjectively by project staff (scanner operator, image editors, etc.) through visual inspection and objectively in the imaging software, such as using targets, histograms, etc.

Conditions to detect during visual inspection may include the following.

- Image not the correct size
- Image not the correct resolution
- File name is incorrect
- File format is incorrect
- Image is in incorrect mode (i.e., colour image has been scaled as greyscale)
- Loss of detail in highlight or shadows
- Excessive noise especially in dark areas or shadows
- Overall too light or too dark
- Uneven tonal values or flare
- Lack of sharpness/Excessive sharpening
- Pixellated
- Presence of digital artefacts (such as very regular, straight lines across picture)
- Moiré patterns (wavy lines or swirls, usually found in areas where there are repeated patterns, such as half-tone dots)
- Image not cropped
- Image not rotated or is reversed
- Image skewed or not centred
- Incorrect colour balance
- Image dull or no tonal variation
- Negative curve in the Look-Up Table
- Clipping black and white values (in histogram).

Recommend methods for on-screen evaluation.

- Use targets to evaluate greyscale and colour reproduction.
- Use resolution targets and histograms to evaluate spatial resolution and tonal reproduction.
- Use signal to-noise measurement and artefact detection tools.

Recommended methods for print-out evaluation.

- Examine by human eye hard copies created from the images to see if they fit the quality requirements
- Compare the print-outs with the source documents

One of the best examples of an imaging Quality Control and Access system (QC&A) system is that of the Genealogical Society of Utah (2001), (http://www.gensocietyofutah.org/technologies.asp). Quality control and assurance of the images is an integrated part of the GSU capture system and uses software specially developed for the programs. The volunteers examine each image and reject for skew, readability and colour balance. If rejected, the image will be recaptured and noted in the log file for re-indexing (NINCH, 2002: 4).

Image capture and archiving workflow

Figure 5 below, shows the workflow for a process of capturing and archiving images, developed by Ross (1999), (NINCH)This diagram illustrates that the digital assets management process can consist of many steps, requiring a variety of processes and possibly a number of different tools and skills (NINCH, 2002 : 5).

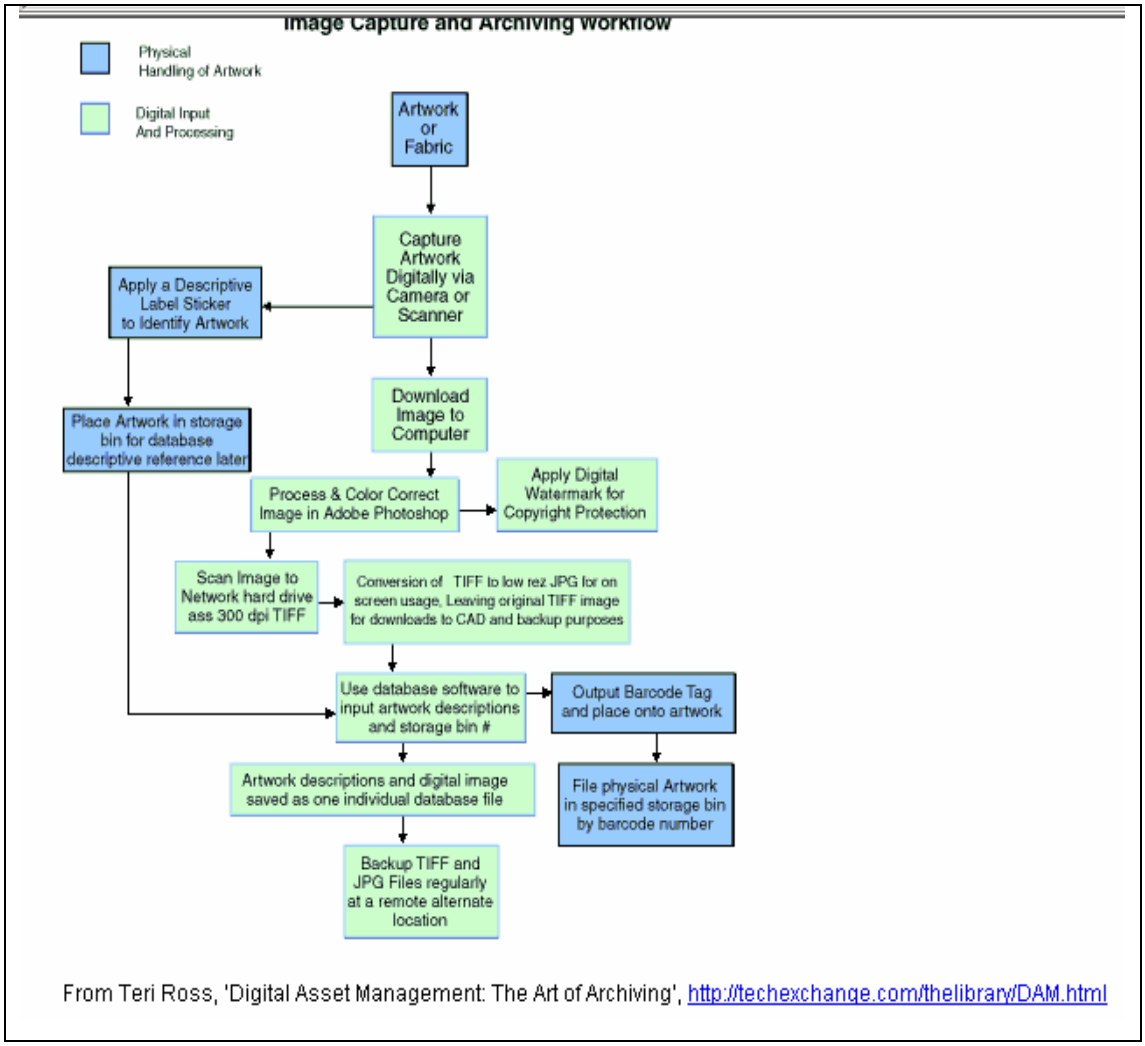

Figure 5: Workflow for a process of capturing and archiving images (Ross: 1999).

4.7. Digitisation at The Campbell Collections

Background

Digitisation projects at the Campbell Collections have been developed for the conversion of historic photographs and three-dimensional museum objects as Internet research resources in a networked academic environment. Skills development in the use of digital library technologies has also been offered by the DISA project.

"The historic photographic collection has been identified within the Campbell

> Collections Department as a priority for digital conversion, reducing the heavy usage of deteriorated albums which reflect the rich cultural heritage of the region. The rate of deterioration of photographic material is known to be faster than that of books and journals, and the acceptable tolerance for the storage environment more critical. The project was therefore developed upon three strategies: the documentation of the original albums for record management; the digital conversion of the 30,000 historic photographic images and the protective enclosure of the original albums. Digital image capture was selected as the preservation strategy most suitable to provide a reproduction in a format removed from physical and chemical deterioration over time" (Peters, 1997: 4).

The digitisation of the historic photographic collection was sponsored by the Mellon Foundation. The Campbell Collections offers an in-house digital imaging service in which most of the scanning is done from black and white and sepia toned prints available in the historic photograph collection. A large portion of historic photograph collection is represented on the web page http://khozi2.nu.ac.za in a rich visual documentation of the late nineteenth and early twentieth century, mainly of Natal and Zululand.

Pictorial evidence is presented on a variety of topics relevant to the history and culture of southern Africa and its people. In the interests of authenticity, original captions have been transcribed as an important element of the context in which the images were created, although the terminology used may no longer be appropriate.

The Campbell Collections Web site is the method most used by our consumers to identify images in the collections for personal, scholarly, non-profit and commercial use. This researcher's experience in providing a digital imaging service is of the high levels of personal interaction expected in the provision of images, and the non-commercial users' reluctance to pay for the service.

The Campbell Collections reprographic service was converted and moved to digital format in 2001. The user response in the academic community was immediate, and the general public have accepted the service, but this sector does still occasionally request prints. Our internal photographic (film) services have been phased out, so where prints are requested, this is contracted out to a local photo service.

We have a differentiated charge-out rate for research and commercial purposes, and the service has become a moderate but self-sustaining cost recovery operation for our systematic digitisation project which has seen the conversion of almost 10,000 historic photographs (available on our website at: http://khozi2.nu.ac.za/albumead.html).

The guideline that follows identifies the technical requirements for digital imaging of photographs used by The Campbell Collections and discusses and makes recommendations for developing best practices for capture, and workflow considerations to be followed at each stage of the process.

Web Access

The documentation of the Campbell Collections is enriched with digital images of indigenous art, ethnographic objects and historic photographs. In order to protect the intellectual property that resides in the rare and unique collection, low resolution images are prepared in two distinct pixel dimensions for presentation on the Web. This satisfies the user requirements to identify suitable subject matter, select and enlarge an image, and meets the expectation that “everything on the Web is free” (Peters, 2003: 88).

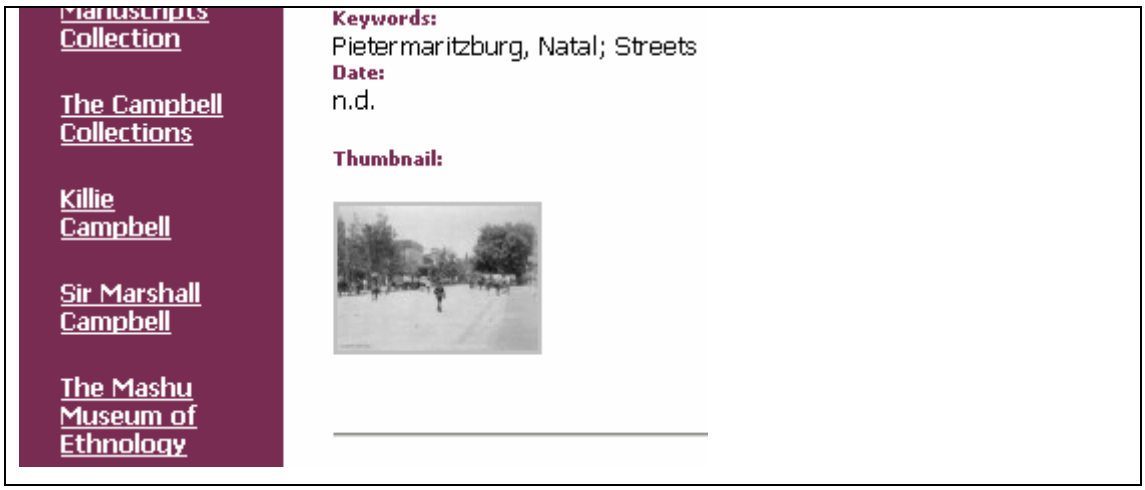

Figure 6: Thumbnail image on Campbell Collection web page

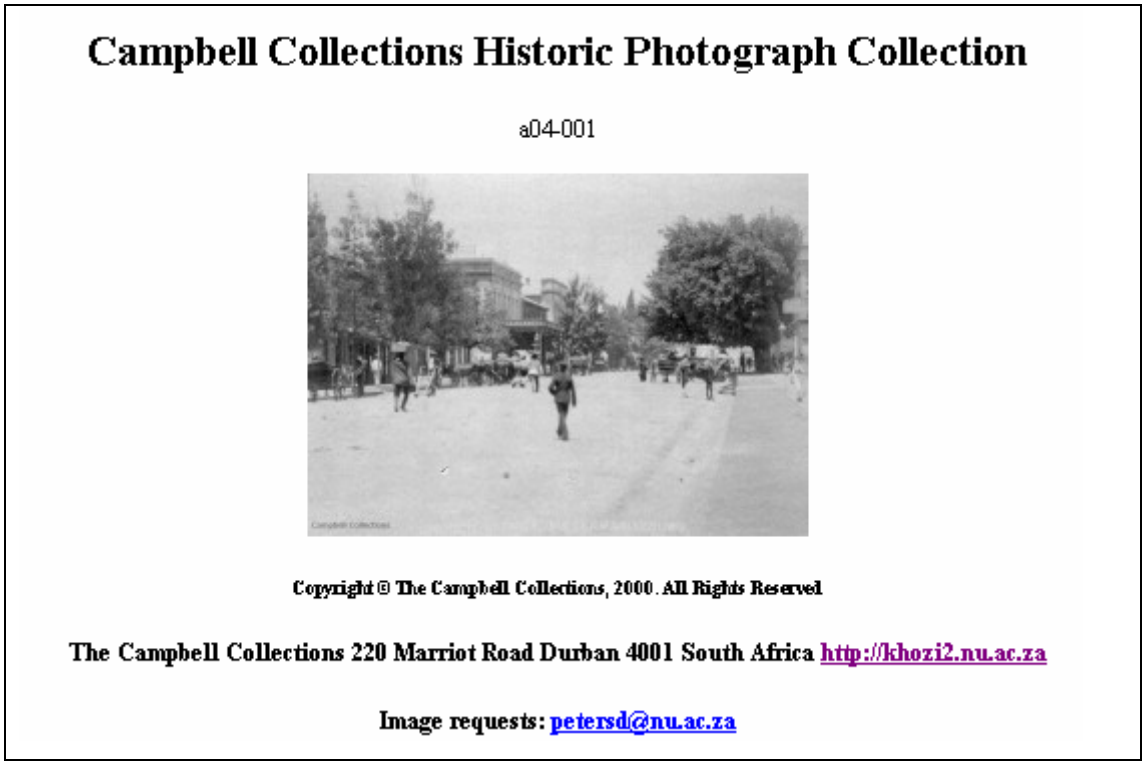

Figure 7: enlarged version of web access image

Medium resolution copies are made available to bona fide researchers at a minimal cost designed to cover expenses. High resolution images copied from the archival master are made available commercially on request, following a discreet investigation of the intended purpose, around which a business model has been constructed. The business model protects the intellectual property and the indigenous knowledge held in our unique collections by employing a differentiated pricing structure for local and

international clients. The pricing structure further differentiates between numbers of copies published, between standard and educational publications, between single and multiple broadcasts and between use in one country or world wide.

Digital conversion guidelines for scanning of photographs: scanning specifications and file sizes

The following are minimum guidelines and best practice for digital conversion and file naming conventions recommended by DISA and currently practised at the Campbell Collections:

Archival master

- Spatial resolution: 600dpi, greyscale, scaled to 3000 pixels on the long dimension and saved as uncompressed tiffs.
- Tonal depth: 8 bites-per-pixel for black and white image
- File format: TIFF, uncompressed
- Correction: the image will not be corrected
- File size: 13 Mb for 5X7 negatives for 4x5 negatives

Reference image or access image:

For access copies a derivate is created as 300dpi greyscale at 500 pixels wide and saved as a .jpg file. Images are re-sampled from the master file 600dpi and saved with the same file name jpeg. These files are named exactly as the .tif image but with a .jpg extension.

- Spatial resolution: 300dpi, with pixel width reduced to 500 pixels
- Tonal depth: 8 bits-per-pixel for black and white images
- File format: JPEG, compressed at 10:1 for black and white images
- Correction: the image will not be corrected
- File naming: files are named exactly like the .tif image but with a .jpeg extension

Thumbnails

For Web use images are supplied at 72dpi

- Spatial resolution: 72 dpi, 150 pixels on the long end
- Tonal depth: 4bites, greyscale for black and white image
- File format: GIF, compression native to the GIF format
- Correction: the image will be corrected (i.e. sharpening, contrast adjustment, etc)
- File size: under 1 MB for black and white

File naming for photographs

Do not use uppercase or a mixture of upper and lower cases for file naming files: use lower case at all times.

Material at the back of photographs

Where significant material exists at the back of photographs, it should be scanned as a separate image and given the symbol "v" for verso, and saved as an associated file with a suitable notation.

Image files should not be cropped or altered, except for the removal of extraneous borders. Proper image calibration based upon greyscale measurements and not screen display, is presumed and is a critical component of the scanning process.

Data capture

Processing a photograph for scanning and data capture is labour intensive. The researcher estimates that it takes approximately an hour to produce a completed record of an average item.

The workflow below, related to the technical production of a digital copy of an archive photograph, was designed and created by Dr Dale Peters, Librarian and systems manager at the Campbell Collections.

Scanning procedures for the Campbell Collections Digital conversion project

ALBUMS OF HISTORIC PHOTOGRAPHS

- Start

Open the scanning software program on the desktop or use Start/Programs/ Corel Photo-paint 9. Scan images from photograph album.

- **Create scan**

Carefully place album face down on the scanner.

Align top edge of photograph to green arrow on scanner.

- Position KODAK grey scale below image.

Do not close lid if album has a large spine or is damaged. Cover album preferably with a black cloth.

- In Corel PHOTO-PAINT, select File/Acquire Image/Acquire
- Preview to view scan.

Drag mouse button to frame image

Crop excess borders as appropriate.

Zoom to check framing of smaller images.

- Select standard capture parameters set out below.

Set capture parameters

- In HP Deskscan II, select the following settings:

Type: Black and White Photo = Bit depth 8-bits per channel for grey scale.

Path: 600dpi = Resolution

Brightness / Contrast: Click on Auto set button in centre = Exposure

- Under Custom / Image Size Set = Units to pixels
- Set Pixel dimension of long side to a maximum of 3000ppi (pixels per inch)

Note the resultant file size for subsequent database entry.

- Check image
- Image and metadata is checked by systems administrator for quality control

Adjust image if necessary

- To Rotate image

Select: Custom Clockwise [1 degree] following the quality control check by the administrator, the images and the database entries are archived on the Novell server.

MARKUP. When all the images in an album are complete, run a report in Microsoft Access to retrieve all the entries from that album, and transfer the data to the worksheet. SGML mark-up using the Encoded Archival Description is XML compliant for retrieval of the metadata and associated images on the Internet.

Access database using Dublin core metadata

Following the scanning procedure, capture the scan details using the Access database. With the scan and the original in front of you, enter the data into the relevant fields that are derived from the Dublin Core metadata sets for item description and digital preservation:

Accession Number:	Unique institutional identifier of each item, accession number (e.g. a74-056), electronic filename
Resource Type:	Select category from drop down list: Text, Image, Sound, Artefact, Interactive resource.
Format:	Data format or medium (indicate whether you are scanning from a negative, print, slide, original artwork, audio tape, etc.) Also includes physical dimensions of artefacts, duration of audio visual tape.
Author / Creator:	Definition: The person(s) or organization(s) primarily responsible for the intellectual content of the resource. For example, authors in the case of written documents, artists, photographers, or illustrators in the case of visual resources. For personal names the use the *surname*, followed by *first name.* Person(s) or organisation responsible for the work: creator, artist, photographer, etc.

Title:	Name given by the author / creator only. Put caption details in description.
Date:	Definition: Date associated with the creation or availability of the resource. It could be a single data and a range of date. Date of creation expressed freely as 1942, 1997/04/26; 19th century.
Description:	Caption details, contextual information.
Keywords:	Definition: The topic of the resource. Usually, the subject will be expressed as keywords or phrases that describe the subject or content of the resource, for example, people, places and events. The keywords (words or phrases) are separated by comma.
Rights Management:	Name of donor, reproduction constraints; copyright, access and usage statement: e.g. fragile, not available to the public.
Scanned by:	Name of person capturing image.
Scan Date:	Date of image capture.
Add the following preservation metadata :	
Capture device:	Name of scanner: e.g. HP ScanJet 4c.
Resolution:	Dots per inch (dpi) e.g. 600dpi.
Colour:	Bit depth: e.g. 8-bit greyscale or black and white photograph.

Targets:	Calibration or test charts, (if included) e.g. Kodak Q-13 colour/ greyscale bar.
File size	Mb, as noted in Desk Scan
File format:	Default for archival master is .tif.
Change history:	Record of modifications to file, refers to derivative files
Quality control by	Name of quality controller
Quality control date	Date of quality control

Following quality control by the Systems Administrator, the images and database entries will be archived on the Novell server.

Sustainability

Simon's report *Reproduction charging models and rights policy for digital images in America art museum* funded by the Mellon Foundation study has been used as a guideline to discuss some of the issues on fee structure, service structure, differential charging, payment methods and turnaround times, rights and licensing service, and a typical transaction (Tanner, 2004).

Fee structures

The Campbell Collections fee structure for a digital imaging service is determined by the following factors.

- How the work will be used (e.g., for advertising, teaching, personal use),
- Format of use (e.g., television, Web site),
- Uniqueness of the work (e.g., original footage of a historical event or film of a sunset),
- Type of user (e.g., student, corporation),

- Frequency of use (e.g., print circulations, number of Web site hits)
- Prominence or placement of the work in the context of use (e.g., covert art vs. interior placement, Web site home page vs. secondary page),
- Geographical distribution of the work (e.g., within a country or worldwide),
- Duration of use (e.g., one-time vs. unlimited),
- Size of user organisation (e.g., small, medium, large),
- One language publication or multi-languages

Fee structures are based on item-by-item pricing also called transactional pricing (Zorich, 1999: 92).

Pricing

Alisa Schwartz Assistant Director, Imaging at The Art Institute of Chicago has devised a formula for setting prices and this formula simplifies into one price the asset and rights fees and makes differentials for non-profit or scholarly use easier to apply. An example of the application of the pricing formula can be seen in Tanners' report (http://kdcs.kcl.ac.uk/USart/content/report/c07.html), (Tanner, 2004: 46).

Basically the formula calculates the actual cost of providing the service based on the following values:

COST (C) =

- the cost of imaging
- data or photograph storage
- curatorial time getting the object to and from the stack or storage area
- the average cost of staff time for a transaction
- overheads
- depreciation
- materials
- management costs (Tanner, 2004: 45).

Tanner's report recommends museums use the Business Planning for Cultural Heritage Institutions report as an effective method to improve business planning and to providing a full cost accounting to formulate the C value (Bishoff and Allen, 2004).

