3. DIGITISE

The process of digitising items, saving them correctly, applying metadata and managing digital assets.

THE GOLDEN RULE: DO IT ONCE AND DO IT RIGHT

It is important to note that when digitising an item – be it a sheet of paper, a book, a horse saddle, a shoe, a painting or a vehicle – your aim should always be to do it once and do it right.

Digitising requires handling the item and can be a time consuming process that will take volunteers and staff away from other tasks in the organisation. It is important to get it right the first time so that it doesn't have to be done again. Gather as much information as possible before purchasing equipment or taking your first scan or photograph.

Once an item has been 'captured' digitally, copies can be made and used in whatever format is required. It is highly recommended throughout the GLAM sector to save digital image files as TIFF files. The resolution should be as high as possible and uncompressed. This initial image capture becomes the Master File for that item.

METHODS OF DIGITISATION

Different methods are used to digitise paper-based materials, three-dimensional objects and audio/visual materials.

PHOTOGRAPHS, DOCUMENTS OR OTHER PAPER-BASED MATERIALS

A photograph, document or other paper based-item is digitised when it is scanned and a version saved in a digital format. Holding a digital version of a photograph allows a number of digital uses, such as:

- linking the image to its catalogued record in the collections database
- sharing the image on social media or on collection sharing platforms
- selling digital prints of the image.

As an example, after scanning a photograph from 1887, the original can be stored safely in appropriate conditions, protecting the photo from excessive handling and potential damage. The digital version captures the photograph as it appears now, with little further deterioration. This means that those who view the digital version in in the future will be able to see the photo as it exists today, even if the original has suffered deterioration.

Some paper-based items are too fragile to withstand the scanning process. These are treated as objects and photographed instead.

OBJECTS

Three-dimensional objects are digitised when they are photographed using a digital camera. The original object can then be viewed in digital format without having to be handled. An example is the

photographing of a sculpture or painting from a gallery collection, or photographing an object from a museum collection, such as a dress, a tractor or an insect specimen.

Some two-dimensional items may also be photographed rather than scanned. These include artworks such as watercolours and drawings, and fragile books that may not withstand the physical requirements of being scanned.

AUDIO OR AUDIO/VISUAL ITEMS

Your organisation may have some audio tapes or audio/visual tapes that are still in analogue format. These may include cassette tapes of oral history interviews with members of your community from the 1980s, or video recordings of a performance piece held at a gallery in 1992. In order to be digitised, the original tapes are played through equipment linked to a computer, which will convert the content into digital code, making it readable by computers and other digital devices.

Due to the cost of this kind of digitisation, consider the significance of the material very carefully to help you prioritise what should be digitised first. What is oldest and therefore needing digitisation first? Or have you got a special exhibition coming up that you would like to include digitised recordings in? What items in the collection are at risk, and should be given priority?

This type of digitisation is best done by professionals with the required equipment. You can plan for the digitisation of this kind of material by being aware of the available grants and seeking support and funding to digitise the material. Consider other fundraising activities that you undertake such as seeking sponsorship or a crowd funding campaign. Consider collaborating with other GLAM organisations in your area, such as the local studies unit of the local library, on a project to digitise this kind of material.

If you feel that your organisation has the skills and knowledge base to undertake this work yourselves, a simple internet search will reveal sites with information on how to do this. You could also contact the National Film and Sound Archive for advice and information.

The storage and care of this kind of material is very important. The National Film and Sound Archive has extensive information on how to care for these items, to prevent rapid deterioration and destruction – nfsa.gov.au/preservation/care.

A NOTE ON 'BORN DIGITAL'

Born digital material culture requires management, storage and care, just as physical items require management, storage and care. There are issues to consider such as:

- where will the born digital material be stored – it can be stored on any digital storage device such as USB and discs, however an external hard drive will hold a lot more data
- how will it be organised and arranged
- keeping up with technology.

National and State Libraries Australasia's *Personal Digital Archive Toolkit* was produced for the general public but it is also helpful for GLAM organisations – nsla.org.au/publication/digital-archive-toolkit.

SCANNING AND SAVING SCANNED DATA

Scanning is used to digitise photographs, documents and other paper-based items.

When scanning items, aim to obtain the best digital image possible with the equipment you have or can afford. If purchasing a new scanner, talk to the sales staff and make sure it will achieve your planned outcomes.

When scanning, capture the whole image. If there is writing around the side of the image, or the item is in a frame, it is generally recommended to capture these parts of the item, as they make up the story of the item. If there is information on the reverse of the item, scan that also.

There are many variables in scanning, such as resolution, pixels per inch, dots per inch, bit depth, file type and so on. These all relate to how the item is scanned and the digital format in which it is saved. The way an item is scanned and saved effects how much digital space it takes up.

Image capture standards vary depending on what the item is. The basic standard for scanning is to scan at:

- Resolution 600 ppi
- 24-bit colour
- Save as a TIFF file.

Text-based items require less resolution and may be scanned at 300 ppi.

PHOTOGRAPHY AND SAVING PHOTOGRAPHIC DATA

Photography is used to capture digital images of three-dimensional objects, and some two-dimensional items – such as watercolours and drawings, or fragile books – that may not withstand the physical requirements of being scanned.

Setting up a dedicated space for photography is very useful. It does not need to be permanent and can be temporarily set up for a photographic session and taken down again.

If you have very large scale objects, such as vehicles or outdoor sculpture, that will not fit in your photographic space it is prudent to photograph them in situ. Once the photographic space is set up, organise the items to be photographed and have them ready for image capture. Remember object handling guidelines when handling any items in the collection.

