

# Freeze Frame

The Scott Polar Research Institute

This is one of four case studies created to illustrate digital preservation practices within digitization projects, sharing honestly the challenges of establishing digital continuity from a project of limited lifespan. It is selected from 16 projects which were funded by the JISC digitization programme between 2004 and 2009. This programme has provided digital access to collections of international significance that would otherwise be inaccessible. In doing so it has also generated an opportunity to learn about the critical success factors in digitization, such as ensuring long term access from short term projects. Each case study is based on an interview carried out on behalf of the JISC by the Digitisation Preservation Project.

## Introduction

The Scott Polar Research Institute (SPRI) within the University of Cambridge has been a repository for polar materials for over 80 years. SPRI's photographic negatives are a unique resource but also an extremely fragile one. This archive includes daguerreotypes, magic lantern slides, glass plate negatives and modern cellulose nitrate and acetate formats. Many of these images are unpublished, rediscovered within private albums and personal collections. Most have never been seen by the public before. The Freeze Frame project has digitized around 20,000 images from 1845-1982, representing some of the most important visual resources for research into British and international polar exploration. The resulting collection presents a unique photographic collection of international significance relating to explorers who braved the Polar Regions. The aim of the project was to improve access to the collections and to increase awareness of their existence among communities within and beyond Higher Education. It was particularly aimed at those who could not travel to use their materials. The increased interest in climate change and The International Polar Year 2007-08 have given the project an added immediacy and a wider audience.

## Overview and commentary

Freeze Frame has been a very successful project delivered by a relatively small team who gave a lot of consideration to planning and research.

View of Grytviken, 1936 (Ref P51 / 8 / B201)



The project fitted easily with of SPRI's Museum Libraries and Archives strategy with its focus on preservation, widening access and education. This strategic fit has given added support to the project. The staff and management of SPRI demonstrated a great commitment to this project as well as an understanding that digital preservation and access were equally as important to this project and that the two are interconnected. SPRI recognized that enhanced access to their collections through digitization will only improve long term access if the digital surrogates are carefully maintained in an appropriate environment.

## Staffing:

The project was managed entirely 'in-house', negotiating additional support from different parts of the University of Cambridge as the need arose. A team of 8 people worked on the Freeze Frame project. This included the

### Key Message:

Partnership is a critical success factor for long term access to data from small or short-lived projects. This depends on a thoughtful dialogue between the project team and their preservation partner. Thorough documentation will be required.

Project Director: Professor Julian Dowdeswell; Deputy Project Director: Heather Lane; Project Manager: Naomi Boneham; Documentation Assistant: Willow Silvani; Digitisation Assistant: Tim Banting; Education Officer: Mel Rouse; Post Processing Assistant: John Bird; Research Curator: Dr Huw Lewis-Jones. For long term access and preservation, SPRI were able to negotiate the assistance of Cambridge University's repository *DSpace@Cambridge*. They were also able to obtain a dedicated IT support from CARET (Centre for Applied Research in Educational Technologies) to assist with educational outputs.

The project staff showed a passion and understanding of their material which is inspiring and is characteristic of specialized and relatively small scale digitization projects. Utilizing the services offered by associated University departments (in particular *DSpace@Cambridge* but also CARET) demonstrated the spirit of collaboration which is essential when operating on this scale. It is also a demonstration of an understanding of the project's skills base strengths and weaknesses.

Collaboration has not simply benefitted SPRI but has also supported cognate local projects. Partnership with the Cambridge Image Management project has provided the basis for a shared image management system that allows users to deposit into or extract from a joint image catalogue.

Issues to do with staffing were a recurrent theme among many of the projects funded by the JISC digitization programme. Staff on the Freeze Frame Project were given contracts which lasted the lifetime of the project. The resulting paradox – evident in many digitization projects – is that the project reaches a climax just as the staff are about to leave. In the short term this creates a risk to the successful completion of the project: in the long-term the loss of specialist knowledge which underpinned the project puts the outputs at risk. SPRI have identified this as a risk and have documented everything they do to assist handover of the project. This is a recommended action for all such projects as the short contract lifespan can result in a 'brain drain' if the project has been inadequately documented.

An example of what could happen if this documentation is inadequate could be that if the descriptive metadata for an image were identified as incorrect after the completion of the project, then either the *DSpace@Cambridge* staff or the permanent SPRI staff would need to manage the correction of update. But one cannot assume that they were involved in the initial

The resulting paradox – evident in many digitization projects – is that the project reaches a climax just as staff are about to leave. In the short term this creates a risk to the successful completion of the project: in the long-term the loss of specialist knowledge which underpinned the project puts the outputs at risk.

project so would not necessarily be confident in doing so. Moreover, any divergence between the data sets used to deliver and preserve the service could be amplified. By documenting all aspects of the project, permanent staff at SPRI will have a much improved capability to preserve the intellectual content of the digitised collection for the long term.

**Content:**

The digitised content includes glass plate negatives both in colour and B/W as well as photographic negatives from 1845-1982. The total size of the collection is 20,000 images which translates to 1.56 Tera Bytes.

**Content management:**

The management and tracking of the Freeze Frame project was done manually by the digitisation team (project manager, documentation assistant and post processing assistant) who each had a word file, which was updated at key stages of the project. There is a separation between the master metadata, which is maintained in the SPRI Picture Catalogue, and the master image files, which are maintained in the *DSpace@Cambridge*. There is also a separation between the project website and *DSpace@Cambridge*. It is important to note that this approach has not affected the productivity of the project although a more automated and connected system could have been deployed. The separation between master metadata and master content, and the delivery and preservation services could potentially pose a risk to maintaining the content for the long term. SPRI are aware of this risk.