Like most museums surveyed in Tanner's study, Campbell Collections has also based its "user" fee on the perceived market rate by looking at comparable institutions and their fees. The basic cost for the service is calculated on the average cost of the staff time for a transaction. Note that the Campbell Collections does not charge a "rights" fee, but a "user" fee. The "user" fee is basically payment for the use of the image as per agreement for the intended use. The "rights" fee is determined by the rights holder or the trustee controlling the use of the intellectual property of the creator. Depending on the intended use, there are basically three fee structures for the use of a digital image:

- service fee for the creation of the image
- the user fee for the use of the image
- copyright fee for permission to use the image

Service structure

The digital imaging service structure is currently an integrated function of the current reading room staff at the Campbell Collections. All queries are directed to the reading room staff.

Differential charging

Campbell Collections has a differential charge structure for the commercial and non-commercial user. Commercial consumers are charged more as their usage and print run is normally higher. There are two types of fee: one is the service fee, and the other a "user" fee. The service fee is twenty rands (R20) per image for non-profit users. The "user" fees ranges from seventy five rands (R75) per image to six hundred rands (R600) per image, depending on the intended use of the image. It is important to note that sale of digital images and the permissions "rights" are the major contributors of revenue to the library.

Payment methods and turnaround times

Payment is a contested area for many researchers. Most researchers have the perception that museums and libraries are free information service providers, and there should be no cost for services. There have been occasions where requests have been declined due to non payment. The policy at the Campbell Collections is payment in advance of delivering the images. However for requests with a genuine need for a speedy turnaround time, payment after delivery may be accepted to enable the business activity to flow freely, e.g., publishers trying to meet a publication deadline.

The turnaround time for service delivery is seven working days. Often delivery is supplied well within this period. Turnaround time is measured from the point of either payment being received or the licence agreement being signed.

Methods of payment are facilitated by the commercial maturity of the market place. Publishers and other large businesses tend to make e-payments into the University's bank account, and an email confirming payment is sent to the department.
The preferred method of payment is cash, as the department is not sufficiently resourced to have active e-commerce facilities for images.

Rights and licensing services

The management of rights and licensing for publications and other external uses of images from the collection is managed in-house. For images not in the public domain the onus is on the researcher to obtain the rights before the images are scanned and supplied to the researcher (see discussion, Chapter 3).

Transactions and processes

A transaction is defined as a single request for images requiring a single licensing agreement. Microsoft Word is used to process and generate the reproduction order forms, while Excel is used to record and manage the transactions. From the researcher's experience it is noted that processing a transaction can be a notable

amount of work before it is clear that the transaction will be successful. A lot of time is invested with no guarantee of success of securing an order for digital images.

Most transactions are external requests originating from textbook publishers, commercial publishers and from individual researchers, staff and students from the host university, UKZN.

A typical transaction from an external researcher

A typical transaction proceeds as follows: an enquiry is received for a particular image from the collection, by telephone, fax, email, or in person. The client then completes the official reproduction order form. If the client does not have specific image in mind, the collections database is searched and possible images suggested. If the requested images are available in the collection, these steps follow: identify the intended use for the image; assess whether the intended use is acceptable in terms of to the library policy, and finally check that the library has the right to grant permission to the client to reproduce the image.

If the image is outside the library's right to grant permission, then it is the responsibility of the client to secure permission to reproduce the image from the copyright holder. Once the rights have been resolved and museum and library is satisfied that the transaction will proceed then process and send an invoice for the image and reproduction fees. Once payment and signed agreement have been received, the deliver the images to the client.

The following diagram illustrates the on demand digitisation service proposed work flow for photographs in the public domain

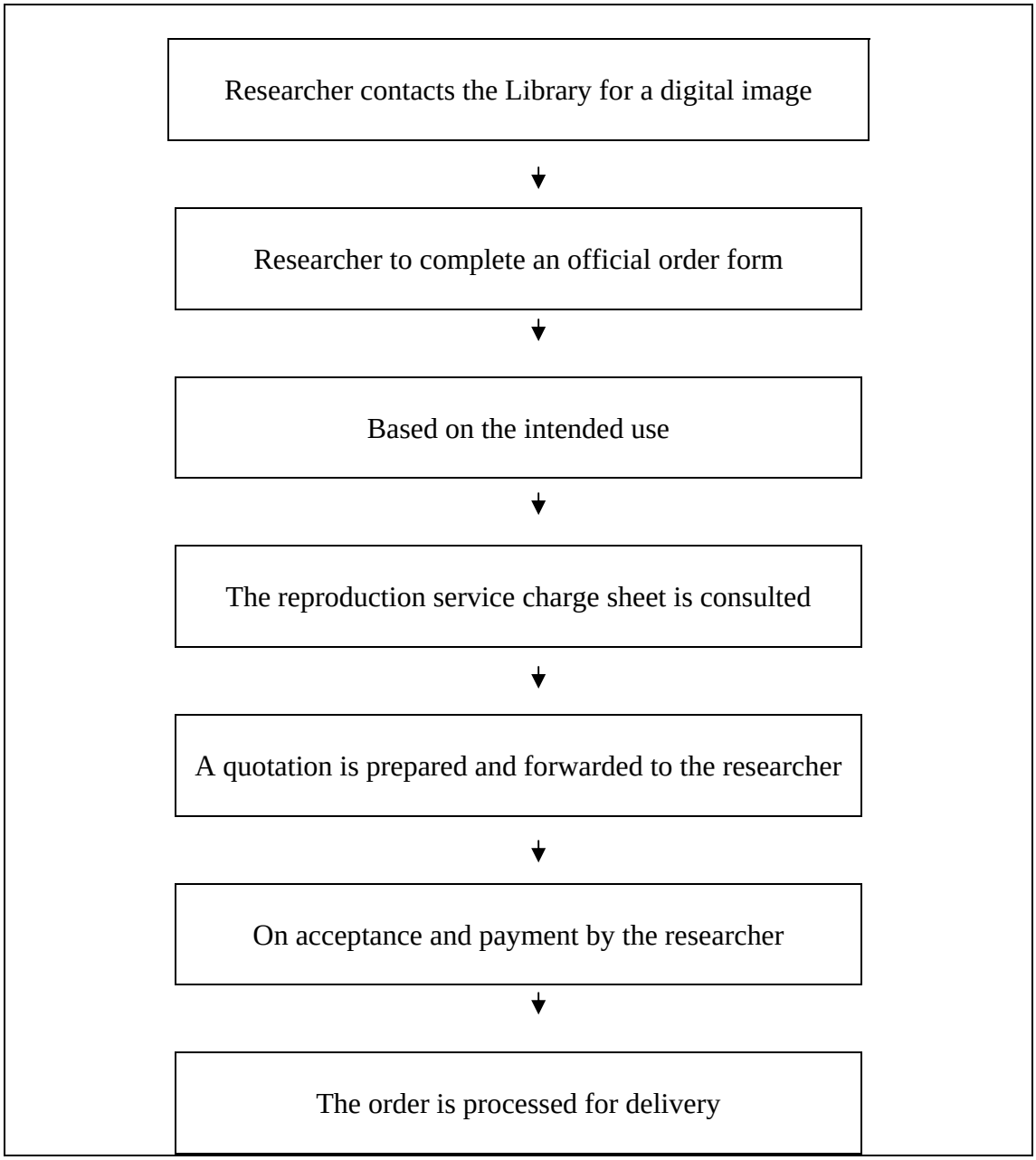

Figure 8: Workflow for requests for digital images in the public domain

Be prepared for the challenges

Various challenges arise in providing a digital imaging service, for example, there may be staff apathy to adapt and accept changes and implement charges for the new service. There may be user antipathy towards the new technology, as many older

users are unfamiliar with the potential of a digital imaging service. You will need to create an awareness of the potentials of digital imaging service. Staff will also need to acquire new skills and learn a new technical language as well as to adopt a business-like attitude in terms of applying the charges and managing the finance records. This is a considerable mind shift as librarians have always seen themselves as the facilitators of free information and services. Staff will need to display good negotiating skills especially when requesting for advance payment for services.

4.8. Digital imaging draft policies

The development of digital technology has created many concerns with regard to:

- The ease with which images can be reproduced
- The relatively low cost of doing so
- The availability of user friendly technology which requires minimum skill
- The speed with which the images can spread via the internet
- The fact that the process has made the many checks and balances relied on by curators, librarians and archivists in the past obsolete and difficult to control.

These concerns have created a need for policy documents, permission contracts, fee schedules, and use limitations to be developed across the profession to help ensure that these assets are not stolen and reproduced for additional or multiple distribution for personal or commercial gain. Examples of a “Draft policy for digital imaging”, a “Draft policy for reproduction and publication” and an example of a copyright notice as it appears on the Campbell Collections webpage are provided here as a resource for developing locally relevant policies for addressing the issue.

Draft policy for digital imaging

The following is a draft document for a digital imaging policy as established by the Indiana University (Indiana, 2001). This draft policy sets out in detail the policy requirements for system planning and implementation of a digital imaging project and the system architecture and image specifications, for image resolution, authenticity, metadata, security, access, storage, compression and image preservation.

Indiana University - Policy for Digital Imaging. Draft

- **Purpose**

The purpose of this draft policy is to establish an imaging policy for all Special Collections, museums and libraries that create, use and manage digital images.

- **Scope**

This policy applies to all digital images created by the Special Collections Museum and Libraries personnel within the institution.

- Statement of authority
- Policy summary
- Additional information

- Policy requirements
- System planning and implementation
- System administrator

A systems administrator should be appointed to monitor the operation of the program and the training of assigned personnel.

- **System and procedural documentation**

The systems administrator shall be responsible for creating, maintaining and distributing policies, guidelines and procedures defining all system implementation activities, to all personnel involved in the imaging program.

Specific procedures shall be created for: scanning and entering data; ensuring that the images are clear and that the accuracy of index terms is verified; backing up disks; establishing and implementing security measures; and providing access.

- **Compliance**

Procedures shall be established to ensure that management practices related to scanned images are in compliance with pertinent laws, regulations and statements of best practice.

- **Training**

All staff members using the imaging system shall be required to undergo basic training on the system.

- **Monitoring**

Digital imaging programs shall annually review all scanning implementation procedures and guidelines.

- **Equipment maintenance**

Digital imaging hardware and software shall be routinely checked to ensure that they accurately and reliably reproduce all original documents, and equipment maintenance logs shall be maintained.

System architecture and image specifications

- **System architecture**

Choose a system with Open System Architecture, which provides users with the most flexibility when choosing equipment and will support interconnections, information system integration, and information sharing.

- **Image resolution**

When determining image scanning resolution, the digital imaging project shall consider data storage requirements, image scanning rates, and the accurate reproduction of the image.

For archival quality images of photographs, that must be retained indefinitely, the digital imaging project shall use a scanning density of 600 dots per inch.

- **Image authenticity and integrity**

Scanned images shall be protected from accidental or intentional deletion of modification.

- **Image metadata**

Metadata describing the content and structure of the digital image and its context of creation shall be captured using a software program such as Dublin Core, Green sleeve etc.

- **Image security**

Develop backup procedures designed to create security copies of scanned images.

Establish procedures for ensuring that only authorised personnel create, copy, modify, or use scanned images with the system.

- **Image Access**

On Use an indexing system database that provides for efficient retrieval, ease or use, and up to date information on the scanned images stored in the system.

- **Image storage**

Digital images shall be saved in tagged image file format (TIFF)
Storage media for digital images shall be stored in a controlled environment. Technical specialists recommend a stable environment, with a temperature between 20 to 22 degrees and a relative humidity of between 30 and 50 percent.

- **Image compression and encryption**

Standard compression and decompression algorithms shall be used to compress images.

- **Image preservation and migration**

Specific plans shall be developed for ongoing process of migrating scanned images to newer hardware and software and to new storage media.

4.9. Draft policy for reproduction and publication

The draft *Policy for Reproduction and Publication of photographs* (D.H. Ramsey Library, 2005) used by the Campbell Collections is reproduced here by way of an example of how such a service may be practically implemented for the digital scanning and delivery of images.

The document explains the general terms and conditions under which the images are supplied for reproduction and publication, the legal responsibility of the user, the fees structure for personal, private or commercial use of the images and the modes of delivery, depending on the number of images requested and the file size. Images are delivered via email or by courier services. The fee for on site videotaping and the terms and conditions for publication, web site use and the citation of images from the

Collection are included in this draft policy for reproduction and publication. For a draft copy of the official reproduction order forms see Annexure 7.

The Campbell Collections, University of KwaZulu-Natal,
220 Marriott Road, Durban, 4001, South Africa.
Tel: +27 31 2601710/3; Fax: +27 31 2091622

Policy for Reproduction and Publication of Photographs
Draft

- General Statement on Use of Special Collections Materials
- Photographic [Analogue] Reproduction Services and Fees
- Photographic [Digital] Reproduction Services and Fees [Scanning Services]
- On-site Videotaping
- Publication Fees
- Web-site use

General Statement on Use of Special Collections Materials

The Campbell Collections of the University of KwaZulu-Natal, Durban, supports a broad access to the materials in its collections. The Campbell Collections is the owner of the photographs and may not be the holder of the copyright. Therefore, Campbell Collections does not assume responsibility for copyright, or any other legal property right involved in the reproduction or the publication of items from its collections. This includes photographs, maps and works of art. The user must assume all responsibility for securing permission from the appropriate copyright holder. Not all items will be made available for reproduction and or publication.

When items are reproduced, they must retain their integrity. They may not be manipulated, cropped, or otherwise altered unless this is clearly noted in the credits accompanying the image. Permission to use materials from Campbell Collections does not give the user exclusive rights to the material or the right to manipulate or crop the item without permission.

The copyright law of South Africa, Copyright Act 78 of 1978, as amended mandates that users follow the laws governing photocopying and the reproduction of copyrighted materials. Libraries, archives, and museums may be authorised to provide photocopies and reproductions for certain uses and Campbell Collections will determine if authorisation is warranted. For example, if a user requires material for private study, scholarship, or research, the request for reproduction is generally granted. If the user seeks to publish without permission, or economically gain, or otherwise exceed the "fair use" of the materials, they may be in violation of copyright. The Campbell Collections, University of KwaZulu-Natal reserves the right to accept or refuse requests to reproduce materials, based on the judgment of the staff and their understanding of copyright law.

Use of personal scanners and other personal reproduction devices at Campbell Collections is currently prohibited in the Reading Room. The Campbell Collections staff will scan materials on request, as appropriate. Users will not be allowed to scan materials unless permission is granted in writing from the Director of the Campbell Collections.

Reproduction generally involves some cost to the institution. For this reason fees have been attached to various reproduction processes and a distinction in fees has been made between reproduction for research and study and reproduction for non-educational and commercial purposes. Fees for research and study are generally lower than are non-educational and commercial uses. Commercial use generally includes any publication, broadcasting, video production, self-copy, exhibits, product

presentations, interior design, decorating, etc. Commercial use also extends to work completed by design firms on behalf of government and non-profit institutions.
All users must fill out a use agreement before material will be released for use.

Internal refers to services to our university community (students, faculty, and staff). It also includes scholars from other similar institutions who are engaged in scholarly research. *External* refers to the general public who wish to scan images for personal use or who wish to use the images in a commercial venture.

Users will receive an invoice for all charges. All cheques should be made payable to the University of KwaZulu-Natal. The Campbell Collections reserves the right to:

- Choose the reproduction methods based on the material.
- Deny reproductions of material to any patron when it deems the collection to be at risk, or violation of copyright is at issue.
- Change the schedule of charges and adjust them to meet the increased costs or special handling.

Photographic [Analog] Reproduction Services & Fees.

This service is out-sourced.

Request type	**INTERNAL CHARGES**	**EXTERNAL CHARGES**	**X-TRA Handling Charge**
B & W Custom Print -9 x 12	20.00 ea	25.00 ea	+A 25% handling fee above costs of prints
Other prints sizes	Please request information		
Color Print	Request information		

Table 5: Photographic [Analogue] Reproduction Services and Fees

Digital Reproduction Services [Scanning Services]

Scanning of photographic materials is a growing service in Archives and Special Collection Libraries. With this new service come new challenges. Preservation and conservation of photographic material is very expensive and collections often managed to support some preservation and conservation of their collections by charging for standard photographic reproductions. Scanning of material, while far less expensive than standard photographic processes for the patron, is creating a drain on resources and a strain on preservation and conservation practice in archives and special collections libraries. Cost recovery is not only sensible under these circumstances, it is critical to the survival of collections. While our costs for services have gone up, our ability to address growing issues with our photographic collections will be augmented by our increased charges.

Costs include the cost of labour in the scanning process, handling the original, preservation measures (if needed), and delivering the image to the user.

All images are scanned on Scanmaker Microtek 9800XL flat bed scanner. Flatbed scanning is the least expensive and the most efficient method for our staff. This is the scanning method we will use, unless directed otherwise. The resolution of the image will determine the cost. High resolution images will result in higher charges. All images will be delivered in JPEG format unless the user requests TIFF. We reserve the right to deny the production of TIFF format. Please allow a minimum of seven days or more for processing. We can deliver the image to the user through one of the following means:

Email to the user. This will be a JPEG 72 dpi image for viewing or a higher resolution, on request. [See fees]

FTP (file transfer protocol) to the user: This is a server to server format that can handle batching and larger files. We prefer to not send files via FTP if other means can be arranged.

Web Access: Images have been posted to the Special Collections web page as a jpeg 72 dpi image and can be downloaded by the user. There is no charge for this service. The terms and conditions for this service is available at the Campbell Collections URL: http://khozi2.nu.ac.za

ZIP disk: User must provide the Zip disk. Capacity is 150 or 200 MB for most ZIP disks. Generally the reproduction will be JPEG format. Fees will be the same as CD-R/CD-RW.

CD-R/CD-RW (CD-Readable/Writable): This is a labour intensive process, but the most desirable for storage and access. The capacity of a CD-RW is approximately 600 MB. [A 100 MB reserve on the disk is recommended for manipulation.] Generally the reproduction of images will be in JPEG format unless otherwise negotiated. Large volume copying of images from the Campbell Collections is generally discouraged.

Use of scanned material is a one-time use. Re-purposing or additional use of the scanned material must be re-negotiated.

If scanning of a large object is required, the object will be photographed with a digital camera and the digital image will then be manipulated for the user. TIFF images will be charged more than JPEG images. If special set-up or labour is involved, additional charges will be added to the cost of scanning.

The costs illustrate the Campbell Collections current charges for scanned images reproduced for research and commercial use/purpose.

DIGITAL REPRODUCTION COSTS

ITEM	INTERNAL CHARGE (UKZN Staff & Students)	EXTERNAL CHARGE (Non-UKZN community)	OUTPUT
Digital image - High resolution for print publication (Copied to CD-R disk)	R10.00/image	20.00/image	300dpi
Print of scanned item. Not on photographic paper.	R5.00/image	R10.00/image	300dpi
Digital image on the Web page	no charge	no charge	Low resolution via web

Cost of cd or stiffy for image capture

Cost of cd	R20.00		
Cost of stiffy	R10.00		

Table 6: Digital Reproduction Costs

On-Site Videotaping (with permission)

Permission in writing must be granted before videotaping on site may commence. The charge for on-site videotaping is R600.00 per hour. Caution must be exercised when using lights and the process must be monitored by Collection staff throughout filming. Video images may not be re-purposed without permission and additional fees will be charged for re-purposed images.

Publication Fees

When materials are approved for publication, this is considered commercial/for profit reproduction and a Publication/Use Fee will be assessed in addition to any Reproduction Costs. These fees are for one time use and may be in addition to royalties/licensing fees required by the copyright holder.

Publication Medium Fee

Publication Medium	Fee
Graphic reproduction of photographs. Books – educational	R150.00 per publication agreement
Exhibit, Catalogue / brochure, etc.	R50.00 per publication agreement
Commercial and Advertising	R600.00 per publication agreement
Broadcast (Film/Video)	R600
Use in electronic format (Web site, etc)commercial site E-books Educational / non profit	R200.00 R100.00 R 50.00
Newspapers and periodicals	R 75.00
NGO's	R 75.00
For international orders	Fees are available on request.

Table 7: Publication Medium Fee

Web Site Use

Use of the Campbell Collections Web Site is open to all users for the purposes of research, teaching, and for private study. It is requested that users who make personal copies, prints, photocopies, or download material, attribute the material to the source (Campbell Collections, University of KwaZulu-Natal). All information is provided for non-commercial, personal or research use only. If users wish to use the material for any commercial purposes, including scholarly reproductions, redistribution, publication or transmission, by electronic or other means, permission in writing must be obtained from Campbell Collections, University of KwaZulu-Natal.

It is the responsibility of the user to determine the copyright status of materials they wish to reproduce for commercial purposes.

Preferred citation: [Collection name and Item # e.g. Photo album C62], Campbell Collections, University of KwaZulu-Natal
30 June 2005.

Campbell Collections website copyright notice

The text and images appearing in these pages are under copyright to the Campbell Collections and their use is restricted by law. Please consult the copyright information (see Figure 9) every effort has been made to trace the copyright holders of images reproduced, but where this has proved impossible the publishers would be glad to hear from any person/s in a position to convey information in this regard.