There are different reasons for photographing objects, including for social media, for the collections database or for inclusion in a catalogue or other publication. When taking basic photographs for collections database or for online sharing, it is useful to include an accession or catalogue number in the photo, so that it can be easily identified and linked to the collection database. This may be in printed form on a piece of paper included in the shot, or written on a small whiteboard so that it can be changed for each item being photographed.

Capture as many sides and angles of the item as possible. Include locations such as the underside of a vase for example, as important manufacturing information can be held in those sorts of places. If it has many images painted around it, capture all sides of the object.

Once photographs have been taken, they need to be uploaded onto a computer. It is recommended that images be saved as RAW files on the camera. A RAW file is an unprocessed file that retains all information captured by the camera. It is then recommended that when digital images are uploaded to a computer, they are saved as TIFF files.

IMAGE CAPTURE AND FILE FORMATS

Image capture is the moment the physical object is turned digital, by the process of being scanned or photographed. How you capture the item and how you save the data effects the longevity and functionality of the digital asset.

Remember, the golden rule is to only do this work once and to make sure that you do it right, so that time and efforts are not wasted and the work does not need to be done again.

The National Library of Australia has image capture standards that advise on the tonal resolution (the number of bits per pixel) and spatial resolution (the number of pixels per inch) for different types of 2D materials – nla.gov.au/standards/image-capture.

IMAGE FILE FORMATS

There are various formats for saving images, but the two main ones are:

- JPG or JPEG - Joint Photographic Experts Group. In this format the information is highly compressed and ‘unnecessary’ information is removed from the item to make it smaller and save space. This changes the digital asset slightly from the original analogue asset if it is a scanned asset, but these changes are generally not able to be seen by the eye.
- TIFF – Tagged Image File Format. This format is uncompressed, meaning that no information has been removed from the digital asset, so it should match the original analogue item as closely as possible.

JPG and other file formats like it, are referred to as ’lossy’ because of the information that is lost when the digital asset is compressed.

TIFF files are referred to as ’lossless’, as every piece of detail about that digital asset has been retained in the scan. This is why TIFF files are considered Master Files.

Saving digital images as TIFF files is the recommend standard as it preserves as much information and data within that image, as it possibly can. JPG files may be smaller, but detail and information will be lost from the original image.

When other versions are needed, copies can be made from the Master and saved in the appropriate format for their intended use. For example, TIFF files are not suitable for use on the internet. So, when an organisation wishes to post an image of an item to social media, a JPG copy can be made from the Master File for use online. The Master File remains unchanged. Importantly, the item has been captured once and handled only once.

DATA MANAGEMENT

A catalogued collection held in a collection management system, and photographs and scans of collection items, are digital assets that require care and management

In order to manage these digital assets, concise files should be created on organisational computers for collections management purposes. Files should also be created for the storing of digital image files of the collection. A clearly defined place for digital audio and audio/visual material should also be created.

Because these are digital assets and easily copied, it is also a good idea to make copies of catalogue and digital image assets, and keep them off-site. You may even have two copies kept in two different locations to ensure their safety. Consider storing copies with places such as the local library or council. If copies are kept off-site, ensure they are updated regularly, so that no new data is lost.

You may also consider storing your digital material in cloud-based storage systems, which are always up to date.

METADATA

Metadata is information about information. Metadata makes things searchable and therefore easier to find when they are needed. It is not just about computers and digital information. Metadata has been used in libraries since they first began to organise items and make them retrievable by users. The Dewey Decimal system is a system of metadata used to organise and retrieve books.

Digital images on a computer have metadata attached to them. Photographs will have background information about the photograph such as when the photo was taken, on which camera, the pixels, the bit depth, the dpi (dots per inch), the colour compression and so on. But it won't tell you who is in the photo or what the photograph is of, so metadata is also the information that can be applied to the item such as title, maker, location, etc. If you have ever written down who is in a photo, when it was taken and where it was taken, you have been using metadata. You may have used it when you wrote on the back of a printed photograph, or when you organised your digital family photos on your computer.

You can set up a simple metadata system for the digital images in your collection, so that it is easy to find an image when needed. Metadata for scanned photographs in a collection can include basic information such as:

- accession number of the item scanned (if accessioned)
- a simple title for what the image is of
- where it is
- approximate date of the image.

Some organisations use a system for their metadata that includes indicators to users such as:

- 't' for images of the town
- 'p' for images of people
- 'b' for images of buildings and so on.

Keep these indicators concise so that there are not too many. A collection should be able to encapsulated in a small group of terms.

Metadata for photographs of objects in a collection can include basic information such as:

- The accession number of the object
- Title/name
- Approximate date.

Some organisations use a system for their metadata that includes indicators to users such as:

- 'm' for machinery
- 'f' for furniture
- 'c' for costume.

MORE INFORMATION

Dublin Core International metadata standard – wiki.dublincore.org/

State Records NSW: Metadata and Access – archivesoutside.records.nsw.gov.au/digitising-your-collection-part-5-metadata-and-access

ARCHIVING HARDCOPY COLLECTION INFORMATION

Once an organisation's collection information has been digitised, what should be done with the 'old' analogue information? This may be a bound book or register, receipt books, a card file catalogue or an old digitised database on the computer.

This information is still important, and should be archived and retained in case it is needed for future reference.

- Clearly mark old data (analogue or digital) as ARCHIVAL so that it doesn't get confused with current information.
- Create a new folder on the organisations computer and mark it as ARCHIVAL. Also, restrict access to that information so that it isn't accidentally deleted by someone who isn't familiar with the collection.
- Copies can also be made onto digital storage devices and keep one off site, for safe keeping.
- Old analogue paper based collection information can be stored in boxes, clearly marked ARCHIVAL – NOT FOR REMOVAL. It is also a good idea to mark the box with the name and contact details of the person responsible for the collection information, so that anyone who comes across it, knows who to contact.