Experience shows that preservation is facilitated when the preservation and delivery systems function independently while remaining coordinated so that updates can automatically flow between them. This coordination is best managed by software so that it is relatively automated, however robust documentation

and appropriate interventions by designated staff also serves this purpose.

**Description and metadata:**

The digitized material has been well catalogued at item and at collection level using recognized standards including *SPECTRUM*, *ISAD(G)*, *METS*, & *DC* – recorded in a *MODES* XML record and put in SPRI Picture Library *MODES* catalogue.

**Digital Preservation:**

SPRI identified their inability to manage their newly created digital assets in-house terms of their long term preservation and have wisely designated this function to [Dspace@Cambridge](mailto:Dspace@Cambridge). This demonstrates a considered approach in relation to understanding their skills and capabilities. It is valuable to work with a partner such as [Dspace@Cambridge](mailto:Dspace@Cambridge) and it is important to identify different needs and desires that SPRI and the Freeze Frame project may have in relation to digital preservation. [Dspace@Cambridge](mailto:Dspace@Cambridge) stores TIFFs in byte storage for 50 years whereas SPRI expects the content to be available “indefinitely”. This difference allows SPRI to identify how the risk profile for the collection will change through time: in this case the risk profile will change in 50 years and at that point action may be required to establish a new preservation platform. Even so this is a solid preservation choice: 50 years is a long time in terms of digital preservation and [Dspace@Cambridge](mailto:Dspace@Cambridge) is the University’s institutional data repository. It therefore has strong institutional support. This reduces the chance of this content becoming lost or orphaned. It also addresses some sustainability concerns around preservation, as Cambridge has committed to maintaining the content preserved within its *Dspace* instance.

SPRI are able to assess how the risk profile to the data will change: in this case the risk profile will change in 50 years. At that point action may be required to establish a new preservation platform.

Freeze Frame has contributed to the development of the institutional repository within Cambridge University. The staff of [Dspace@Cambridge](mailto:Dspace@Cambridge) are in the process of developing their digital preservation strategy and are looking at the different requirements of departments and institutes within the University. It is also understood that the University of Cambridge is also developing its

own digital preservation strategy. Both these initiatives are extremely timely and it is considered that now is the opportune time for SPRI to identify their specific digital preservation needs and present them to [Dspace@Cambridge](mailto:Dspace@Cambridge).

Institutions developing such policies might want to consider the linkage between master copies of data and master copies of metadata. In this case the Freeze Frame metadata, which is key to the long-term preservation of the content may not be covered by the

SPRI have demonstrated a great willingness to share their experience ... a lot of their success can be put down to good planning, identifying what they could and could not do

Cambridge University preservation policy. As already noted this separation could create an impediment to synchronization which may require careful supervision.

These are relatively minor questions. The Freeze Frame project is an example of good practice because it has a clearly identified preservation plan. All projects offering access to digital content should develop a set of preservation policies. As with Freeze Frame they need not be extensive because they can point to a preservation partner. These project specific policies can influence wider policy (such as [Dspace@Cambridge](mailto:Dspace@Cambridge)) or inform the project team that they need to find a supplemental or alternative preservation partner.

Preservation policies need not be technical and could simply describe service levels between partners. For example, the master images and metadata must be available for the long term, access to the master images and metadata may be asynchronous, the website can be derived completely from *Dspace*, etc.

**Summary**

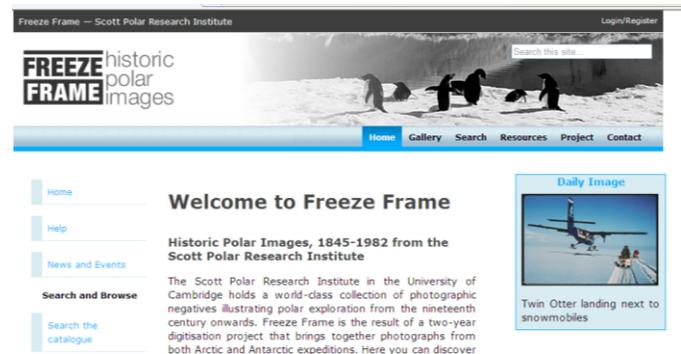
Freeze Frame is an example of a smaller institution managing a complex project such to a high standard. It will hopefully encourage similarly sized institutions to undertake such projects. SPRI also have demonstrated a great willingness to share their experience in real terms as they now have a lot of expertise to offer. Their success can be put down to good planning and investigation and identifying what they could and could not do. Collaboration has been a key element to their success. Much discussion took place prior to the initiation of the project and investigation into the

current state of affairs in relation to the areas of digitisation and digital preservation.

Some risks identified regarding digital preservation point to the separation of systems managing content. While this approach has not affected the productivity of the project the separation could potentially pose a risk to maintaining the content for the long term. Projects should feel confident to specify their needs and specifications in relation to digital preservation requirements even when outsourcing. It is also important to define a remit for backups as well as designate a lifespan for the Freeze Frame delivery website.

The recommendations regarding the preservation of these digital images created by the project should only serve to increase the profile and quality of this successful project in relation to its sustainability and longevity. The

high profile that Freeze Frame has attained suggests that it could be a vehicle for awareness raising in relation to the preservation of such valuable digital surrogates.



Freeze Frame is online at <http://www.freezeframe.ac.uk/>

This case study was prepared by Patricia Sleeman of the University of London Computing Centre, with the assistance of Portico and the Digital Preservation Coalition. It was made possible with funding from JISC and the support of the Scott Polar Research Institute. September 2009