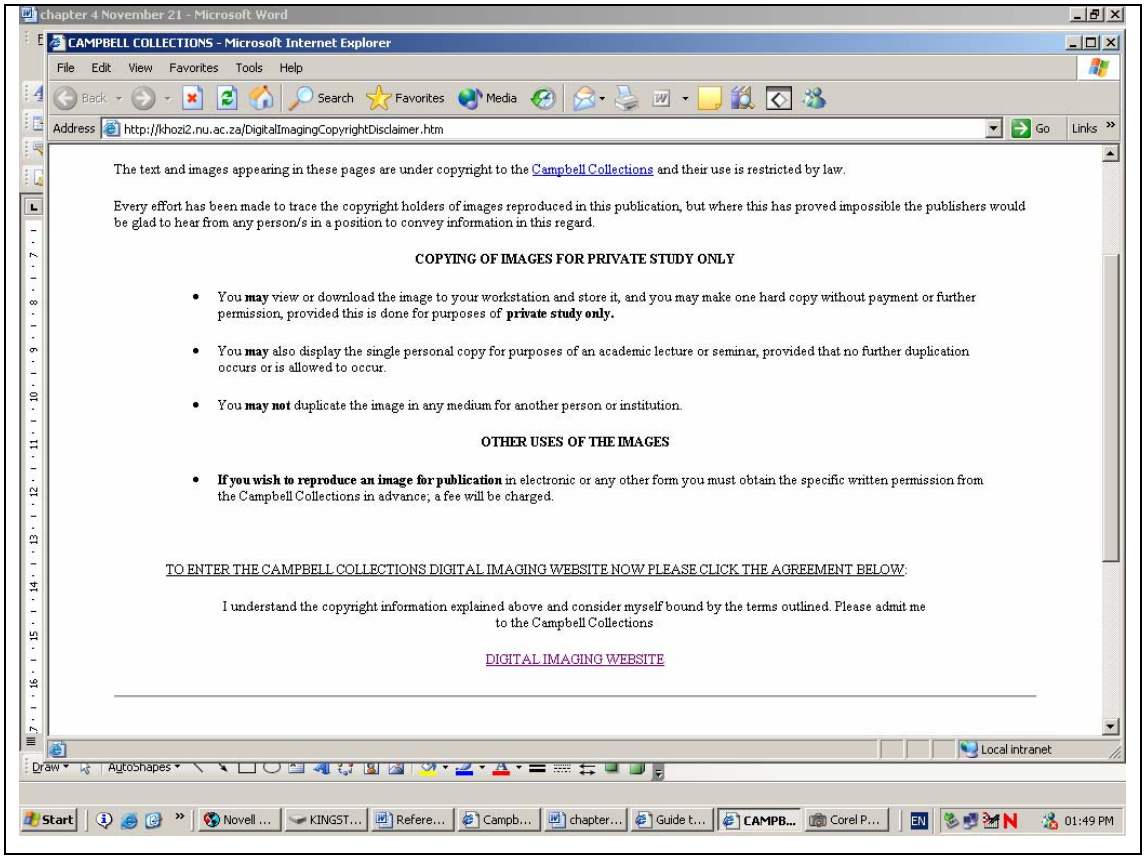

Figure 9: Copyright notice - Campbell Collections Webpage

4.10. Summary of key principles and points for digitisation

Paul Conway (2000, 13) summarises the key principles and points for digitisation that should be considered at the conceptualisation and planning stage, as this will determine the kind of digital imaging reproduction service that will be made available at the implementation stage to the known and unknown end user.

- Define clear boundaries for a digital conversion project, particularly the end point
- *Brainstorm:* In non-technical terms, state the desired outcomes for the source materials and the functional requirements for the digital reproductions.
- Justify why digital rather than analogue, reproduction is necessary
- Describe the audiences and their needs
- Describe the things that digital copies will do that analogue copies cannot do.
- Project a lifespan for the digital reproductions.
- *Plan*: Write a project plan, budget, timeline, and other planning documents.
- Budget and plan workflow based upon the results of scanning and cataloguing a representative sample of material.
- Budget time for training
- Implement: Co-ordinate simultaneous or overlapping workflows.
- Segregate materials into batches for conversion and quality control.
- Document the decisions taken during the work project.
- Report on the lessons learned, particularly the failures.
- Help your colleagues and other institutions to learn from your mistakes (Conway, 2000: 13).

Chapter 5. Survey of existing policies at South African Institutions

5.1. Introduction

Before we can consider the issues of policy in relation to the archiving and accessibility of digital photographs, we should first examine the many different definitions and understandings of the term “policy”.

Policy is often thought of as a statement from a higher authority, government for example, government: on the legally correct way an organisation should be run.

Policy is usually the written formalisation of behaviour that already exists within an organisation. The Concise Oxford dictionary defines the word policy as, “a course or general plan of action (to be) adopted by government, party or person.” (Sykes, 1982: 793).

A useful definition of policy is:

> … policy is a purposive course of action based on currently acceptable societal values, followed in dealing with a problem on a matter of concern, and predicting the state of affairs which would prevail when that purpose has been achieved (Hart, 1995: 9).

For the custodian of a digital photograph collection, therefore, both the current values of the user community, and the systematic implementation of procedures are key ingredients for policy development. In Chapter 4, policies were presented with the intention of providing guidance and putting forward a set of checklists, standards and procedures to be used as a palette from which practitioners might select those elements most helpful to their particular enterprises. In the context of the survey described in this Chapter, however, “policy” must be viewed more conventionally as the fixed principles in place at each of the institutions investigated.

In trying to provide a meaningful perspective on the role of the future information specialist, the researcher used a combination of a literature study, personal experience in an academic library - where the electronic networked environment has already radically and rapidly changed information provision services - scenario analysis together with this survey of existing practice with regard to digital collections.

A questionnaire comprising open and closed ended questions was compiled and sent to heads, deputies and senior managers of major libraries and archives in South Africa, in order to gather data regarding their policy on the digital scanning of photographs in their collections. As one of the anticipated outcomes of this project was to develop a set of procedures and guidelines appropriate to the management of a digitised service that would benefit both the archival community and their clients, (see chapter 4) it was considered important to ascertain the present state of affairs at South African institutions, and thereby determine the need for policy development.

In order to understand the challenges facing the information specialists in the digital Internet environment, the researcher hoped to explore present circumstances and prevailing conditions in information services in South African institutions and so focus on the implications for the role of the information specialists in the future.

Purpose of the survey

The purpose of the survey was to investigate libraries, archives and museums in South Africa that have embarked on the digital scanning of photographs in their special collections, and thereby to establish the extent to which these institutions had guidelines and policies for:

- providing digital imaging service
- copyright policies
- format of order forms
- charges applied for the supply of images and
- record keeping of images supplied to clients.

Key findings

A detailed analysis of the findings is given below, but the broad conclusion of the survey can be summarised as follows: although there is some degree of digital scanning activity in special collections in South Africa most libraries and archives revealed deficiencies in

a) policy guidelines for permission contracts
b) fee schedules
c) use limitations for providing a digital imaging service
d) copyright in respect of digital images.

5.2. Methodology

A survey instrument (see Annexure 5 and discussion below), was used to gather information. Respondents were requested to complete the questionnaire and their responses were collected and analysed. Copies of the questionnaire and accompanying cover letter are provided in Annexure 3, 4 and 5.

The survey focuses on ascertaining the extent of guidelines and policies for providing a digital imaging service, copyright policies, the format of order forms, charges applied for images and record keeping of images supplied to clients.

Another aim of the survey was to establish whether the institutions have an Intellectual Property Rights (IPR) policy that deals with copyright ownership of photographs

The flowchart below (Figure 10: Survey Flowchart) traces the process from the development of the instrument (founded in the literature - see Chapter 2), to its administration, and finally to analysis and interpretation. Each step in the flowchart is documented in this chapter.

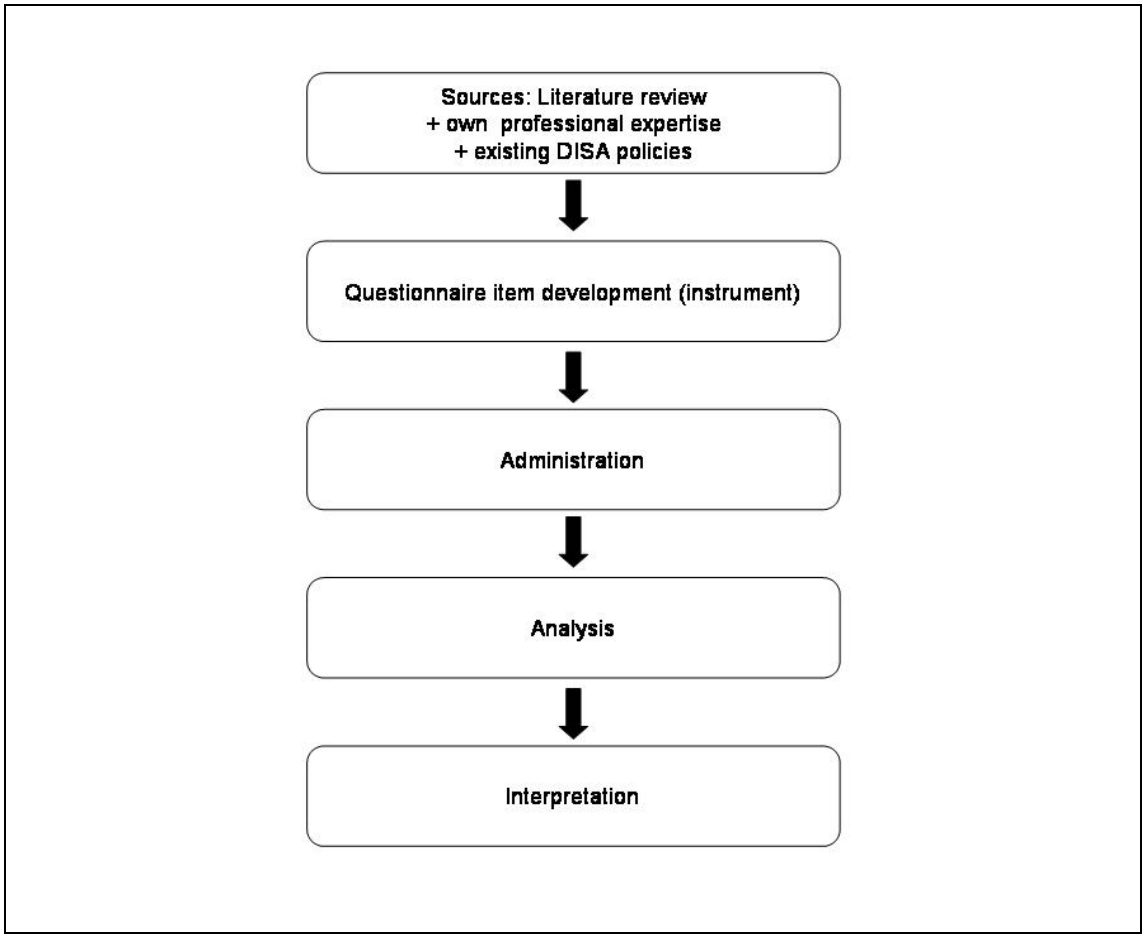

Figure 10: Survey Flowchart

Participants

The institutions that were surveyed were selected from the attendance register of participants at the Encoded Archival Description workshop held at the University of Witwatersrand, Johannesburg in June 2000. A copy of the attendance register was distributed to the group for future networking on digital projects. The attendees constituted an acceptably comprehensive group, representative of South African institutions with special collections, including photographic collections.

A further group of respondents was drawn from the list of South African archival resources that was available from the internet site http://www.archives.org.za/archivesa.html

Survey Instruments

A survey questionnaire (Annexure 5) with a set of 17 structured questions was drawn up and posted to the respondents.

The questionnaires were accompanied by a letter from the Researcher on a Durban Institute of Technology letterhead (Annexure 3) together with a consent form stating that the respondents were aware of the terms and conditions under which the survey was being conducted (Annexure 4). The consent form had to be signed by the respondent and returned together with the survey questionnaire. The respondents were assured that the survey would be treated in strict confidence and used for academic research only.

The questionnaire was mailed on 15 August 2002. Together with a self addressed prepaid return envelope to ensure the maximum possible return rate.

5.3. Analysis of Survey

Question-by-question discussion of survey results

The survey asked questions about policies and guidelines used by the various libraries, museums and special collections. The results are set out below in the order used on the original questionnaire (see annexure 5).

Here is a breakdown of the different types of institutions surveyed:

Number of University Libraries	Number of Museums	Number of Private / Commercial Institutions	Total
3	**5**	**1**	**9**

The questionnaire was entitled: “An investigation into the: digital scanning of photographs in archives”, and the following instructions were provided on how the question should be completed (Annexure 5).

Questionnaire: General instructions:

- *Please answer the following questions.*
- *Tick the relevant options where necessary*
- *Should you require additional space to write your response/ comments please use additional paper and attach it to the questionnaire*?

The focus of my investigation is on the service and delivery aspect of digital scanning of photographs in archival collections.

From this point the results of each question are presented and discussed.

Question 1

1. Please state the name of your library or archive / Museum

All the respondents stated the name of their institutions. There was a total of nine institutional responses

Question 2

2. Does your institution (Library / Archive / Museum) have a policy or guidelines to handle the various aspects of providing a digital imaging service?

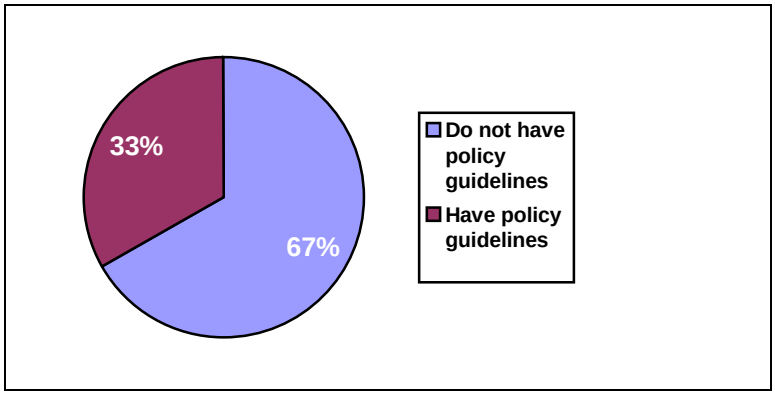

Figure 11: Illustrates the existence of a digital imaging policy

The response to question two was either a yes or a no. It can be seen that the majority of institutions had no policy or guidelines policy or guidelines to handle the various aspects of providing a digital imaging service.

Three respondents said yes they had policy guidelines for providing a digital imaging service.

Question 3

3. Is this policy documented?

If yes, are you in position to share this information with me.

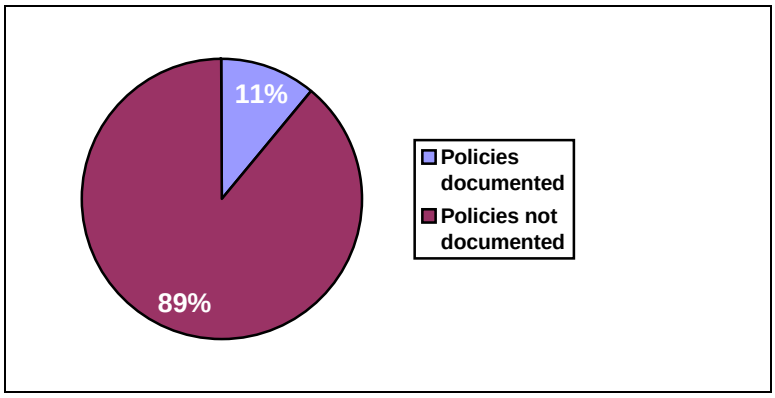

Figure 12: Illustrates policies documented

Even fewer stated that they had a documented policy for providing a digital imaging service, only one institution indicated that such documentation had been developed.

Eight of the respondents stated that they did not have a documented policy for providing a digital imaging service.

One of the respondents stated that while they did not have a formal documented procedure, the forms that are submitted requesting images / permission to reproduce are fairly self-explanatory.

One can conclude that by the lack of formal documentation, policy guidelines are needed by most institutions.

It is recommended that a workshop or seminar be organised to discuss and draw up policy guidelines for providing a digital imaging service in South Africa.

Some of the factors to consider when drawing up policy guidelines have already been discussed in Chapter 4 of this thesis.

Question 4

4. If your answer to question 3 is yes and the policy is freely available on the World Wide Web please forward to my email address. somers@ukzn.ac.za or enclose and post in the self-addressed envelope.

None of the respondents had a policy available on the World Wide Web.

(See Chapter 4 for the Campbell Collections website as an example of an online policy statement.

Question 5

5. Do you have a standard photographic or digital image request or contract form?

Question five required a yes or no response.

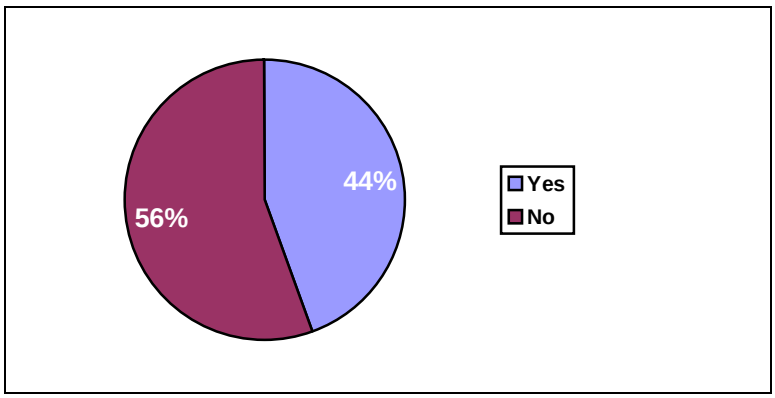

Figure 13: Institutions that have standard digital imaging form

Four respondents said that they do have a standard contract form for the photographic or digital imaging requests and five respondents said no, they did not have a standard form.

Again, factors to consider when drawing up a contract form can be found in Chapter 4 of this thesis. The assumption can be drawn that in the case of the institutions without a standard form the number of requests for digital images is too few, hence the process does not warrant a formal contract form. However, from the researcher's experience it is recommended that a formal contract form be used for images supplied both for control purposes and to manage IRP in a systematic and uniform way.

Question 6

6. Is this contract form available on-line?

The response to this question was either a yes, or no and none of the respondents indicated that a contract form for providing a digital imaging service was available on-line.

Most respondents are probably still developing the technology to provide an order / contract form on-line. Sample contracts, together with recommendations can be found in Chapter 4 of this thesis.

Question 7

7. If yes, please supply the URL.

Clearly there was no response to this question from any of the respondents.

Question 8

8. How do you handle the issue of copyright of the photographic image/s?

This was an open-ended question.

The respondents stated the following:

- It is the responsibility of the researcher to obtain copyright clearance before the image is scanned.

- We charge a reproduction fee
- The digital imaging service was not yet fully operational.
- The institution provided the user with information associated with the use of the images from their collection together with related conditions of use, if any.
- We let clients know that the copyright is rested with the centre and copyright was not ceded to anyone else. Copies are supplied at a cost.
- Copyright issues are dealt with on an individual basis by the Research and Special Collections section.
- We have a copyright consent form, which is a legal document, plus a materials release form to cover all legalities.
- Most of our photos are very old and the statutory period for copyright has expired.
- We only supply photos for which we hold the copyright.

Question 9

9. Do you use an encryption to protect the use of the photographic image?

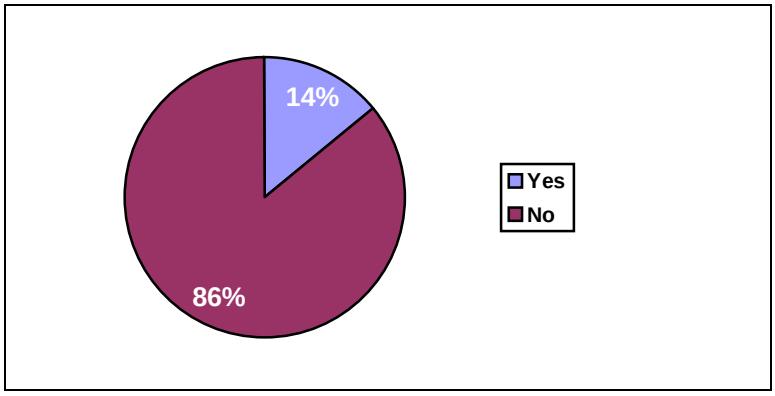

Figure 14: Illustrates the use encryption to protect and control photograph images

The above question required a yes or no response to which 5 respondents indicated that they did not use an encryption to protect the use of the photographic image.

Three of the respondents indicated, that they did use encryption, and one stated that they were still at the investigation stage of providing a digital imaging service.

Question 10

10. If yes, what encryption do you use?

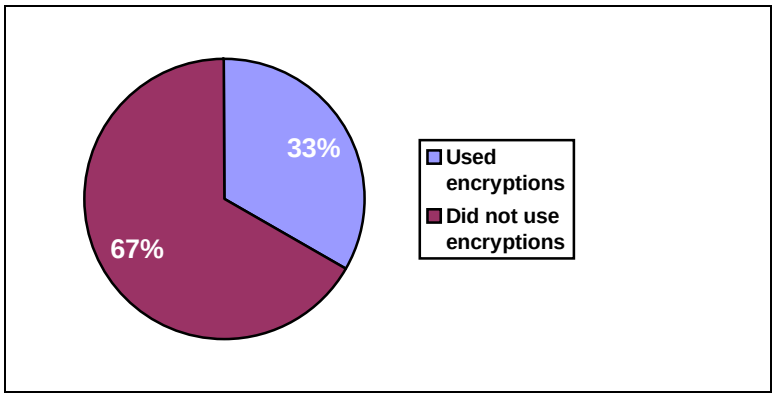

Figure 15: Illustrates the use of the of encryption to protect digital images

Three respondents indicated that they used the following encryption methods to protect the use of the photographic image on the Internet.

The first respondent used the copyright symbol c together with the name of the institution embedded in the image.

The second respondent used digimarc [1]

The third used the watermark together with the hidden source of the image.

Six respondents indicated that they did not use encryptions to protect the use of the photographic images on the Internet.

Question 11

11. Do you charge for a digital imaging service?

The above question required a yes or no response.

[1] Watermark used to control use and protect digital images on the Internet.

