ICT Case Study

Digitising the photographic archive at Shetland Museum

Introduction

Shetland Museum has a large photographic collection dating from the early 1870s onwards, covering all aspects of life on the islands. The collection was founded in 1966 and has grown to more than 80,000 images in a variety of media including glass plate, celluloid and prints.

The museum obtained funding assistance from the Heritage Lottery Fund and Shetland Enterprise for a project to digitise the collection and make it available electronically to museum visitors and via the web. Work commenced on the digitisation project in June 2000.

The term 'digitisation' means the process of converting objects and documents into digital format, usually through the use of scanners or digital cameras.

Project aims and objectives

The project aimed to digitise the photographic collection. This would enable the collection to be stored and distributed electronically, thereby increasing access to the images and ensuring that the original photographs could be stored in optimum conditions.

In order to do this, computers and scanning equipment were used to digitise the photographs and store them electronically. It was then possible to build a database of images, which would be available to users online and through computer terminals in the museum itself.

The digitisation process

A dedicated team of three, based at the museum and comprising one project manager and two scanning technicians coordinated the project.

The glass plate and celluloid collection, which totals around 26,500 images was digitised by the team at the museum along with a further 8,000 very fragile images. They decided to carry this out internally because of the fragility of the media.

The 35mm film stock of slides and negatives amounts to around 40-50,000 images. The digitisation of this collection was contracted out to a local company called Shetland Litho.

Each image was scanned, tidied up using Photoshop software, and then saved in an iBase Manager database. The photographs were scanned in at the highest possible resolution using the hardware available (between 800 and 4000 dots per inch), and saved as high quality TIFF files (Tag Image File Format). Although taking this approach meant that the digitisation process was lengthy, it did ensure that the images were stored at the highest possible quality.

Taking this approach also meant that file sizes were very large. As a general guide, digitised colour 35mm slides resulted in files around 85 megabytes in size, while quarter plate black and white images produced 6 megabyte files.

The total combined size of the TIFF files is enormous, at over 1.2 terabytes in size (more than 1,200 gigabytes). These are stored in an archive of 285 DVDs (Digital Versatile Disk).

Because TIFF files can get very large and cannot be used on web pages, each image was also copied, compressed and saved as a JPEG file (Joint Photographic Experts Group). This technique drastically reduces the size of the file, and makes them easier to access with a database. However, it does also result in a drop in image quality.

The museum also took this opportunity to electronically document the photographic collection. The glass plate and celluloid collection was already well documented, but the 35mm collections were not and the team were keen to produce meaningful descriptions of the images for public use. A local company called Telecroft 2000 was commissioned to produce precise descriptive text for the images. Working from Unst, they were issued with batches from the database and were able to include full descriptive text of each image.

Rate of digitisation and documentation

On average, the dedicated three person team based at the museum managed to digitise around 35 images per day. The external contract to digitise the 35mm slides and negatives produced around 28,000 digitised images in 27 months.

The documentation being carried out by Telecroft 2000 produced descriptive narratives for the images at a rate of between 800-1200 per month.

Equipment

The team at Shetland Museum used a range of computer hardware and scanning equipment. As a guide, the specifications of these are outlined below:

Computers	Software	Scanning hardware
• 800Mhz dual processor • 512Mb RAM • 32Mb graphics card • 21" Sony Multiscan G500 monitors	• Windows 2000 Pro • Binuscan scanning correction software • Photoshop 7 • iBase Manager 7.02 • iBase Collection Viewer 1.6.2.3 for the public terminals	• Umax Powerlook 2100XL • Agfa Duoscan T2000XL • Microtek Artixscan 4000T

Results

The resulting digitised images provide an electronic archive of very high quality scanned images. This means that the original photographs have to be handled less, and museum staff can access the collection very quickly.

The database of compressed images has been made available on the Shetland Museum web site. Currently, there are over 33,000 images available online.

By putting the images on the web, the museum has dramatically increased access to the collection. Users can search the collection by photographer, parish, subject or keyword, and can also suggest descriptions of the photographs if they recognise the people or places depicted.

Since the archive has gone on the web, the museum has received e-mails from ex-pats and families of Shetlanders who emigrated in the 1800s offering old family photos for the archive. So far, this has added a further 6,000 images to the collection.

The museum has entered into a contract with a local photographic shop to produce high quality physical photographs from the digital images using Fuji Crystalife Archive Photographic paper. If cared for, these photographs should last for up to 100 years. This agreement allows the museum to offer high quality prints of the photographs without the need to invest in expensive equipment. Users of the web site have the option to order these custom made prints using an online purchasing system.

Three computer terminals are also provided in the museum itself, where visitors can browse the image database. The terminals are connected to a laser printer, and users can purchase a card to enable them to print out low quality A4 images. There is another identical terminal that the museum lends out free of charge to local historical societies and museums. These terminals

use databases that are currently larger than the web based resource, at around 50,000 digitised images at three different zoom levels.

The online photographic archive can be found on the Shetland Museum web site:

http://www.shetland-museum.org.uk

Conclusion

This project has had benefits both for the museum and the public. The physical collection of photographs can now be stored in optimum conditions, while the electronic images can be searched and accessed extremely quickly. Public access to the collection has increased enormously through the use of computer terminals in the museum, and by making the collection available online. The museum can also tap into the wealth of local knowledge by allowing users to suggest descriptions for the photographs. The museum has also been able to benefit from the added income of people buying prints on the web site.

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