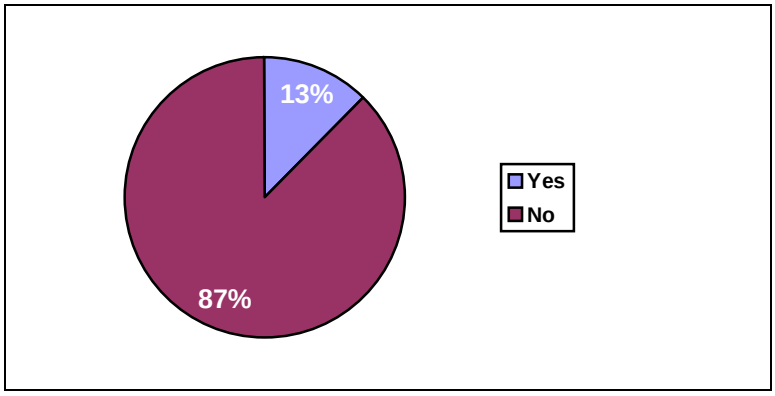

Figure 16: Illustrates charges for a digital imaging service.

Seven respondents said yes, and two said no, they do not charge for a digital imaging service.

Of the two respondents that stated they did not charge for a digital imaging service one was still in the investigation stages of offering a digital imaging service and the other charged no fee for the service.

Question 12

12. If yes, do you have a sliding scale for academic / private / commercial use?

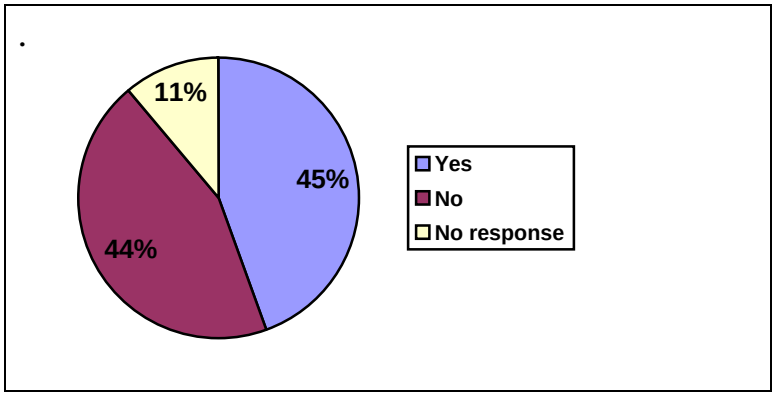

Figure 17: Illustrates the sliding scale for academic, private and commercial use.

As a follow up from question 11, four respondents stated that they had a sliding scale for images that were used for academic, private or commercial purposes, two said no, they did not have a sliding scale and there was no response to this question by one of the respondents.

Question 13

13. If yes, do you have a fee schedule available on line?

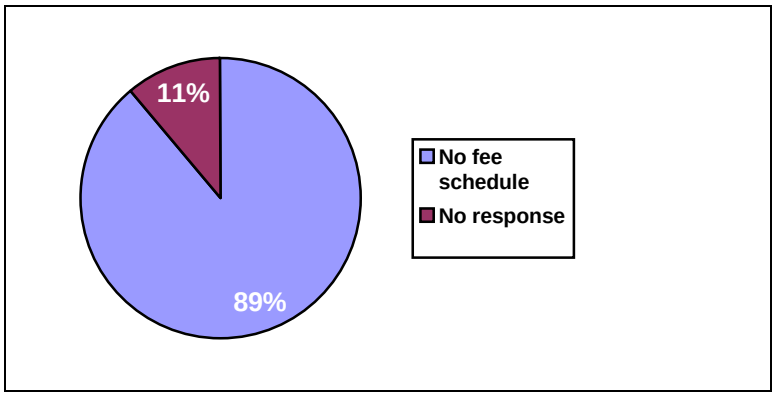

Figure 18: Illustrates the fee schedule available online.

Question 13 required a yes or no response to which eight respondents indicated that they do not have a fee schedule available online.

One respondent did not reply to the question.

Question 14

14. If so, please may I have the website address?

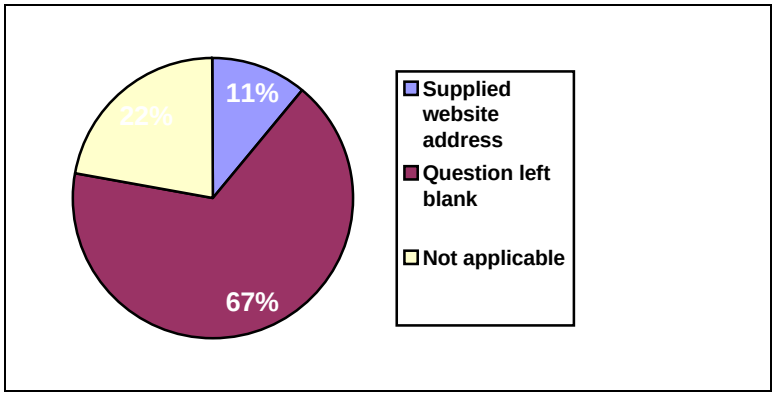

Figure 19: Illustrates the supplied of website address

One respondent supplied the website address but stated that the fee schedule was not available online.

Six respondents left this question blank and two respondents indicated that the question was not applicable.

Question 15

15. Do you keep a record of the users to whom you have supplied images?

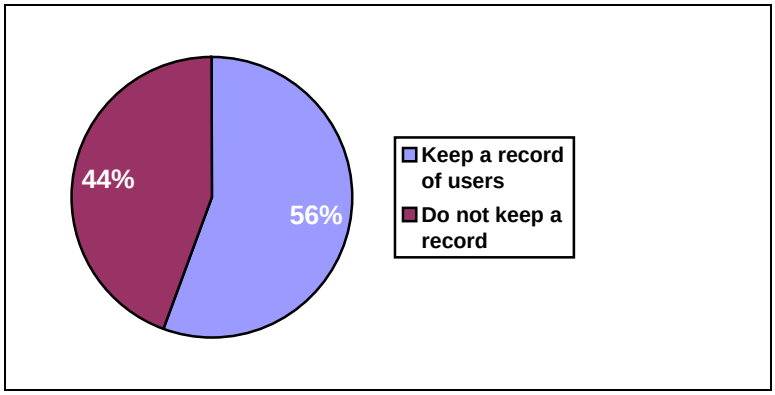

Figure 20: Illustrates a record of the users to whom digital images have been supplied

This question required a yes or no response. Five respondents said yes they keep a record of the users to whom they supply images. Four respondents said no they do not keep a record.

Question 16

16. If yes, how do you store this information?

This was a follow up to question 15 to establish if the records of users to whom images have been supplied are stored manually or in a database.

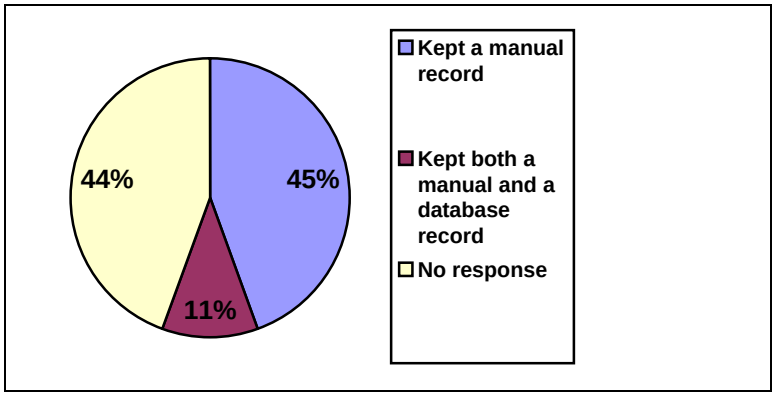

Figure 21: Illustrates the system of record keeping

Four respondents indicated that they kept a manual record of the users to whom they have supplied digital images.

One respondent stated that they kept a manual and a database record.

There was no response to this question from four of the respondents.

Question 17

17. Would you be interested in seeing the results of my investigation?

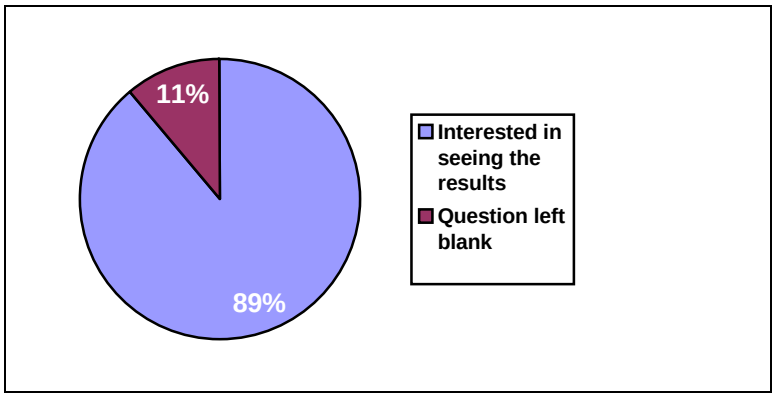

Figure 22: Illustrates the interest of this investigation into the digital scanning of photographs in archives.

Question seventeen required a yes or no response. Eight respondents indicated that they would be interested in seeing the results of this investigation and one respondent left the question blank.

One of the respondents wrote, “Please send us a copy of your completed research. I would be most interested as we are in the process of formalizing details and policy while at the same time considering how our collection can be digitised”.

This response is further evidence of the need for a workshop for the discussion and development of policies and procedures.

Question 18

18. If yes please supply an e-mail address.

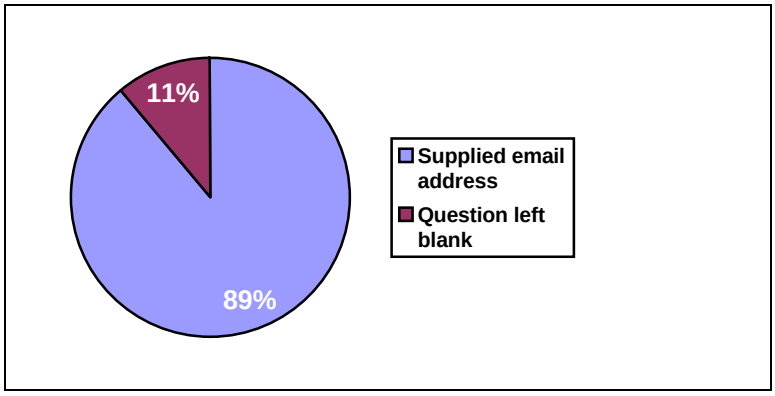

Figure 23: Illustrates the number of respondents that supplied their email address for the results of this investigation.

As a follow up to question seventeen the eight respondents who indicated that they would be interested in the results of this investigation supplied their email addresses. One respondent left the question blank.

In designing the questionnaire, the researcher hoped to establish the policies and guidelines used by the various libraries, archives and museums. The questionnaire asked for information on the documented policy and guidelines adopted to provide a digital imaging service and the availability of the policy and guidelines.
The aim of the survey was to investigate the management and the service and delivery aspects of digital scanning of photographs in archival collections.

5.4. General conclusions

From the response to the survey questionnaire the researcher has concluded that there is a need for capacity building in the key areas of deficiency identified above, namely,

a) policy guidelines for permission contracts
b) fee schedules and
c) use limitations for providing a digital imaging service.
d) And copyright in respect of digital images

Eight out of nine respondents to the survey indicated that they would be interested in seeing the results of the investigation.

It is recommended that

a) The model guidelines developed as part of this research should be distributed to all respondents.

b) That a workshop or seminar be organized to discuss the copyright law in the context of providing a digital imaging service in South Africa.

Chapter 6. Conclusions and recommendations

The advent of information technology (IT) has revolutionised the way a library functions, with digital libraries emerging as a faster way to search, read and disseminate information. Whilst the scanning of digital images provides for improved access to historic photograph collections, preservation managers have been criticised for ignoring the intellectual requirements of the user by failing to situate historic resources in the context of their time.

Working with digital surrogates can distort the research experience somewhat by taking research material out of the context of the reading room. The nature of computer display makes only serial viewing possible, very different indeed, for example, from spreading photographs in their original sizes around a flat surface and looking at them simultaneously and in different groupings (Smith, 1999: 7). This has been a complaint particularly from researchers from the history departments.
The argument is that for a photograph to be analysed it needs to be seen in its context and enclosure for a more accurate description.

Apart from academics, designers are also using digitisation to combine on one platform text, audio, and visual resources form multiple sources. These new digital artefacts integrate quality presentation, easy access and archival storage.

For future research we need more information about how much imaging projects cost, and about who uses these converted materials and how they use them, in order to judge whether the investment is worth it (Smith, 1999).

Whilst it is evident at the Campbell Collections that walk-in user numbers have dropped, this is not a true reflection of the use of the collection as there are many users out in cyberspace that are accessing the collection on a daily basis. The question is to what extent. These issues have an impact on staffing and funding, as the

university managers base the needs and budget allocation of a department on its user statistics.

The digital era has created new modes of operation and the new technology has meant change, but people and organisations have a natural aversion to change especially where it is perceived as daunting, complicated or costly. However, Peters (2003) states that her "experience in the digital library field indicates that the restructuring of the library workforce is vital to meeting the ongoing needs of the academic library in the midst of the dramatic change". Positions will have to be redefined to meet new organisation needs. The trend is towards new skills, particularly technology and electronic resources experience and knowledge of educational, instructional and teaching technologies. It is hoped that this present study will provide a helpful resource to support such changes in the South Africa library and special collections context.

The present Copyright Act was developed when the rate of generation of new books and journals was low and it prescribed a protection period of fifty years in South Africa, similar to the time limits in other countries. Dr. A. P. J. Abdul Kalam, President of India, has made an appeal at the International Conference on Digital Libraries: "In this millennium when the rate of flow of new books and journals has increased substantially, there is a need to have a re-look at the lock-in period of copyright documents. This international conference could initiate action for reducing the copyright duration substantially" (Abdul Kalam, 2004).

As has been discussed (see Chapter 3) existing copyright laws within member countries of the Berne Convention lock information for the life of the author plus a number of years (50 years in South Africa) and make no distinction between the information type and intent. These are monolithic, one size fits all solutions tailored more to protect commercial than consumer interests. Some consumer rights in the form of fair use and fair dealing exist but fail to provide a safe and reliable haven for projects aimed at the open exchange of knowledge.

Policy makers should take into account the standardization requirements, inter-operability, copyright issues, classification of documents and selection and use of number of library information systems available with various organizations in the country in different standards.

It is hoped that this present study has contributed to a clearer understanding of the new technology of digital image archiving and its impact on the professional area of special collections. This investigation has surveyed the literature and examples of best practice in digital image archiving, and the current state of affairs with regard to intellectual property rights and copyrights of digital images. The study then went on to integrate these elements into guidelines, aimed at providing a resource for other practitioners both in South Africa and elsewhere, who might be about to undertake a digitisation project. The survey results in Chapter 5 provide evidence that such support and guidance is needed. A programme of training and development in this field is strongly indicated, and further research would enable the development of future strategic planning in the South African library and archives sector. Specific recommendations for further training and the dissemination of this research report have been made at the end of Chapter 5.

References

1997. Drum's photo finish. *Weekly Mail and Guardian*. [Online]. Available: http://www.mg.co.za/

Abdul Kalam, A.P.J. 2004. *Digital Library and its multi-dimensions*. Inauguration of International Conference on Digital Libraries, 24 February 2004, New Delhi. [Online]. Available: http://presidentofindia.nic.in/scripts/sllatest1.jsp?id=282 [16 July 2005].

Andrew W. Mellon Foundation. 2003. [Online]. Available: http://www.mellon.org/ [16 July 2005].

Arts and Humanities Data Service (AHDS). 2003. *Guides to good practice in the creation and use of digital resources*. [Online]. Available: http://ahds.ac.uk/creating/guides/ [16 July 2005].

Alpern, A. 1999. *101 questions about copyright law*. Revised edition. New York: Dover Publications.

Arms, W.Y. 2000. *Digital libraries*. London: MIT Press.

Baca, M. 1998. *Introduction to metadata: pathways to digital information*. J. Paul Getty Trust. [Online]. 2.1 Version. [Online]. Available: http://www.getty.edu/research/conducting_research/standards/intrometadata/index.html [20 July 2004].

Baron, R. April 2000. *Making the public domain*. Paper presented at the Copyright Town Meeting, April 2000. San Francisco. [Online]. Available: http://www.studiolo.org/IP/VRA-TM-SF-PublicDomain.htm#Part%20I [18 January 2004].

Berne Convention for the Protection of Literary and Artistic Works. [Online]. Available: http://en.wikipedia.org/wiki/Berne_Convention_for_the_Protection_of_Literary_and_Artistic_Works [18 January 2004].

Besser, H. 1997. *Procedures and Practices for Scanning.* Canadian Heritage Information Network. [Online]. Available: http://sunsite.Berkeley.EDU/Imaging/Databases/Scanning/ [8 Feb 2000].

Besser, H. 1999. Recent changes to copyright: attacks against the public interest. *Peace Journal*. 11:1 March 1999. [Online]. Available: www.gseis.ucla.edu/~howard/Papers/copyright99.html [8 Feb 2000].

Besser, H. 2003. *Introduction to imaging.* Revised edition. Edited by Hubbard, S with Lenert, D. Research Library, The Getty Research Institute. [Online]. Available: http://www.getty.edu/research/conducting_research/standards/introimages/ [11 July 2005].

Besser, H. and Trant, J. 1995. *Introduction to imaging: issues in constructing an image database.* Santa Monica: Getty Art History Information Program.

Bishoff, L. and Allen, N. 2004. *Business planning for cultural heritage institutions.* Council on Library and Information Resources. [Online]. Available: www.clir.org/pubs/abstract/pub124abst.html. [20 January 2004].

Bridgeman Art Library. Ltd v. Corel Corp. 1999. 36 F. Supp. 2d 191 (S.D.N.Y. 1999) [Online]. Available: http://www.law.cornell.edu/copyright/cases/36_FSupp2d_191.htm [2 September 2003].

Bruck, C. 2001. *Scan charges*. Archives and Archivists LISTSERV List [Online]. 23 January. [Online]. Available: http://listserv.muohio.edu/archives/archives.html E-mail: bruck@iit.edu [23 January 2001].

Campbell, L. 1999. Panel: standards for imaging projects. *Electronic Imaging and the Visual Arts (EVA) Conference*, The Museum of Modern Art, New York, May 21 1999. [23 January 2001].

Campbell Collections. [Online]. Available: http://khozi2.nu.ac.za/

Campbell Collections. *Copyright notice*. June. 2000. [Online]. Available: http://khozi2.nu.ac.za/DigitalImagingCopyrightDisclaimer.htm [5 October 2005].

Campbell Collections Historical Photograph Collection. June 2000. [Online]. Available: http://khozi2.nu.ac.za/albumead.html [5 October 2005].

Canadian Intellectual Copyright Office. 2000. *A guide to copyright: copyright protection*. Canadian Intellectual Copyright Office. [Online]. Available: http://strategis.ic.gc.ca/sc_mrksv/cipo/cp/copy_gd_protect-e.html [5 October 2005].

Carl, F. 1996. *Steps in the digitization process*. Library of Congress, National Digital Library Program. [Online]. Available: http://lcweb2.loc.gov/ammem/award/docs/stepsdig.html [5 October 2005].

Chapman, S. 13 May 2000. *Considerations for project management.* Handbook for Digital Projects: a management tool for preservation and access. Andover, MA. Northeast Document Conservation Center. [Online]. Available: http://www.nedcc.org/digital/iii.htm [5 October 2005].

Colet, L.S. 2000. *Planning an imaging project*. Guides to quality in visual resource imaging. Research Libraries Group. [Online]. Available: http://www.rlg.org/legacy/visguides/intro [16 June 2005].

Colorado Digitization Project. 1999. [Online]. Available: http://www.cdpheritage.org/ [16 June 2005].

Colorado Digitisation Project. *Digital Toolbox*. [Online]. Available: http://coloradodigital.coalliance.org/toolbox.html [16 June 2005].

Connolly, P and Reidy, D. 1999. *The Digital library challenges and solutions for the new millennium*. Proceedings of an International Conference held in Bologna, Italy, June 1999. IFLA

Conway, P. 2000. *Overview: Rationale for Digitization and Preservation*. Handbook for Digital Projects: a management tool for preservation and access. Andover, MA. Northeast Document Conservation Center. [Online]. Available: http://www.nedcc.org/digital/ii.htm#summary [5 October 2005].

Copyright and photographs. 2004. University of Melbourne. [Online]. Available: http://www.unimelb.edu.au/copyright/photographs.html [20May 2005].

Copyright and photographs. 20 May 2005. University of Melbourne. [Online]. Available: http://www.unimelb.edu.au/copyright/photographs.html. [20May 2005].

The Copyright Law of South Africa. [Online]. Available: http://za.creativecommons.org/learn/sacopyright/ [20May 2005].

Cornell Institute for Digital Collections. [Online] Available: http://cidc.library.cornell.edu/ [20May 2005].

Cornell University Library. Digital imaging for libraries. [Online]. Available: http://www.library.cornell.edu/preservation/workshop/ [20May 2005].

Cottzee, l. and Eksteen, J. 2000. *Copyright protection for culture ware preservation in digital repositories*. INET 2000 Proceedings. [Online]. Available: http://www.isoc.org/inet2000/cdproceedings/index.htm [6 April 2005].

Council on Library and Information Resources (CLIR). Publication 124. [Online]: Available: www.clir.org/pubs/reports/pub124/contents.html [2 September 2005].

Cox, A. and Morris, A. 2003. Creating professional communities of practice for librarians. *The electronic library: the international journal for the applications of technology in information environments.* 21(2): 94-98. [Online]. Available: http://www.emeraldinsight.com/Insight/viewContainer.do?containerType=Issue&containerId=11334 [29 September 2004].

DALRO (Dramatic, Artistic and Literary Rights Organisation). [Online]. Available: http://jit18.firsttech.net/ [29 September 2004].

D. H. Ramsey. Library Special Collections and University Archives. 2005. *Policies for Reproduction & Publication of Materials in Special Collections.* [Online]. Available: http://toto.lib.unca.edu/services/reproduction_of_materials.htm#Scanning%20Service

Dramatic, Artistic and Literary Rights Organisation (DALRO). [Online]. Available: http://jit18.firsttech.net/ [29 September 2004].

Day, M. 1999. Issues and approaches to preservation metadata. *In Joint RLG and NPO preservation conference: guidelines for digital imaging*. [Online]. Available: www.rlg.org/preserv/joint/day.html [29 September 2004].

Dean, O. 1987. *Handbook of South African Copyright Law*. Revised edition. Service 11. Juta, Cape Town.

Deegan, M. and Tanner, S. 2002. *Digital futures: strategies for the information age.* London: Library Association Publishing.

DISA: Digital Imaging Project of South Africa. [Online]. Available: http://disa.nu.ac.za [15 November 2005].

Digital Imaging South Africa (DISA). [Online]. Available: http://aboutdisa.ukzn.ac.za/index.old.html [15 November 2005].

Digital Library Federation. 2004. *A working definition of digital library* [1998]. [Online]. Available: http://www.diglib.org/about/dldefinition.htm [15 December 2005].

Digital Library Federation. *Digital library standards and practice*. [Online]. Available:http://www.diglib.org/standardspv.htm [15 December 2005].

Digital Library Program. Indiana University. 14 October 2005. [Online]. Available: http://www.dlib.indiana.edu/ [15 December 2005].

Digital projects guidelines. *Digitization guidelines*. Attachment 4. Arizona State Library. Archives and public records. [Online]. Available: http://www.dlapr.lib.az.us/digital/dga4.hyml [10 September 2001].

Digital projects guidelines. *Scanning hardware and software selection guidelines*. Attachment 3. Arizona State Library. Archives and public records. [Online]. Available: http://www.dlapr.lib.az.us/digital/dg_a3.html [10/9/2001].

EAD (Encoded Archival Description). 2002. [Online]. Available: http://www.loc.gov/ead/ [18 July 2004].

ECPA (European Commission on Preservation and Access). Amsterdam, Netherlands [Online]. Available: http://www.knaw.nl/ecpa/sitemap.html [18 July 2005].

Edmonds, G. and Gray, D. 2002. *D K internet dictionary*. Great Britain: Dorling Kindersley.

Encoded Archival Description (EAD). 2002. [Online]. Available: http://www.loc.gov/ead/ [18 July 2004].

European Commission on Preservation and Access. (ECPA). Amsterdam, Netherlands [Online]. Available: http://www.knaw.nl/ecpa/sitemap.html [18 July 2005].

Gasaway, l. 4 November 2003. *When works pass into the public domain*. University of North Carolina. [Online]. Available: http://www.unc.edu/~unclng/public-d.htm [5 October 2004].

Genealogical Society of Utah. 2001. [Online]. Available: http://www.gensocietyofutah.org/ [4 June 2005].

HEDS (Higher Education Digitisation Service). [Online]. Available: http://heds.herts.ac.uk/ [4 June 2005].

Higher Education Digitisation Service (HEDS). [Online]. Available: http://heds.herts.ac.uk/ [4 June 2005].

Introduction to vocabularies. 1998. Getty trust. [Online]. Available: http://www.getty.edu/research/conducting_research/vocabularies/introvocabs/gettyvocabs.html [20 May 2005].

Leeds University Library. *Duration of copyright in photographs*. [Online]. Available: http://www.leeds.ac.uk/library/rights/photos.htm [20 May 2005].

Fair use. 2005. *Wikipedia.* [Online]. Available: http://en.wikipedia.org/wiki/Fair_use. [15 June 2005].

Flynn, M. and Zinkham, H. 1995. *The MARC format and electronic reference image : experience from the Library of Congress prints and photographs division. Visual resources*. 11(1): 1995. p 47-70.

Frey, F. 1999. *Image scanning: quality control and costs*. New York, Rochester Institute of Technology.

Frey, F. 2000. *Working with photographs.* Handbook for digital projects: a management tool for preservation and access. Andover, MA. Northeast Document Conservation Center. [Online]. Available: http://www.nedcc.org/digital/vii.htm#2 [5 October 2005].

Frey, F. 2003. *Why are photographs different? Image Permanence Institute.* Handbook for Digital Projects: a management tool for preservation and access. [Online]. Available: http://www.nedcc.org/digital/vii.htm [10 November 2005].

Frey, F. and Reilly, J. 1999. *Digital imaging for photographic collections: Foundations for technical standards.* [Online]. Available: RLG DigiNews. http:///EI/scanning%20manual/untitled%20folder/www.rit.edu/-661www1/subpages/frameset2.html. [November 1999].

Frey, F. S. and Susstrunk, S. 1997. *Color Issues to consider in pictorial image databases.* Proceedings IS&T Fifth Color Imaging Conference. AZ. Scottsdale. November 1997. pp.112-115. [Online]. Available: www.**image**permanenceinstitute.org/sub_pages/digibook.pdf

Friedman, H. 1996. *Round 10 in the Drum wars.* [Online]. Available: http://server.mg.co.za/mg/art/tv/9902/990204-tube.html [October 1996].

Gassaway, L.N. 2003 *When work passes into the public domain.*. Chapel Hill: University of North Carolina. [Online]. Available: http://www.unc.edu/˜unclng/public-d.htm

Getty Conservation Institute.[Online] Available: http://www.getty.edu/gci Institutions France.

Gonzalez, P. 1998. *Computerization of the Archivo General de Indias: strategies and results*. Washington, Council on Library and Information Resources.

Hahn and Hahn. 2001. *South African copyrights: an information pamphlet*. Intellectual Property Practitioners. [Online]. Available: http://www.hahn.co.za/copyrights-information.htm. [19 July 2005].

Hart, T. editor. 1995. *Building policy skills in South Africa*. Series: CDE Resource Booklet no 1. Johannesburg: Centre for Development and Enterprise. [Online]. Available: http://www.kzneducation.gov.za/elits/Publications.htm [4 October 2005].

Hedstrom, M. *Digital preservation: a time bomb for digital libraries*. [Online]. Available: http://www.uky.edu/~kiernan/DL/hedstrom.html. [2 November 2000].

Higgins, R. 7 September 2000. *Policies regarding sending electronic images*. Archives and Archivists LISTSERV List [Online]. 7 September, Available E-mail: r.i.higgins@durham.ac.uk [8 September 2000].

Hirtle, P. B. 2003. *Archives or assets*. Society of American Archivists: presidential address. [Online]. Available: http://dspace.library.cornell.edu/bitstream/1813/52/3/Archives+or+assets.html [21 August 2003].

IFRRO (International Federation of Reproduction Rights Organisations). 2001. [Online]. Available: http://www.ifrro.org/show.aspx?pageid=home [18 May 2002].

Index stock imagery. *Understanding the Berne Convention*. [Online]. Available: http://www.indexstock.com/pages/berne.htm. [18 May 2002].

International Council on Archives (ICA). 1995. Institutions Kenya. [Online]: Available: http://www.collectionscanada.ca/index-e.html [18 May 2002].

International Federation of Reproduction Rights Organisations (IFRRO). 2001. [Online]. Available: http://www.ifrro.org/show.aspx?pageid=home [18 May 2002].

Indiana University. 2001. *Digital imaging policy*. Draft. [Online]. Available: http://www.indiana.edu/~libarch/ER/image-policy.pdf. [20 July 2004]. [4 pages].

Jones, M and Beagrie, N. 2005. *Preservation management : digital materials.* A handbook. Ariadne. Issue 43. [Online]. Available: http://www.ariadne.ac.uk/issue43/beagrie/ [18 December 2005].

Kenny, A. R. and Chapman, S. 1995. *Digital resolution requirements for replacing text-based material: Methods for benchmarking image quality*. Washington DC: The Commission on Preservation and Access. [18 December 2005].

Kenney, A. R. and Rieger, O. 2000. Editors. *Projects to Programs: Mainstreaming Digital Imaging Initiatives*. In Moving Theory into Practice: Digital imaging for libraries and archives. Mountain View, CA: Research Libraries Group.

Kenny, A. R. and Rieger, O.Y. Editors. 2000. *Moving theory into practice: digital imaging for libraries and archives.* Mountain View, California: Research Libraries Group. [Online]. Available: http://www.rlg.org/preserv/mtip2000.html. [12 October 2004].

Klijn, E. and de Lusenet, Y. 2000. *In the picture: preservation and digitisation of European photographic collections*. The Hague: Koninklijke Bibliotheek.

LEE, S. 2001. *Digital imaging: a practical handbook*. New York: Neal-Schuman. [Online]. Available: http://www.neal-schuman.com/db/2/152.html

Library of Congress National Digital Library Program. 1997. NDLP *Project Planning Checklist*. [Online]. Available: http://memory.loc.gov/ammem/techdocs/prjplan.htlml [4 October 2005].

Library of Congress. 1997. RFP97-9. *Request for proposals for digital images of pictorial materials*. [Online]. Available: http://memory.loc.gov/ammem/prpsal9/coverpag.html

[18 January 2004].

Lynn-George, J. 1996. *Digitisations: a literature review and summary of technical processes, application and issues*. [Online]. Available: http://www.library.ualberta.ca/library_html/libraries/law/digit1.html. [12 June 2002.

Macklin, L.A. 1999. *Digital imaging of photographs: a practical approach to workflow design and project management.* Chicago: ALA.

Medley, J. 1996. *Copyright law timeline.* [Online]. Available: http://iml.jou.ufl.edu/projects/students/medley/timeline.htm [5 April 2005].

Levines, M.S. 2000. *Overview of copyright issues*. V. In: Handbook for digital projects: a management tool for preservation and access. [Online]. Available: http://www.nedcc.org/digital/v.htm [5 April 2005].

Missourri Digitization planning project. [Online]. Available: http://www.virtuallymissouri.org/mdpc/DPC%20Meeting%20Notes%2020040429.pd [5 April 2005].

Nicholson, D.R. 2003. *What has copyright got to do with newspapers?: A South African perspective.* World Library and Information Congress. 69th IFLA General Conference and Council. 1-9 August 2003, Berlin. Code number 059-E

NINCH (National Initiative for networked Cultural Heritage). 2002. *Digital asset management.* Chapter X111. In The NINCH Guide to Good Practice in the Digital Representation and Management of Cultural Heritage Materials. Version 1.0 of the First Edition. Washington, DC: (Humanities Advanced Technology and Information Institute (HATII), University of Glasgow, and the National Initiative for a Networked Cultural Heritage. [Online]. Available: http://www.nyu.edu/its/humanities/ninchguide/XIII/ [7 March 2000].

NINCH (National Initiative for networked Cultural Heritage). October 2002. *Quality control and assurance.* Chapter V111. In The NINCH Guide to Good Practice in the Digital Representation and Management of Cultural Heritage Materials. Version 1.0 of the First Edition. Washington, DC: (Humanities Advanced Technology and Information Institute (HATII), University of Glasgow, and the National Initiative for a Networked Cultural Heritage. [Online]. Available: http://www.nyu.edu/its/humanities/ninchguide/VIII/ [7 March 2000].

NINCH (National Initiative for networked Cultural Heritage). October 2002. *Introduction.* In The NINCH Guide to Good Practice in the Digital Representation and Management of Cultural Heritage Materials. Chapter 1. Version 1.0 of the First Edition. Washington, DC: Humanities Advanced Technology and Information Institute (HATII), University of Glasgow, and the National Initiative for a Networked Cultural Heritage. [Online]. Available: http://www.nyu.edu/its/humanities/ninchguide/I/ [7 March 2000].

Ogden, S. *Temperature, relative humidity, light, and air quality; basic guidelines for preservation.* 1999. Northeast Document Conservation Centre. Technical leaflet. The Environment. Section2, leaflet 1. [Online]. Available: www.nedcc.org [3 October 2003].

Ostrow, S.E. 1998. *Digitizing historical pictorial collections for theInternet.* Washington, DC: Council on Library and Information Resources. [Online]: Available: http://www.clir.org/pubs/reports/ostrow/pub71.html [18 January 2004].

PASA (Publishers' Association of South Africa. [Online]. Available: http://publishsa.co.za/ [12 April 2004].

Pearce-Moses, R. *Reproduction of archival materials.* Policy considerations. Heard Museum. [Online]. Available: http://www.hanksville.org/sand/contracts/lic.intro.html. [12 April 2004].

Peters, D. 1997. *Digital Imaging for Libraries and Archives*. [Online]. Available: http://khozi2.nu.ac.za/papers/199712_digital.html. [10 November 2005]. 5p.

Peters, D. 2000. *Digital Technologies as preservation management strategy*. E-mail from D Peters (Petersd@nu.ac.za), 27 October. [27 October 2002].

Peters, D. 2003. *Developing digital libraries in South Africa: breaking out of the bookish mould*. Paper. [Online]. Available: http://disa.nu.ac.za/ [10 November 2005] 9p.

Peters, D. 28 February 2002. *Digitising heritage.* Conference paper. Blurring the Boundaries : Training for Transformation 27th February - 1st March 2002. Iziko Museums of Cape Town. [Online]. Available: http://www.museums.org.za/mtconference/papers/html/peters.htm. [10 November 2005].

Peters, D. and Pickover, M. 2001. DISA: insights of an African model for digital library development. *D-Lib magazine*, 7 (11). [Online]. Available : http://www.dlib.org/dlib/november01/peters/11peters.html [16 June 2004].

Pitman, D. 2005. *The Art of Digital Imaging*. Sapcon 2005 Pre-Conference Workshop. East London. In: *LIASA-in-touch*. 6(3) September 2005. p6.

Puglia, S. 1999. The Costs of Digital Imaging Projects. *RLG DigiNews* 3 : 5 October 15 1999. http://www.rlg.org/preserv/diginews/diginews3-5.html#feature [10 October 2000].

Reich, J.F. 2005. *Napster, Copyright, and Encryption.* 29 June 2004. First Amendment Center. 29 January 2005. [Online]. Available : http://www.firstamendmentcenter.org/speech/internet/topic.aspx?topic=copyright

Reilly, J.M. 1995. *Technical choices in digital imaging: the technical images test project in review*. RLG digital images access project. Proceedings from an RLG symposium

held March 31 April 1, 1995, Palo Alto, CA. p85-93. Mountain View, CA: Research Libraries Group.

Rengecas, T. 2003. *Copyright in photographs.* [Online]. Available: http://www.pssa.co.za/Overview/Copyright.html [27June 2002].

Rice University Research Policy no. 303-90. 2001. [Online]. Available: http://www.ruf.rice.edu/~presiden/policies/research/303-90.html [28 November 2001].

Rieger, O. and Kenney, A. R. 2000. Editors. *Projects to Programs: Developing a digital preservation policy*. In Moving theory into practice: digital imaging for libraries and archives. Mountain View, CA: Research Libraries Group.

RLG DigiNews. December 1997. Review of colour management softwer 2004].are. [Online]. Available : http://www.rig.org/presev/diginews/diginews3.html#hardware&software [27 October 1999].

Roosa, M. 1992. *Care, handling and storage of photographs.* Washington, DC: Library of Congress National Preservation Office [Online]. Available: http://www.loc.gov/preserv/care/photolea.html. [3 January 2006].

Ross, T. 1999. *Digital asset management: the art of archiving.* [Online]. Available: http://techexchange.com/thelibrary/DAM.html

Safeguarding European Photographic Images for Access (SEPIA). 2000. Amsterdam: The Netherlands. [Online]. Available: http://www.knaw.nl/ecpa/sepia/sitemap.html [25 February 2000].

SEPIA (Safeguarding European Photographic Images for Access) 2000. Amsterdam: The Netherlands. [Online]. Available: http://www.knaw.nl/ecpa/sepia/sitemap.html [25 February 2000].

SEPIA (Safeguarding European Photographic Images for Access). 2001. *Workshop on management of photographic collections.* [Online]. Available: http://www.ub.uni-dortmund.de/listen/inetbib/msg18376.html [25 February 2000].

SEPIA (Safeguarding European Photographic Images for Access). 2000. *Guidelines for Preservation issues in digitizing historical photographs*. European Commission on Preservation and Access. (ECPA). [Online]. Available: http://www.knaw.nl/ecpa/sepia/workinggroups/wp4/guidelines.html [18 July 2005].

Silengo, S. 2000. *Web use policies/fees for photos*. Archives and Archivists LISTSERV List [Online]. 31 July, Available E-mail silengos@uswerst.net [2000, Jul. 31].

Sitts, M. K. 2000. Editor. *Handbook for Digital Projects: A Management Tool for Preservation and Access*. Andover, Mass: Northeast Document Conservation Center (NEDCC). [Online]. Available: http://www.nedcc.org/digital/dighome.htm. [10 October 2003]. Online version at: http://www.nedcc.org/digital/tocf1.htm

Skyes, J. B. Editor. 1982. *The Concise Oxford Dictionary of current English*. Oxford: Claredon Press.

Smith, A. *Why digitise*. 1999. Washington, D C: Council on Library and Information Resources. [Online]. Available: http://www.clir.org/pubs/reports/pub80-smith/pub80.html#introduction [10 October 2003].

Smolen, D. 2000. *Policies regarding sending electronic images*. Archives and Archivists LISTSERV List [Online] 6 September, Available: E-mail: dsmolen@nhistory.org [8 September 2000].

South African copyright forum: *Copyright regulations*: *draft regulations as drafted by the sub-committee of the ministers' advisory committee*: [Online]. Available: http://www.Pgw.org/sacfo/draft.htm [p:6]. [3 September 2004].

South African forum. *Electronic copying discuss group*. [Online]. Available: http://www.pgw.org/sacfo/electron.htm. [16 August 2002].

Stanford University Libraries. 2003. *Copyright and fair use*. [Online]. Available: http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/Chapter9?9-b.html [17 September 2005].

Stephenson, C. and McClung, P. editors. 1998. *Delivering digital images cultural heritage resources for education.* The Museum Education Site Licensing Project, Vol.1. California: Getty Information Institute

Tanner, S. 2004. *Reproduction charging models and rights policy for digital images in American art museums*. A Mellon Foundation study. 57 pages. KDCS Digital Consultancy. [Online]. Available: http://kdcs.kcl.ac.uk/USart/index.html [20 June 2005].

TASI (Technical Advisory Service for Images). 2002. *Copyright.* Advice paper. [Online]. Available: http://www.tasi.ac.uk/advice/managing/copyright.html [14 September 2005].

TASI (Technical Advisory Service for Images). 2002. *User issues and digital rights management.* [Online]. Available: http://tasi.ac.uk/advice/using/userissues.html [14 September 2005].

Text Encoding Initiative (TEI). *The TEI Consortium Homepage*. [Online]. Available: http://www.hti.umich.edu/t/tei/ [16 July 2004].

The Digital dilemma. 2000. *Intellectual property in the information age*. Committee on intellectual property rights and the emerging information infrastructure. National Academy Press, Washington, DC.

Stiebel, L. et al. 2001. *Thomas Baines and the "Great Map": route of the Goldfields Exploration Company's Expedition 1869-1872.* CD-ROM. No. 1. Campbell Collections electronic publication series. Available: Campbell Collections of the University of KwaZulu-Natal.

Timeline: a history of copyright in the United States. [Online]. Available: http://arl.cni.org/infofrn/copy/timeline.html. [18 March 2005].

Trusted Digital Repositories: attributes and responsibilities. (May 2002) Research Libraries Group. An RLC-OCLC report. [Online]. Available: **www.rlg.org** [18 March 2005].

UKOLN. 2004. (The United Kingdom Office for Library and Information Networking). 2004. [Online]. Available: http://www.ukoln.ac.uk/ [3 January 2006].

University of California. 1999. *University wide task force on copyright: report and recommendations*. University of California. [Online]. Available: [October 1999].

University of Natal. [Online]. Available: http://www.nu.ac.za [14 September 2005].

University of KwaZulu-Natal. [Online]. Available: http://www.nu.ac.za/ [14 September 2005]

University of Washington. 2003. *Fair use guidelines for educational multimedia.* [Online]. Available: http:/www.washington.edu/classroom/emc/fairuse.html [17 September 2005]. pages 1-7

Vista University Library Services. [2002]. *Copyright.* Available: http://www.vista.ac.za/library/copyright.htm [16 July 2002].

Vogt-O'Conner, D. 1992. *Selection of materials for scanning.* [Online]. Available: http://www.nedcc.org/digital/iv.htm [18 July 2004].

Webster, C. 2004. *Discussion of key IP issues for the struggles project from a South African perspective, and how laws vary among southern African countries.* Paper presented at: DISA I P workshop, 18 August 2004. [Online]. Available: http://aboutdisa.ukzn.ac.za/workshops/IPworkshop/ipwebster.html [12 October 2005].

Weekly Mail and Guardian. [Online]. Available: http://www.mg.co.za/ [18 November 2005].

Wikiepedia. 2005. *Fair Use*. [Online]. Available: http://en.wikipedia.org/wiki/Fair_use [20 December 2004].

Western States Digital Standards Group (WSDSG). 2003. *Digital imaging best practices* [Online]. Available: http://www.cdpheritage.org/digital/metadata/westernStatesTermList.cfm [18 July 2004].

World Intellectual Property Organization (WIPO). 2004. [Online]. Available: http://www.wipo.int/ [18 July 2004].

WSDSG (Western States Digital Standards Group). 2003. *Digital imaging best practices* [Online]. Available: http://www.cdpheritage.org/digital/metadata/westernStatesTermList.cfm [18 July 2004].

Zorich, D. M. 1999. Introduction to managing digital assets: options for cultural and educational organizations. Getty Information Institute.

Annexures

Annexure 1: Annotated bibliography of websites

The following citations present an annotated bibliography of, *Planning digitisation projects, Guides to digitising image collections, Websites, Digitisation workshops held in South Africa, Intellectual property rights agency in South Africa, South African publishers Association, Digital preservation institutions websites, Discussion lists websites,* relating to digitising cultural heritage materials. This bibliography includes the references for the various sections of this project together with some additional references relating to digitisation in general. As Liz Bishoff notes, guidelines vary from project to project because, unique characteristics of individual resources may necessitate different approaches to scanning. The following Website addresses were valid as of 3 January 2006.

Planning digitisation projects: Publications

Besser, H. and Trant, J. 1995. *Introduction to imaging: issues in constructing an image database*. Los Angeles, CA: Getty Information Institute. [Online]. Available: http://www.getty.edu/research/institute/standards/introimages/ [20 Feb. 2000].

This publication provides an overview of electronic imaging, beginning with a description of what a digital image is, through to what should be considered before, during and after the process of creating digital images. It introduces the technology and system components needed to create these images, as well as the technology and terminology of digital imaging in relation to the development of image databases, with a focus on museum collections. A glossary and listing of web resources are included links to many useful resources on the WWW. *Introduction to imaging* (Revised Edition) is also available in hardcopy from the Getty Bookstore.

Besser, H. 1999. *Best Practices for Scanning and Metadata*. Berkeley, CA: University of California. [Online]. Available : http ://www.gseis.ucla.edu/~howard/MOA2/a-read-me.html [6 June 2000].

Besser outlines a set of best practices geared towards those wanting to create digital representations of parts of their collections. The focus is the reformatting of existing works into bitmapped digital formats especially during the initial activities of capturing images and metadata. While the recommendations are directed towards institutions looking at long-term preservation of a large collection, an attempt has been made to make them broad enough to apply to most situations. The discussion involves both general recommendations that should apply to many different types of objects over a prolonged period of time, and specific minimum recommendations that take into consideration technical capabilities and limitations faced by a hypothetical large academic library in 1999.

Besser, H. 2000. *Image and Multimedia Database Resources*. Berkeley, CA: Berkeley Digital Library SunSITE, University of California. [Online]. Available: http://sunsite.berkeley.edu/Imaging/Databases/ [15 June 2003].

This is a listing compiled by Howard Besser of image and multimedia database resources. It includes categories dealing with digital imaging, metadata and standards, ethical and legal issues, image capture and compression, image quality and conservation, technical protection for images, retrieval issues, and costs. A listing of image databases on the Internet is included.

Chapman, S. 1999. Guidelines for Image Capture. *Joint RLG and NPO Preservation Conference: Guidelines for Digital Imaging*. Mountain View, CA: RLG. [Online]. Available: http://www.thames.rlg.org/preserv/joint/chapman.html [03 Mar. 2000].

This document reviews five areas related to digital image capture: materials handling, systems quality, digital master quality, derivatives, and file naming. The discussion of each area includes an introduction, a list of issues, a review of technology, a summary of practice to gauge where perspectives are similar and where they vary, and a conclusion consisting of a list of questions for further discussion.

Curtain, D. *A Short Course in Digital Photography*. Marblehead, MA: Short Courses. http://www.photocourse.com/ [05 Mar. 2000].

This course is available from the Short Courses Publishing Program and is part of the Short Courses series of books on digital cameras and digital photography. This particular course on digital photography appears to cover everything about digital cameras and the digital process – from purchasing a camera and other advice on getting started in digital photography to scanning images and stereo photography. According to the web site, it is considered by many to be the bible of digital photography.

Digitizing the Collection: Database Design. California Heritage Collection. Berkeley, CA: The Bancroft Library, UCB. http://sunsite.berkeley.edu/CalHeritage/database.html [01 Mar. 2000].

The size of the California Heritage Collection, which is over 25,000 photographs, was one of the factors in the decision to create a database of the collection. This site discusses the design of the database, outlining its structure, features and maintenance.

Fleischhauer, C. *Digital Formats for Content Reproductions.* 13 July 1998.American Memory, Library of Congress. http://memory.loc.gov/ammem/formats.html [03 Mar. 2000].

This document is one in a three part series designed to provide assistance to applicants in the Library of Congress/Ameritech competition and that covers the Library of Congress digital conversion activity as of August 1996. This particular item in the series provides a discussion on capturing digital representations of different types of materials. The types of materials include: pictorial materials, textual materials reproduced as searchable text and images, textual materials reproduced as images, maps, sound recordings, moving-image materials, and headers for computer files.

Levines, M.S. 2000. *Overview of copyright issues*. [Online]. Available: www.nedcc.org [10 July 2004]. Audience: Digital project managers

Offers an information summary of the complicated issues and problems arising from copyright laws, along with an excellent section consisting of references available on the web. The most useful section in the handbook is, developing best practices, guidelines from case studies, and the composite chapter consisting of six case studies from professionals with extensive digital project experience of working with manuscripts, photographs, maps and other materials. The detail index and a list of related sources for each chapter makes it a very useful resource. The handbook is available full text with links at the NEDCC website (www.nedcc.org), where it is updated regularly.

Smith, A. September 2001. *Strategies for building digitised collections*. Washington, D C: Digital Library Federation Council on Library and Information Resources. [Online]. Available : http ://www.clir.org/pubs/reports/pub101/contents.html. [June 2004]. Format: html. Document (12K). Audience: Digital library staff.

An expert synthesis of research libraries' goals in digitising rare, special and general collections in order to support scholarly research, with questions about appropriate

future directions. This paper reviews existing selection practices in libraries, identifies selection policies and best practices where they exist, and discusses the long-term implications of the opportunities and constraints that shape digital-conversion.

Vogt-O'Conner, D. 2000. *Selection of material for scanning*. [Online]. Available: http://www.nedcc.org/digital/iv.htm [3 January 2006].

Digital Publications Project Checklist is a useful reminder of the issues one must address in planning a digital publications project or contract. The checklist looks at the *Technical productions issues*, *The legal and ethical issues*, the *Content and context use issues of digital images* and *products and negotiating contracting and payment issues.* The Checklist for evaluation has been adapted and reproduced in this project, See Chapter 4.

Guides to digitizing image collections

A Decision-Making Matrix. Selection for Digitization. 1998. Cambridge, MA: Harvard University Libraries Preservation. http://www.clir.org/pubs/reports/hazen/matrix.html [28 Feb. 2000].

This decision-making matrix provides guidelines for selecting materials for digital reformatting. It is based on a Harvard white paper, and is presented in the form of a flow chart.

Digital Library Toolkit [Online]. Available: http://www.sun.com/products-n solutions/edu/whitepapers/digitaltoolkit.html

It is like a Bible for the development of digital library. It gives detailed information about what is a digital library, what type of one can digitise, how to go about it, etc. It is a wonderful source of information for beginners. It is available for download.

Digitising the collection: image capture. California Heritage Collection. The Bancroft Library, University of California, Berkeley. [Online]. Available: http://sunsite.Berkeley.EDU/calhetitage/image.html [6 July 2005].

Presentation of advantages and disadvantages of using Kodak's Photo CD as the production workflow solution to the challenge of scanning 28,000 pictorial materials documenting California heritage.

D-Lib Magazine. [Online]. Available: www.dlib.org

D-Lib Magazine is a monthly online publication about digital libraries research and innovation.

Issues in Digitization. 5 January 1999. A report prepared for the Washington State Library Council. Olympia, WA: Washington State Library http://www.statelib.wa.gov/projects/Digitize/Digitization10.html. [20 Feb. 2000].

This report provides information about the issues of conversion of non-digital materials to digital files as defined by the Collaborative Digitization Project. It was prepared by members of the Washington State Library for its Council. The information in the report represents data gathered at the beginning of their research and is expected to be further explored and validated or revised during the project. It is expected that this information will be indicative of the depth of research required for this project and of the range of possible costs as based on known or predicted costs of tasks completed on other digitisation efforts.

Kenney, A. R. and Rieger, O. R. 2000. *Moving theory into practice: digital imaging for libraries and archives*. Mountain View, California: Research Libraries Group. [Online]. Available: http://www.rlg.org/preserv/mtip2000.html. [27 July 2005].

*Metadata Encoding and Transmission Standard [*METS]. [Online]. Available: http://www.loc.gov/standards/mets/

The METS schema is a standard for encoding descriptive, administrative, and structural metadata regarding objects within a digital library, expressed using the XML schema language of the World Wide Web Consortium. The standard is maintained in the Network Development and MARC Standards Office of the Library of Congress, and is being developed as an initiative of the Digital Library Federation.

NDLP Project Planning Checklist. January 1997. American Memory. Washington, DC: National Digital Library Program, Library of Congress. [Online]. Available: http://lcweb2.loc.gov/ammem/prjplan.html [28 Feb. 2000].

The production process for historical collections at the Library of Congress is outlined in this document: it therefore reflects the Library's administrative structure and procedures. Since it is based on the process at the Library of Congress, not all of the steps, and even perhaps additional steps, may be required by other institutions. The Checklist takes you through the following processes: selection, planning, digitisation and creation of access aids, archiving, creating a framework, assembling the collection, testing and refining, releasing and updating.

Puglia, S. and Roginski, B. January 1998. *NARA Guidelines for Digitizing Archival Materials for Electronic Access*. College Park: National Archives and Records Administration. [Online]. Available: http://www.nara.gov/nara/vision/eap/digguide.pdf [3 October 2002].

An exhaustive and specific set of guidelines for digitising textual, photographic, maps/plans, and graphic materials. Includes specific guidelines about resolution and images size for master files, access files, and thumbnail files. Also includes specific guidelines for scanner/monitor calibration, and file header information tags. Handy quick reference chart at: http://www.nara.gov/nara/vision/eap/digmatrx.pdf.

Puglia, Steven. 1999. *The Costs of Digital Imaging Projects*. RLG DigiNews 3:5, October 15, 1999. http://www.rlg.ac.uk/preserv/diginews/diginews3-5.html [29 Feb. 2000].

This article lists items to be cost considered when working on a digital imaging project and provides an analysis on these costs including numerous breakdowns of dollar amounts, percentages, and cost comparisons. The data gathered represent "average" costs and is intended to be used as a reference to determine whether specific project costs are "in the ballpark." It also provides details on what should be considered for ongoing and maintenance costs.

RLG DigiNews. (February), Mountain View, CA: Research Libraries Group (Feb. 2000. http://www.rlg.ac.uk/preserv/diginews/. [06 Mar. 2000].

RLG DigiNews is a bimonthly web-based newsletter with a focus on the following areas: issues of particular interest and value to managers of digital initiatives with a preservation component or rationale; providing filtered guidance and pointers to relevant projects to improve awareness of evolving practices in image conversion and digital archiving; and to announce publications that will help attain a better understanding of digital issues.

Smith, A. *Why Digitize?* February 1999. Washington, DC: Council on Library and Information Resources: http://www.clir.org/pubs/reports/pub80-smith/pub80.html [20 Feb. 2000].

This paper, written in response to discussions at meetings of the National Humanities Alliance (NHA), addresses the issues libraries and archives face when deciding about a digital conversion program and summarizes the experiences encountered by some institutions with their own digitisation projects. The paper discusses what digital information is and what access it provides. It comments on the advantages and disadvantages of digitisation for cultural material and how new technologies are impacting traditional library roles.

Tanner, S. and Robinson, B. 17 July 1998. *A Feasibility Study for the JISC Image Digitisation Initiative* (JIDI). Hertfordshire, UK: HEDS. http://heds.herts.ac.uk/resources/papers/jidi_fs.html [01 Mar. 2000].

The Study offers practical solutions for the issues presented by the range of image types involved in the JIDI. It details the background, method, technical baselines, findings and results, proposed production processes, procedures and potential costs. The study looks at the particular challenges presented by each of the sample collections – challenges such as colour matching, photographs, textiles and large format or extremely fragile originals. Issues such as the use of photographic surrogates, transport and handling issues and metadata requirements are also presented. The Study will be of interest to any project team preparing an image digitisation project and describes many of the issues that should be considered.

Tanner, S. and Smith, J. L. September 1999. *Digitisation: How much does it really cost?* HEDS Papers. Higher Education Digitisation Service, September 1999. [Online] Available: http://heds.herts.ac.uk/resources/papersI.html. [08 Mar. 2000].

There are many factors that will influence the cost of undertaking a digitisation project and these factors are discussed in this paper along with advice and practical tips on ways in which to lower these costs. The following points are addressed: what makes up a digitisation project and what are the major costs, how will various factors such as the choice of the original and the technical specification affect costs, and whether to out-source or use in-house resources. A matrix showing examples of comparative costs of digitising a variety of media is included.

Technical Metadata Elements for Images Workshop. 18-19 April 1999. Washington, DC: National Information Standards Organization http://www.niso.org/committees/committee_au.html [29 Feb. 2000].

This workshop was sponsored by NISO (The National Information Standards Organization), CLIR (The Council on Library and Information Resources) and RLG (The

Research Libraries Group). The workshop was organized to examine technical information needed to manage and use digital still images that reproduce a variety of pictures, documents and artefacts. Three areas in particular are discussed: characteristics and features of images, image production and reformatting features, and image identification and integrity issues. Groups present at the workshop included libraries, universities, museums, archives, the digital library community, the government, and the digital imaging vendor community.

Text Encoding Initiative [TEI]. [Online]. Available: http://www.tei-c.org/Guidelines2/index.html

TEI is an international and interdisciplinary standard that helps libraries, museums, publishers, and individual scholars represent all kinds of literary and linguistic texts for online research and teaching, using an encoding scheme that is maximally expressive and minimally obsolescent.

Websites

Arts and Humanities Data Service (ADHS). [Online]. Available: http://adhs.ac.uk/manage/manintro.html

The AHDS's managing digital collections is a good and useful reference work of standards and procedures. It can help and notify data creators about the existence of standards which they may want to consider.

Arts and Humanities data service, U.K. *Guides to good practice in the creation and use of digital resources.* [Online]. Available: http://www.ahds.ac.uk/guides.htm

California Digital Library. 1997. [Online]. [Available]: http://www.cdlib.org/.

Harnessing technology and innovation, and leveraging the intellectual and cultural

resources of the University of California, the California Digital Library supports the assembly and creative use of the world's scholarship and knowledge for the UC libraries and the communities they serve. Established in 1997 as a UC library, the CDL has become one of the largest digital libraries in the world.

CEDARS (CURL Exemplars in Digital Archives). http:///www.leeds.ac.uk/cedars

U.K. project April 1998 to March 2002, organized by Consortium of University Research Libraries (CURL) funded by JISC (Joint Information Services Committee). Investigated issues surrounding digital preservation and responsibilities that research libraries would have to assume to ensure continued accessibility to digital materials. Included creation of a propttype or demonstrator archive based on the Open Archival Information Systems (OAIS) model.

Colorado Digitization project: general guidelines for scanning. Spring 1999. [Online]. Available: http://coloradodigital.coalliance.org/vendor.html. [6 July 2004].

These standards were developed by the Colorado Digitization Project Scanning Working Group.

Colorado Digitization Programme. [Online]. Available: http://www.cdpheritage.org/ [6 July 2004].

Provides access to existing Colorado digital collections. Links to related national collections, provide those interested in digitisation information on scanning, creation of metadata, legal issues, etc., and provides a vehicle for distributing the strategic plan, guidelines developed by the Project participants, and general updates on the Colorado Digitization Project. Colorado: CDP, 12 Jun. 1999. http://coloradodigital.coalliance.org/ [20 Feb. 2000].

The Colorado Digitization Project is a collaborative initiative involving Colorado's archives, historical societies, libraries, and museums, whose goal is to create a digital

library-museum of Colorado's historical and cultural resources. This web site is considered to be the focal point of the project. It provides access to existing Colorado digital collections as well as related national collections, and serves as a source of information on digitisation. Areas such as scanning, metadata, copyright, and collection development policy/selection statements are covered, as well as issues that should be considered before starting a digitisation project, such as purpose, audience, funding, and maintenance. The site serves as a means for distributing the strategic plan and the guidelines and standards used.

Copyright FAQ. 12 July 1999. *Arts and Humanities Data Service: Technical Advisory Service for Images*. [Online]. Available: http://ahds.ac.uk/bkgd/copyrightfaq.html [28 March 2004].

A listing of questions and answers pertaining to copyright, including areas on fair dealing, the Internet, digitised text material, image copyright, the performing arts, specialist copyright questions, and resources of other reference works and web sites on copyright. The document is intended to be used as a quick reference guide and not as legal advice.

Cornell Law School. [Online]. Available: http://www.law.cornell.edu/lii.tsble.html [10 December 2004].

The legal information institute Cornell Law School provides copies of recent Supreme courts decisions, the United States code (law promulgated by the U S congress) historic decisions and more. It is a bit legalistic but is a complete and quite useful resource. See the area called "material organised by legal topic the click on intellectual property" then click on copyright or right of publicity / right of privacy.

Council on Library and Information Resources. [Online]. Available: www.clir.org. This site has now moved to: http://www.clir.org/search.asp?qu=photographs

Digital Imaging Initiative Web Resource List. 02 Oct. 2000. Digital Imaging and Media

Technology Initiative, University of Illinois. http://images.library.uiuc.edu/resources/links.htm [18 Mar. 2000].

This site contains a series of web resources pertaining to digital imaging. The categories of links include: digital imaging - scanning and image editing; vocabulary tools and data structures; copyright and intellectual property issues; hardware and software; preservation and conservation; conferences and workshops; image databases on the web; organizations, groups, and committees; imaging programs at other universities; researchers and colleagues; electronic resources, bibliographies, reports and articles; and newsgroups.

Western States Digital Standards Group (WSDSG). Digital Imaging Working Group. 17 July 2002. *Western States Digital Imaging Best Practices*. Version 1.0 Western States Digital Standards Group, A Cultural Heritage Collaboration. January 2003. [Online]. Available: http://www.cdpheritage.org/digital/scanning/documents/WSDIBP_v1.pdf [June 2004]. pdf documents. Audience: Librarians

Funded by an IMLS grant to University of Denver and the Colorado Digitization Program. In the Fall of 2001, the University of Denver was awarded an Institute for Museum and Library Services (IMLS) grant to develop a multi-state collaborative initiative that demonstrates the ability to broaden access to a collection of widely dispersed digital resources by creating a virtual collection of digital resources using the topic Western Trails. Twenty-three institutions in four Western states were awarded mini-grants to create digital content and associated metadata. Additionally, the grant was to develop a set of *Best practices for digital imaging*, with involvement of representatives from cultural heritage institutions in the four participating states. On 6 June 2002 representatives from Western States met in Denver, Colorado to begin the task of reviewing and updating the existing Colorado Digitization Program best practice guidelines.
The purpose of this document is to offer guidance and to provide minimum digital imaging recommendations to institutions that are planning for or are involved in

digitisation projects. These guidelines are not intended to be used as the de facto standard for digital imaging, but rather as a guide for image capture, presentation, storage, and preservation. Inherent or unique characteristics of different source materials necessitate different approaches to scanning and conversion requirements for digital projects should be considered on a case-by-case basis (particularly for grant projects with specific requirements). The recommendations made in this document are purposely broad enough to apply to a variety of institutions and collections and attempt to synthesize different recommendations previously made for specific institutions or projects. This document addresses the more standard formats of text, photographs, maps, and graphic materials and is written for institutions that have the equipment and expertise to scan in-house. If you are planning to primarily scan oversize materials, bound materials, or materials in non-standard formats and sizes, you may consider outsourcing these materials to imaging vendors.

Digital Imaging South Africa. (DISA). [Online]. Available: http://aboutdisa.ukzn.ac.za/Guidelines/guideindex.html. [20December 2005].

The DISA is located at the Campbell Collections. This is the first library/archive project in South Africa to be undertaken on a national rather than a regional or institutional basis. The DISA Project has developed guidelines for its partners and other digitisation projects. The conference reports and The DISA Bulletin is updated regularly as a means of communication of news, activities, and related items of interest. A regular report offers an insight into the progress of the project. [Online]. Available: DISA: Digital Imaging Project of South Africa. http://disa.nu.ac.za

DISA aims to investigate and implement digital technologies to enable scholars and researchers from around the world to access South African material of high socio-political interest that would otherwise be difficult to locate and use. In addition, DISA aims to provide South African archivists and librarians with knowledge of, and expertise in, digital imaging.

Digital Library Federation (DLF). [Online]. Available: http://www.diglib.org/

A consortium of libraries and related agencies that are pioneering in the use of electronic-information technologies to extend their collections and services. Through its members, the DLF provides leadership for libraries broadly by identifying standards and best practices for digital collections and network access. Operates under the administrative umbrella of the Council of Library and Information Resources (CLIR), Washington DC.
D-Lib Forum. March 2000. *Digital Libraries Initiative.* [Online]. Available: http://www.dlib.org/ [26 Mar. 2000]. The D-Lib Forum supports the community of researchers and developers working to create and apply the technologies leading to the global digital library. Its goal is to support and facilitate collaborative activities, information exchange, and communications of this community.
Dublin Core. The AHDS in association with the UK office for library and information networking (UKOLN) has produced a publication which outlines in more detail the best practices involved in using Dublin core as well as giving many practical examples: Discovery on line resources across the humanities. A practical implementation of the Dublin core. This publication is also freely available from the AHDS website. http://AHDS.ac.uk chapter 6 AHDS. Dublin Core metadata template is available at http://www.lub.lu.se/cgi-bin/nmdc.pl
European Commission on Preservation and Access (ECPA). [Online]. Available: http://www.knaw.nl/ecpa/ [12 June 2005].
Guides to Quality in Visual Resource Imaging. July 2000. Digital Library Federation (DLF): Research Libraries Group (RLG). [Online]. Available: http://www.rlg.org/visguides [19 August 2000]. In 1998 a board of experts was gathered to determine the state of digital imaging of visual resources. This board has developed five guides: Planning an Imaging Project; Selecting a

Scanner; Imaging Systems: the Range of Factors Affecting Image Quality; Measuring Quality of Digital Masters; and File Formats for Digital Masters. The guides are aimed at those who have already decided what they will digitise and the purpose that those digital images will serve, and present information on how to successfully create and store high-quality digital masters and derivatives.

IFLA's Digital Library Resources and Projects. *IFLA copying and intellectual property resources*. [Online]. Available: http://www.nlc.bnc.ca/ifla./11 copyright.html [20 December 2005].

Provides extensive links to different digital library resources and projects carried out at different countries. The IFLA site is a good source for maintaining current awareness. It includes articles, reports and white papers, discussion and information about organizations related to copyright issues, intellectual property in general and electronic distribution of intellectual property

Kenney, A. R. and Rieger, O. Y. April 2000. *Moving Theory into Practice: Digital Imaging for Libraries and Archives*
United States of America. Reviews order form and table of contents available: http://www.rlg.org/preserv/mtip2000.html.
Format: html. Document: Audience: Funders, managers, librarians, archivists, curators, system analysts, programmers, administrators, faculty, and other scholars.

An RLG sponsored publication on digitisation and digital preservation designed to assist in creating integrated digital imaging projects. Topics discussed include digital conversion, benchmarking, quality control, metadata, access and retrieval, image management and web delivery, digital preservation and the development and sustainability of digital imaging initiatives. It includes extra commentary from more than 50 experts in their field and numerous additional reference sources.
ISBN: 0-9700225-0-6 http://www.rlg.org/preserv/mtip2000.html
This site was frozen in 2004 and is now out of date. Site is now available at the RLG's current website: http://www.rlg.org/ [3 January 2006].

Library of Congress. *Project Planning Checklist: National Digital Library Program* (NDLP). 1997. [Online]. Available: http://memory.loc.gov/ammem/techdocs/prjplan.html
Library of Congress. *Related Technical Information: National Digital Library Competition*. [Online]. Available: http://lcweb2.loc.gov/ammem/award/tech97.html Includes references and links to numerous documents relating to the development and production of digital library projects. The Library of congress identified a core set of metadata elements to be used in the development testing and implementation of multiple repositories.
Making of America. [Online]. Available: http://sunsite.berkeley.edu/MOA2/ http://moa.umdl.umich.edu/ and http://cdl.library.cornell.edu/moa/.
National Initiative for a Networked Cultural Heritage (NINCH). 2000. Washington, DC: NINCH. [Online]. Available: http://www.ninch.org/ [07 Mar. 2000]. The National Initiative for a Networked Cultural Heritage (NINCH) is a diverse coalition of organizations created to assure leadership from the cultural community in the evolution of the digital environment. It achieves its mission through education, through creating an information-sharing platform for the community, and through the provision of a framework to develop and advance projects, programs and partnerships to benefit the cultural community.
New Zealand Digital Library. [Online]. Available: http://www.sadl.uleth.ca/nz/cgi- bin/library The New Zealand Digital Library project is a research programme at The University of Waikato whose aim is to develop the underlying technology for digital libraries and make

it available publicly so that others can use it to create their own collections. They have developed the "Greenstone" Software which is available for download.

NINCH. *Guide to Good Practice in the Digital Representation and Management of Cultural Heritage Materials*. 1999. Washington, DC: Humanities Advanced Technology and Information Institute, University of Glasgow and the National Initiative for a Networked Cultural Heritage. [Online]. Available: http://www.nyu.edu/its/humanities/ninchguide/ [24 June 2004].

The online version of The National Initiative for a Networked Cultural Heritage (NINCH) includes a general bibliography compiled by HATII together with the reports of the 36 interviews that formed the chief framework of the research underlying the guide under took this project to review and evaluate current practice in the digital networking of cultural heritage resources. The starting point for the project was the creation of an initial definition of good practice which consisted of six principles, each of which had a set of evaluative criteria, by which to judge current practice.

Northeast Document Conservation Center [NEDCC]. 1996. [Online]. Available: http://www.nedcc.org/

NEDCC is a non-profit, regional conservation center in the United States. Its mission is to improve the preservation programs of libraries, archives, museums, and other historical and cultural organizations; to provide the highest quality services to institutions that cannot afford in-house conservation facilities or that require specialized expertise.

PADI (Preserving Access to Digital Information). [Online]. Available: http://www.leeds.ac.uk/cedars/overview/link.html

An excellent source of information relating to digital preservation in general can be found at the PADI (Preserving Access to Digital Information) website. PADI is a subject gateway to international digital preservation resources. Site maintained by the National Library of Australia with a broad range of information on digital activities.

Research Libraries Group. 2006. [Online]. Available: http://www.rlg.org/ [3 January 2006]. Format: Document (24K).

Research Libraries Group is an international, not for profit membership organisation of libraries, archives and museums working together to create solutions to the challenges of information access and management. The quick links to: Currents projects; Products and services and Databases allow the researcher access to journal articles and guides etc. A search for the key words: digital photograph projects yields approximately 229 hits which is available at: http://www.google.com/u/RLG?q=digital+projects+photographs&btnG.x=16&btnG.y=14

RLG DigiNews. 2006. [Online]. Available: www.rlg.org/en/page.php?Page_ID=12081 Document: (28K) Cached.

RLG DigiNews is a bimonthly electronic newsletter that focuses on digitisation and digital preservation. If you have a research collection that you are digitising, you'll find this report indispensable for its articles on evolving practices and technology, new projects and publications, and events. RLG DigiNews (ISSN 1093-5371) is a Web-based newsletter conceived by the RLG preservation community. It is produced by staff in the Department of Research, Cornell University Library, in consultation with RLG and is published six times a year. Subscription to the free newsletters is available: http://www.rlg.org/en/page.php?Page_ID=427

Safeguarding European photographic Images for Access (SEPIA). 2000. [Online]. Available: http://www.knaw.nl/ecpa/sepia/home.html. [3 June 2003].

Safeguarding European Photographic Images for Access (SEPIA) is a EU-funded project focusing on preservation of photographic materials. On this website you will find information about: SEPIA Publications; Research; News and events; Links and Literature contains reports, articles and references to relevant resources.

Technical Advisory Service for Images (TASI). Bristol, UK: TASI. [Online]. Available: http://www.tasi.ac.uk/ [06 Mar. 2000].

TASI is a service funded by the Joint Information Systems Committee (JISC) set up to advise and support the academic community on the digital creation, storage and delivery of image-related information. It is based within the Institute for Learning and Research Technology (ILRT) a national centre of excellence in the development and use of technology-based methods in teaching, learning and research, of the University of Bristol. Its objectives are to share and promote technical expertise and standards within the academic and public sectors, and to enable the academic community to develop digital archives of good quality image-related materials to support effective teaching and research by providing comprehensive information and advice.

UC Berkeley Digital Library Project. [Online]. Available*:* http://elib.cs.berkeley.edu/

The UC Berkeley Digital Library Project is developing the tools and technologies to support highly improved models of the scholarly information life cycle. Apart from these technologies it holds collection of photographs, documents, natural science database and geographical data.

UNESCO/IFLA Directory of Digitised Collection. The Hague, International Federation of Library Associations (IFLA). 1999. [Online]. Available: http://www.unesco.org/webworld/digicol/

Directory constructed to offer a listing of major digitised heritage collections and on-going digitisation programmes worldwide. A development based upon the IFLA PAC. Survey on digitisation and preservation.

University of Michigan. 1996. *Digital library production service*. [Online]. Available: http://www.umdl.umich.edu/ [20 December 2005].

The University of Michigan has one of the most well developed digital library programs

in the country. The Digital Library Production Services was initiated in 1996 to provide critical infrastructure for campus digital library collections and access services.

Digitisation workshops held in Africa

IFLA/ALP and DISA Digital Imaging South Africa Managing Digital Libraries Workshop Gaborone, Botswana 23-27 February 2004. [Online]. Available: http://aboutdisa.ukzn.ac.za/workshops/Gabarone%20workshop/gaborone.htm

DISA I P Workshop. 18 August 2004. [Online]. Available: http://aboutdisa.ukzn.ac.za/workshops/IPworkshop/ipagenda.html

Welcome to the Disa Standards Workshop. 23-25 October 2001. [Online]. Available: http://aboutdisa.ukzn.ac.za/StandardsWS/index.htm

The joint IFLA/ICA Committee on Preservation and Conservation in Africa (JICPA) Report 2002. International Federation of Library Associations and Institutions [Online]. Available: http://www.ifla.org/VII/s25/p1/jicpa02.htm

Report on the UNESCO – IFLA Workshop. 2001. *Safeguarding African Documentary Heritage.* Cape Town: Monday 26 February – Friday 2 March 2001. [Online]. Available: http://epa-prema.net/jicpa/report.htm.

Unesco / jicpa Digital technologies as a preservation management strategy. Durban. December 2000.

JICP: the Joint International Committee (IFLA and ICA) for preservation in Africa in partnership with the University of Natal and UNESCO presented a workshop on Digital technologies as a preservation management strategy at the Campbell Collections in December 2000. The Workshop was designed to assist preservation administrators,

librarians and archivists and museologists to evaluate the emergent digital technologies against a set of traditional preservation criteria and proven preservation management tools and also evaluate the role of digital technologies.
The workshop was held to enable participants to make appropriate and informed decisions in the development of effective strategies for the implementation of image processing systems that support long term access to electronic records.
The workshop addressed related issues in developing realistic objectives and expectations in the planning and management of digital conversion projects.

Intellectual property rights agency in South Africa

The Dramatic, Artistic and Literary Rights Organisation (DALRO). [Online]. Available: http://jit18.firsttech.net/

The dramatic, Artistic and Literary Rights Organisation (DALRO) is an agency in South Africa that can be used to standardize and protect the intellectual property rights of works in your collection.

Publishers' Association of South Africa

PASA (Publishers' Association of South Africa). [Online]. Available: http://publishsa.co.za/ [17 January 2005].

The Publishers' Association of South Africa (PASA) is the official body representing the South African publishing industry. It has more than 150 members, which include commercial organisations, university presses, NGOs, small privately owned publishers, publishing consultants, as well as importers and distributors. This site includes a Publishers directory, a Freelancers' directory and a section that deals with frequently asked questions on copyright issues.

Digital preservation initiatives websites
National Digital Library Program and the Conservation Division. 1999. *Conservation Implications of Digitization Projects*. NDLP. [Online]. Available: http://memory.loc.gov/ammem/techdocs/conservation.html. [6 July 2002]. A discussion of roles of conservation consultation, training, and treatment for scanning in NDLP digital image conversion projects. Written by conservators who have worked with NDLP projects since the beginning of the program in 1995.
Council on Library and Information Resources CLIR. 2004. *Forum for Change*. [Online]. Available: http://www.clir.org/about/about.html. [20 June 2005]. CLIR's mission is to expand access to information, however recorded and preserved, as a public good. CLIR is an independent, non-profit organization. Through publications, projects, and programs, CLIR works to maintain and improve access to information for generations to come. In partnership with other institutions, CLIR helps create services that expand the concept of library and supports the providers and preservers of information.
Library of Congress. *American Memory*. [Online]. Available: http://memory.loc.gov/ Library of Congress. American Memory, a gateway to rich primary source materials relating to the history and culture of the United States. The site offers more than 7 million digital items from more than 100 historical collections.
DIGITAL LIBRARY FEDERATION. *Digital Library Standards and Practices.* [Online]. Available: http://www.diglib.org/standardspv.htm
Colorado Digitization Project. *Digital Toolbox*. [Online]. Available: http://coloradodigital.coalliance.org/toolbox.html
Colorado Digital Alliance. [Online]. Available: http://coloradodigital.coalliance.orgl

A major part of the project involves establishing minimum recommended standards as well as guidelines for application of those standards. These standards have been made available on the website for widespread access. The Colorado Digital Alliance organisation concerned with standards and best practice.
BRITISH LIBRARY. *Objectives of digitisation*. [Online]. Available: http://www.bl.uk/about/policies/digital.html
Council on Library and Information Resources (CLIR). 2001. *Building and sustaining digital collections: models for libraries and museums.* Washington, DC. (Publication 100). [Online]. Available: http://www.clir.org/pubs/abstract/pub100abst.html
Institute of Museum and Library Services. 2001. *A framework of guidance for building good digital collections*. 6 November 2001. [Online]. Available: http://www.imls.gov/pubs/forumframework.htm Formally endorsed by Digital Library Federation, 1 March 2002, http://www.diglib.org/standards/imlsframe.htm
Digital Imaging Group DIG35. *Metadata specification.* [Online]. Available: http://www.digitalimaging.org/links_metadata-digital-images.html
Digital Library Federations. 2000. *Guides to quality in visual resource imaging.* [Online]. Available: http://www.rlg.org/visguides
Digital Library. 1999. *TEI text encoding in libraries*: *guidelines for best practice*. [Online]. Available: http://www.diglib.org/standards/tei.htm
Ester, M. 1996. *Digital image collections: issues and practice*. Washington, DC, Commission on Preservation and Access. (Publication 67). [Online]. Available: http://www.clir.org/pubs/abstract/pub67.html

International Council on Archives: ISAD (G). *International Standard Archival Description (General).* 2nd ed. Paris. [Online]. Available: http://www.ica.org/eng/mb/com/cds/descriptivestandards.html

Microsoft Corporation. Improving web site usability and appeal. [Online]. Available: http://msdn.microsoft.com/workshop/management/planning/improvingsiteusa.asp

New Zealand Digital Library Project. *Greenstone software.* [Online]. Available: http://www.nzdl.org/cgi-bin/library?a=p&p=gsdl

Open Archives Initiative (OAI). [Online]. Available: http://www.openarchives.org/

Research Libraries Group and Digital Library Federation. 2000. *Guides to quality in visual resource imaging.* [Online]. Available: http://www.rlg.org/visguides/

University of California, Los Angeles (UCLA). *Digital projects. Guidelines and standards*. [Online]. Available: http://www.digital.library.ucla.edu

Especially Guidelines for choosing metadata and standards reference guide.

Discussion lists and other sources of current information

Digital-preservation@jiscmail.ac.uk

Discussion list carrying information on digital activities among libraries and archives in the U.K.

Digital Library Magazine (D-Lib Magazine). [Online]. Available: URL: http://www.dlib.org

ERPANET (Electronic Resource Preservation and Access Network. 2001. [Online]. Available: http://www.rlg.ac.uk/longterm [10 June 2004]. A project funded by the European Commission, hosted by Research Libraries Group (RLG) and based upon collaboration between the University of Glasgow (U.K.), the Schweizerisches Bundesarchiv (Switzerland), the Rijksarchiefdienst (Netherlands) and the University of Urbino (Italy) to provide a virtual clearinghouse and knowledge base on state of the art developments in digital preservation, the transfer of expertise among individuals and institutions, and the development of an online and physical community focused on preservation". Funded for three years from November 2001.
The South African forum electronic discussion groups. [Online]. Available: http://www.pgu.org/sacfo/electron.htm [10 December 2005]. The South African copyright forum discusses and describes the forum. Who are the members? What is the existing law in South Africa? What is internet copyright? Draft legislation it includes discussion group such as copyright clearance procedures, copyright regulations, and electronic copyright. The purpose of this discussion group is to allow participants to discus the regulations and to suggest changes to the regulations. This forum can also be used to discuss Act 98 of 1978 with a view to lobby for possible changes to the Act that is provisions made in the act for electronic transfer, copyright and educational institutions, etc.

Annexure 2: Glossary of Terms

24-bit image

A digital image that can include approximately 16 million possible colours. In this kind of image, 24 bits are allocated 2 to the power of 24 (or more than 16 million) colours to be represented.

8-bit image

A digital image that can include as many as 256 possible colours. In this kind of image, 8 bits are allocated for the storage of each pixel, allowing 2 to the power of 8 (or 256) colours to be represented.

Archival image

An image meant to have lasting utility. An “archival” digital image is generally an image kept off-line in a safe place; it is often of higher quality than the digital image delivered to the user.

Archive

An archive is a repository holding documents or other material, usually those of historical and/or rare value. Also referred to as Special Collections.

Berne Convention

Berne Convention is the Convention for the Protection of Literary and Artistic Works, signed at Berne, Switzerland, on September 9, 1886.

Bit-mapped image

An image created from a series of bits and bytes that form pixels. Each pixel can vary in colour or gray-scale value.

Browse

Browse means to view, inspect or read a display.

Calibration targets

Standard colour or greyscale charts from which image capture device specifications can be determined and accounted for.

CD-ROM

In computers, CD-ROM technology is a format and system for recording, storing, and retrieving electronic information on a compact disk that is read using an optical drive. It holds up to 600 megabytes of information.

CMYK

Cyan Magenta Yellow Black. A system for reproducing colour in print, which creates the colour spectrum using cyan, magenta, yellow and black. Used in four colour printing.

Colour swatches

A sample set of a colour palette

Copyright

Copyright refers to the exclusive rights granted to an author or owner of a copyrightable work.

Copyright clearance

Copyright clearance is the process of securing authorization from copyright owners or the representatives to perform these acts in relation to a copyrighted work, which are not permitted in terms of the copyright act.

Copyright law

The purpose of the copyright law is to protect the interests of the copyright owner – the author and the publisher. They are the creator of the intellectual property and there is thus a moral as well as a legal imperative to respect their rights.

Digital camera

A camera that directly captures a digital image without the use of film.

Digital image

An image composed of bits and bytes.

Digitising

To convert an image into binary code. Visual images are digitised by scanning them and assigning a binary code to the resulting vector graphic or bit-mapped image data.

Download

Download means the transfer of data in any form from the collection to any computer storage device, computer peripheral or computer so that it survives an individual search session. Downloading does not include printing output from a search, any momentary process by which data are transferred from one computer to another or from a computer to a printer for the sole purpose of printing output from a search.

Dpi

(Dots per inch), in scanning it is a measurement of resolution, - the number of pixels a scanner can physically distinguish in each vertical and horizontal inch of an original image.

Dublin Core

A 15 field standard for metadata or “electronic information about electronic information”.

Encryption

The conversion of data into a form, called a cipher, that secures against unauthorised access to data.

Encryptions

The translation of data into a secret code. To read an encrypted file, the user must have access to a secret key or password that enables him to decrypt it.

Fair use

Fair Use is a statutory exception that allows the use of a copyrighted work for certain purposes without requiring permission.

First sale doctrine

First Sale Doctrine refers to the right of a buyer of a material object in which a copyrighted work is embodied to resell or transfer the object itself. Ownership of copyright is distinct from ownership of the material object.

Flat bed scanner

A flat bed scanner is literally a flat glass bed, similar to a copy machine on which the image is placed face down and covered.

A flat bed scanner is a scanner design in which a document is placed on a glass surface similar to placing an item on the glass of a photocopier. This allows for the scanning of material that cannot be fed through an automatic document feeder.

Floppy disk

The standard 3.5 inch portable computer disk, able to hold up to 1.4MB of data.

FTP

File Transfer Protocol. A common method for transferring files across the Internet.

GIF

Graphics Interchange Format. A bitmap graphics format from CompuServe which stores screen images economically and aims to maintain their correct colours even when transferred between different computers. GIF files are limited to 256 colours and like TIFFs, they use a lossless compression format but without requiring as much storage space.

Greyscale

The range of shades of grey in an image. The grey scales of scanners and terminals are determined by the number of greys, or steps between black and white, that they can recognise and reproduce.

Hardware

The physical components of computer systems, the hard disk, monitor etc, and peripheries such as mouse, keyboard, scanner.

Image capture

Employing a device (such as a scanner) to create a digital representation of an image. This digital representation can be stored and manipulated on a computer.

Image manipulation

Making changes to a digital image using image processing.

Image processing

The alteration or manipulation of images that have been scanned or captured by a digital recording device. Can be used to modify or improve the image by changing its size, colour, contrast, and brightness, or to compare and analyze images for characteristics that the human eye could not perceive unaided.

Intellectual Property

Intellectual Property refers to intangible property rights such as copyright, patents and trademarks that provide the owner with certain exclusive rights.

Interoperability

The ability of disparate computer systems to exchange information with one another, especially databases.

IP

Internet Protocol – one of the main protocols behind the working of the Internet. It is the method by which data is sent between computers on the Internet.

ISO film speed

The standard for quoting photographic film speeds. It relates to the film's reactivity to light.

Jpeg

Jpeg is a standard for still image compression developed by the Joint Photographic Experts Group.

Landscape

This refers to the orientation of an image. Landscape describes an image which is wider than it is tall. (An image that is taller than it is wide is referred to as portrait).

License

License is a contractual agreement from a copyright owner or the owner's authorized agent, such as a third party vendor, allowing another party to exercise one or more of the exclusive rights provided the copyright owner under the Copyright Law. Licenses usually involve the payment of a fee or royalty.

Lossless compression

These compression formats, such as those used in GIF and TIFF files, retain all of the image data.

Lossy compression

Lossy compression algorithms compress the image file by removing image details – usually the details that the eye does not perceive very well to start with.

Metadata

Structured data about data. Metadata describes the content and structure of the digital image and the context of its creation. For example, metadata will describe how, when, and by whom a particular set of data was collected and how the data is formatted.

Migration

The process of translating data from one generation of technology to another while maintaining the functionality. Unlike the older strategy know as “refreshing” or the process of copying digital information onto new media, migration addresses both the obsolescence of the storage media and of the hardware and software controlling and managing the digital documents.

Non exclusive rights

A set of rights that can be transferred (usually be sale) to any number of individuals or entities any number of times.

Per use license

Used synonymously with transactional license.

Permission

Permission is an agreement from a copyright owner allowing another party to exercise one or more of the exclusive rights provided the copyright owner under the Copyright Law. Permission generally does not involve the transfer of any fees or reimbursements. Permission may also be referred to as a Copyright Release.

Phosphors

These are materials that illuminate when struck by electrons. They produce the images on monitor screens. There are three different phosphors used, Red, Green, and Blue

Photo-realistic

Representing an object “as is”, that is without any optical “effects” etc. having been added.

Photo-shop

A sophisticated software program, produced by \Adobe System, for editing and processing.

Pixel

The picture elements that make up an image, similar to grains in a photograph or dots in a half-tone. Each pixel can represent a number of different shades or colours, depending on how much of storage place is allowed for it.

Portrait

This refers to the orientation of an image. Portrait describes an image which is taller than it is wide. (An image that is wider than it is tall is referred to as landscape).

Proprietary

Material that is owned and controlled.

Public domain

Intellectual property rights that belong to the community at large, are unprotected by copyright or patent, and may be appropriated or used by anyone.

Publication

Publication is the distribution of copies of a work to the public by sale or other transfer of ownership or by rental, lease, or lending. The offering to distribute copies to a group of persons for purposes of further distribution, public performance, or public display, constitutes publication.

Raster

A way of displaying spatial information as coloured grid cells. Also referred to as bitmap, as effectively a map of bits is evident.

Ray tracing

A technique for adding realism to computer models by including variations in shade, colour intensity, and shadows that would be produced by having one or more light sources. Ray tracing software simulates the path of light rays as they would be absorbed or reflected by objects.

Reprographic process

Reprographic process means a process of making copies, including copies which are reduced or enlarged in scale, or involving the use of an appliance for multiple copies, and includes, in relation to a work held in electronic form, any copying by electronic means, but does not include the making of a cinematograph film or sound recording.

Resolution

Refers to the sharpness or clarity of an image.

Scanners

Scanners are the most common digital capture device, their purpose being to convert light (which we see when we look at something) into “0”s and “1”s that we can store and use in a computer. Or put more simply, scanners convert analogue images into digital image files.

Search

Search is the execution of a command or commands to a computer record.

Server

Computer that performs functions for other client computers.

Service provider

Organization or entities that offer intellectual property management and administration services to rights holders and users. The organizations include, but are not limited to, content brokers, membership based collecting societies, stock agencies, rights and reproduction organizations.

Software

Computer programs in machine readable form.

Specular

Bright reflection from a light source.

SPIFF/SPF

Still Picture Interchange File Format - this is the “official” JPEG digital image format. As a relatively new format current support is low but this should change as the format has a lot to offer and has been designed so that most applications supporting JFIF/JPG should be able to read SPIFF files. Some of the supported features include: lossless and lossy compression (as SPF and JPG respectively); gamma; alternative colour spaces (e.g. RGB, CMY, PhotoYCC, video); text data fields (e.g. copyright, description, time/date etc.); thumbnails etc.

Thumbnail

Low resolution digital images, usually used for quick reference and linkage to a larger higher quality image.

TIFF

Tagged Interchangeable File Format – TIF (PC) or TIFF (Macintosh). A widely used graphic image format, which is recommended for master copies and archival purposes.

Transactional license

A type of license in which a user must seek permission, and is separately charged, each time he or she uses a work or works.

Transactional pricing

A pricing structure in which users are charged a fee for each use of each work.

Transfer of copyright ownership

Transfer of copyright ownership is the act of transferring any or all of the exclusive rights comprised in a copyright from the copyright owner to another person or institution. Ownership is generally transferred through an assignment, mortgage, or exclusive license, whether or not it is limited in time or place of effect, but not including a nonexclusive license. Transfers must be in writing and must be signed by the party making the transfer.

The digital revolution is dramatically changing the ways we create, store and distribute information and has precipitated a re-examination of laws and policies governing intellectual property.

URL

Uniform resource locator (url). A type of universal resource identifier. A URL is an Internet address that tells a user how and where to locate a specific file on the World Wide Web. A URL includes not only the name of a file, but also the name of the host computer, the directory path to get to that file, and the protocol needed in order to use it, (eg http://www.getty.edu/research/institute/standards/intrometadata/toc.html specifies that the hypertext transfer protocol “http” should be used to retrieve the document toc.htm from the host www.getty.edu in the directory/research /institute/standards/intrometadata/).

User

Any individual, organization that wish to use the intellectual property created by others.

VDU

Visual Display Unit – a computer monitor.

Watermark

A watermark is an invisible mark placed on an image that can be detected when the image is compared with the original.

Web Browser

A Web browser is a piece of software which allows access to the World Wide Web. It interprets HTML, displaying the data in an easy to read format. There are two distinct types of browser - graphical and non-graphical or text only. Typical graphical browsers are Netscape Navigator/Communicator and Microsoft Internet Explorer. An example of a text only browser is Lynx.

Work for hire

A work prepared by an employee as part of his/her employment, commissioned for use by another person. In work hire situations, the employer is considered the author or creator of the work and owns copyright to the work.

WWW

World Wide Web. A vast distributed wide-are client-server architecture for retrieving hypermedia documents over the internet.

ZIP

A small, portable disk drive; each Zip disk holds 100MB.

True-colour

Usually refers to 24bit (or better) image.

Annexure 3: Survey Cover Letter

1 August 2002
56 Hill Street
Overport
Durban
4001

E-mail: somers@nu.ac.za Tel 031-2073711

Dear_____

Re: Survey of Digitization Projects in Libraries, Archives and Museums in South Africa

I am currently a Master of Technology student in the Library and Information Studies Department at the Durban Institute of Technology (formerly the M L Sultan Technikon, Durban). My research is based on an Investigation into the scanning of photographs in archival collections. The project is being supervised by Prof Graham Stewart.

Procedures and benefits of the research:
The focus of the research is an investigation of the provision of a digital imaging reproduction service for a photographic archive collection. The study will also seek to determine the current position in South Africa with regard to the digital scanning and dissemination of archival photographs. This questionnaire is being sent to heads, deputies and senior managers of major libraries and archives in South Africa, in order to gather data regarding existing policies for the digital scanning of photographs. One anticipated outcome of the project will be the development of set of procedures and guidelines appropriate to the management of a digitized service that will benefit both the archival community and their clients.

Attached are (a) an "Informed consent by subjects to participate in a research project" form and (b) a copy of the questionnaire. It would be appreciated if you could spare some time to complete and return both (a) and (b) to the sender in the self-addressed envelope enclosed. If necessary, please forward the questionnaire to the relevant member of staff in your department.

The information provided in this survey will be treated in strict confidence and will be used for academic purposes only. I will be very grateful if you would take the time to answer the following questions and return it to me at your earliest convenience, **but before the 30 August 2002**.

Please find enclosed a self-addressed and stamped/postage paid envelope.

Thank you for your co-operation.

Yours sincerely

Nellie Somers
M Tech Student

Annexure 4: Informed Consent

DURBAN INSTITUTE of TECHNOLOGY
Department of Library and Information Studies

INFORMED CONSENT BY SUBJECTS TO PARTICIPATE IN A RESEARCH PROJECT

Preamble

The technikon and those conducting this project subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of subjects. This form and the information it contains are given to you for your own protection and full understanding of the procedures. Your signature on this form will signify that you have received a document (see request letter attached) which describes the procedures and benefits of this research project, that you have received an adequate opportunity to consider the information in the document, and that you voluntarily agree to participate in the project. Any information that is obtained during this study will be kept confidential to the full extent permitted by law. No information will be divulged, unless required by a court or other legal body. Knowledge of your identity is not required. You will not be required to write your name or any other identifying information on the research materials. Materials will be held in a secure location and will be destroyed after the completion of the study.

Consent Form

Having been asked by MS NELLIE SOMERS of the Department of Library and Information Studies of the Durban Insititute of Technology to participate in a research project experiment, I have read the procedures specified in the document.
I understand the procedures to be used in this study and the personal risks in taking part.
I understand that I may withdraw my participation in this study at any time, even if I sign this consent.
I also understand that I may register any concern I might have about the study with the researcher named above or with Prof G.D.J. Stewart or Mrs W.F. Gordon, Head of Department of Library and Information Studies (Email: stewart@dit.ac.za, Phone 031-3086782).
I may obtain copies of the results of this study, upon its completion, by contacting:
Ms Nellie Somers: somers@nu.ac.za Phone: 031-2073711
I have been informed that the research material will be held confidential by the Researcher. I understand that my supervisor or employer may require me to obtain his or her permission prior to my participation in a study such as this. I agree to participate by: answering questions and offering opinions regarding the issue of Digitization Projects in Libraries, Archives and Museums in South Africa, either in writing, by email, or by answering in person, as to be determined by myself and the researcher, Nellie Somers, during the time period August to September 2002. By sending in this form I am verifying that I have read the attached letter and the Preamble above.

Name	
Address	
Signature:	
Witness:	
Date:	

PLEASE KEEP A COPY OF THIS CONSENT FORM FOR YOUR OWN RECORDS.

Return to:
Ms N. Somers
56 Hill Street
Overport
Durban, 4001 (Tel : 031 – 2073711 Fax: 031 – 2091622)

Annexure 5: Survey Questionnaire

An investigation into the: digital scanning of photographs in archives.

Questionnaire

General instructions:

- *Please answer the following questions.*
- *Tick the relevant options where necessary*
- *Should you require additional space to write your response/ comments please use additional paper and attach it to the questionnaire*?

The focus of my investigation is on the service and delivery aspect of digital scanning of photographs and some of my questions are:

1. Please state the name of your library or archive / Museum
   _____
2. Does your institution (Library / Archive / Museum) have a policy or guidelines to handle the various aspects of providing a digital imaging service
   Yes _____ No _____
3. Is this policy documented?
   If yes, are you in position to share this information with me.
   Yes_____ No _____
4. If your answer to question 3 is yes and the policy is freely available on the world wide web please forward to my email address. somers@nu.ac.za or enclose and post in the self-addressed envelope.
5. Do you have a standard photographic or digital image request or contract form?
   Yes_____ No_____
6. Is this contract form available on-line?
   Yes _____ No_____
7. If yes, please supply the URL.
   _____
8. How do you handle the issue of copyright of the photographic image/s?
   _____
   _____
   _____
9. Do you use an encryption to protect the use of the photographic image?
   Yes_____ No_____
10. If yes, what encryption do you use?

    _____

11. Do you charge for a digital imaging service?
Yes_____ No _____

12. If yes, do you have a sliding scale for academic / private / commercial use?
Yes _____ No _____

13. If yes, do you have a fee schedule available on line?
Yes _____ No _____

14. If so, please may I have the website address.
_____

15. Do you keep a record of the users to whom you have supplied images?
- ❑ Yes _____ No _____

16. If yes, how do you store this information?
- ❑ Manual record
- ❑ Database record

17. Would you be interested in seeing the results of my investigation?
Yes _____ No _____

18. If yes please supply an e-mail address.
_____

Thank you for your time and information.

Nellie Somers
© 2002

56 Hill Street
Overport
Durban, 4001
Tel : 031 – 2073711
Fax: 031 – 2091622
somers@nu.ac.za

Annexure 6: Permission to publish form

DIP 04/

NAME OF INSTITUTION
ADDRESS / CONTACT DETAILS

APPLICATION FOR PERMISSION TO PUBLISH AND/OR REPRODUCE
PUBLICATION LICENSE AGREEMENT FORM

I, _____
Authorized representative of
Institution / Company Name_____
Street Address_____
City_____ State_____ Code_____
Phone_____ Fax_____ email_____

By signing this form I understand and agree that:

1. I undertake not to deposit the reproductions stated below in any other institution.

2. I agree to make separate application for permission to reproduce these images in any manner and in any medium beyond the terms of this agreement.

3. I agree that altering or manipulating of the material beyond the standard cropping and resizing requires the permission from the ***Name of institution***.

4. Website use must be at a resolution of 72 dpi or less.

5. I agree to make due acknowledgements to the ***Name of Institution*** as the source of the reproductions stated below.

6. I understand that the ***Name of Institution*** makes no representation of exclusive ownership of the rights to any material. The user assumes all responsibility for conforming with the laws of libel and copyright, which may apply to the use of this material.

7. I agree to defend and indemnify, the ***Name of Institution***, and their employers harmless from and against any and all liability, including costs and expenses, based on the violation or rights of ownership, infringement of copyright, or invasion of rights of privacy, or laws of libel, resulting from our use of such materials or copies licensed for use ***Name of Institution***.

8. I request that the reproduction be delivered to me by means of electronic transfer / courier / registered post /personal collection and undertake to cover any costs involved. (please tick one).

I have read and agree to the above terms and conditions. I understand that failure to comply with these guidelines may result in the denial of future requests for reproduction and licensing by the *Name of Institution*. I am authorized to enter into this agreement on behalf of the organization named above and enter into this agreement on behalf of the organization and personally.

- ❑ Permission granted as per information supplied on this application form.
- ❑ Permission not granted for the following reason/s_____
  _____

Client signature_____ **Date:** _____

Signed on behalf of the *Name of Institution*: _____Date:_____

COPYRIGHT WARNING
The COPYRIGHT ACT, 1978, governs the making of reproductions of copyrighted materials. In terms of the Act, reproductions of copyrighted material may be used only for private study or personal use.
If a user makes a request for, or later uses a reproduction for purposes not permitted by the Act, that user may be liable for copyright infringement.

NAME OF INSTITUTION
ADDRESS / CONTACT DETAILS

APPLICATION FOR PERMISSION TO PUBLISH AND/OR REPRODUCE PUBLICATION LICENSE AGREEMENT FORM

I request the reproduction of the following digital images for purposes of publication:

Resource ID	Caption/Description	Special instructions

Intended use: Commercial_____ Educational_____

Format distribution information (Please check all that describes your intended use:)

- ❑ **Print media** (books, article, newspaper, etc)
  Book/magazine/journal: Edition run size_____
  Catalogue/brochure/flyer_____
  Newspaeper article: Circulation size_____
  Cover_____
  Personal publishing (500 or less copies)_____
  Thesis/Dissertation _____

- ❑ **Film/Video Production** (licensed for one use/episode/appearance for the life of the project)
  Standard TV-Local_____Home Video _____
  Standard TV-World Wide_____
  Other_____
  Theatrical_____

- ❑ **Electronic**
  CD-Rom_____
  DVD_____
  World Wide Web (72dpi)_____URL_____

- ❑ **Other uses**
  Advertisement / Calendar / Exhibition Catalogue / Display in boardroom/office/home / Documentary film / Exhibition / Greeting card / Invitation / Journal article / Magazine / Marketing / Newspaper article / Postcard / Poster / Power point presentation / or please

specify:_____

_____

Publication Details

Title of Publication:_____

Author/Director_____ Date of Publicataion:_____

Name and Address of Publisher/Production Company_____

_____

Language/s_____

Print run_____Url_____Other_____

Exhibition Details

Title of Project_____

Venue:_____

Duration_____

Are photographs allowed at the exhibition: yes_____ no_____

Will there be an admission fee: yes_____ no_____ R_____

Contact person's details for this exhibition: Name_____

Tel:_____ Fax_____Cell_____email_____

Estimated cost:

Item	#	Unit Price	Cost
Reproductions for publication / commercial use			
CD (s) / stiffy			
Delivery: Collected / Posted / Courier / Email			
Miscellaneous expenses			
Total cost, payable in advance			

Cheques payable to the *Name of Institution*. Electronic transfers to:

Bank: _____. Branch: _____

Account Number :_____ Code: _____

Client signature:..... Date:.....

Signed on behalf of the **Name of Institution**:.....Date:.....

Annexure 7: Campbell Collections Photocopying/Reproduction Policy and Fees

Campbell Collections
Photocopying / Reproduction Policy and fees

HOW TO ORDER

Scanning and photographic orders may be ordered in person, by mail, e-mail or via fax from the Killie Campbell Africana Library (KCAL) Reading Room.

Orders must be completed using the correct order forms and by quoting the correct reference numbers used to identify the material being ordered.

This information is often obtainable from our Online Catalogue URICA or from our Historical Photograph collection available on the Internet Web page http://khozi2.nu.ac.za

When the correct reference numbers are not found via these means, the numbers may be obtained by requesting the services of the staff of the KCAL Reading Room.

Copyright Warning

The COPYRIGHT ACT, 1978, governs the making of reproductions of copyrighted materials. In terms of the Act, reproductions of copyrighted material may be used only for private study or personal use.

If a user makes a request for, or later uses a reproduction for purposes not permitted by the Act, that user may be liable for copyright infringement.

The University of Kwa-Zulu Natal (UKZN) accepts no responsibility for any infringement of copyright.

HOW TO PAY FOR AN ORDER

The Campbell Collections accepts cash, cheques, postal orders as payment for orders and the preferred method, direct deposit into the University's bank account. Orders can be paid for in South African Rands, US Dollars and British Pounds. All prices are inclusive of VAT

UNIVERSITY OF KWAZULU-NATAL BANKING DETAILS:
LOCAL BANK ACCOUNT DETAILS

Account Name:	University of KwaZulu-Natal
Bank:	First National Bank
Branch:	Durban Corporate
Account Number	508 719 329 32
Branch	22 36 26
Ref.:	
Swift Code	FIRNZAJJ

Foreign Bank deposit

Bank	First National Bank
Account Holder	University of KwaZulu-Natal
Account no.:	62017326168
Branch code:	223626
Branch:	Durban Corporate
Swift Address	FIRNZAJJ
Physical address	Rydall Vale Park, Douglas Saunders Drive La Lucia Ridge Tel.: +27 31 580 6000
Reference number	**2100 5205**

Please fax the deposit slip to +27 31 2091622 as proof of payment or
e-mail the date of payment and the currency details to somers@ukzn.ac.za

Photocopying policy and fee

Photocopying service is available subject to the following terms and conditions:

- No more than 10% of any printed item may be copied. Additional restrictions may apply to some materials, based upon copyright law and prior donor agreements.
- Permission to photocopy does not constitute permission to publish.
- Photocopying will be done by Campbell Collections staff only.
- For purposes of preservation, fragile and particularly rare items will not be photocopied.
- Fees to be applied as follows:

Staff and students of the UKZN	A4 40c A3 80c
Staff from other institution and the general public	A4 60c A3 R1.20

REPROGRAPHIC SERVICES

1. **Microfilm Print or Scan**

   Booking is essential

   A4 print R1per page
   Booking fee R20 (applicable to staff from other institutions and the general public.
   Scan to disc. No charge per image. Cost of cd R10

2. **Photographic prints – Black and white**

   Photographic prints from original or copy negatives will not necessarily be identical in format or tonal range to a photograph on file in the library's collection.
   No retouching is done to eliminate any imperfections existing in the negative or the original material.
   Cost of the service plus 25%.

3. **Scanning of photographs**

Material scanned by library staff	R20 per image
University of KwaZulu-Natal Staff and students	R10
cd	R10 each
Students from other institutions are required to produce student identification in order to qualify for UKZN student rates.	

PHOTOCOPYING AND REPRODUCTION CHARGES

The Campbell Collections, University of KwaZulu Natal,
220 Marriott Road Durban. 4001
Tel +27 31 260 1710 / 1710 / 1720

PHOTOCOPIES

UKZN staff & Students	A4 40c	A3 80c
Staff from other institutions and the general public	A4 60c	A3 R1.20

MICROFILM

Booking fee	R20
Print	60c per page
Scan to disc	No charge
Cost of cd	R10

NEWSPAPERS

Digital cameras allowed in the Reading Room. No charge

PHOTOGRAPHIC PRINTS

A 25% handling fee is levied above cost of prints.

SCANNING OF PHOTOGRAPHS

*Normal turn around time for orders is 7 days.
*For research purposes images are supplied at 300dpi, jpeg.
*Material scanned by staff R20 per image plus R10 for the cd
*UKZN staff and students R10 per image plus R10 for the cd
*Student from other institutions are required to produce student identification in order to qualify for UKZN student rates

USER FEE FOR SCANNED IMAGES SUPPLIED:

CATEGORY	USER FEE
Private / personal	Nil
Staff & Students of UKZN	Nil
Books	R75
Newspapers & periodicals	R300
Video / TV Films	R600
NGO's	R75
Use of CC Material for advertising and commercial purposes	R600

FINE ART MATERIAL (ETHNOGRAPHIC)

Price and requirements to be negotiated. This service may require a notice period.

ONLINE WEBSITE USE:	Commercial site	R200
	Educational or Non-profit site	R50
	E-books	R100

EXHIBITION CATALOGUE / BROCHURE

R50

30 June 2005

Digital imaging service and user fee

This is not a Copyright Fee. Where copyright exist with the Campbell Collections, it will be charged separately. When it is held elsewhere, the onus is on the user to obtain the consent of the copyright holder prior to publication. In all cases the photographs and digital images may be used only once, and the Campbell Collections, University of KwaZulu-Natal must be acknowledged as the source. This charge is additional to the basic cost of supplying a copy of the digital image. Official order forms are available from the KCAL Reading Room.

4. Personal digital cameras and other copy equipment

Permitted for bound newspapers articles and government publications only.

5. FILMING ON THE PREMISES

Copying of photographs and collections material on library premises)

A formal letter should be addressed to the Director for special permission to film on the premises.

Note that *reproduction fees* will be charged in respect of each image copied for publication.

Commercial photographers R700 per hour	R700 per hour

6. Filming and photographs for fashion shoots

Restricted to outdoors only (garden and veranda).

Sources:
South African National Library
Cory Library
Local History Museum
Alan Paton Centre