https://doi.org/10.2352/issn.2168-3204.2023.20.1.17

On the lookout for sustainability and efficiency

Carolina Gustafsson; The Centre for Conservation of Cultural Property; Kiruna, Sweden.

Abstract

In 2017 the Swedish government launched a new Digital Strategy, with the overall goal for Sweden to be the best in the world in use of digitalization opportunities.[1] Museums, archives and libraries are important organizations when it comes to fulfilling that goal. The interest for the museum collections is increasing and with that, the need to explore the collections increases.[2]

The Centre for Conservation of Cultural Property in Kiruna is a part of the national digitalization of Sweden's cultural heritage.[3] The department of Digitzation offers Sweden's museums and archives digitization of a wide range of photographic material – glass negatives, slides and plastic film.

Nordiska Museet is Sweden's largest museum of cultural history and stories about the life and people of the Nordic region.[4] It is home to over one and a half million exhibits. The collections reflect nordic lifestyle from the 16th century to the present day.

Motivation

The importance of information about objects in collections of cultural heritage cannot be underestimated. Without information, many of the objects would lose a big part of its value, I dear to say, most of its value. This is why many of our cultural heritage institutions registering descriptive metadata when planning to digitize collections is core in the projects.[5]

Registering the metadata can be done in various ways and depth. The focus of the department Digital Imaging at The Centre for Conservation of Cultural Property is on capturing images. The position of the employees are called digital image technicians, not archivists, archeologists or librarians. Hence the creation of descriptive metadata done by the image technicians is limited to the information provided by the archive, library, or museum. The importance that the metadata is true to the source cannot be emphasized enough.[6] The creation of the descriptive metadata can be done in various ways, often different kind of layouts of excel is used, but the data is also typed straight into the collection management system that the museum or archive uses.

The purpose of this project was to explore if parts of the process of registering descriptive metadata and inserting images into the collection management system could be automated and/or made more efficient.

Problem

The extensive photographic image collections of Nordiska Museet are constantly in demand both internally at the museum, by external researchers and by the interested public.[7] As the museum is currently working on a new base exhibition, the need for digitization efforts was considered great, but the digitization possibilities and resources at the museum were limited.

The Centre for Conservation of Cultural Property has provided the service to create and register descriptive metadata for many years but was interested to see if the process of importing the data could be made easier for the clients and at the same time make the process of creating the descriptive metadata independent of the type of collection management system used by the client.

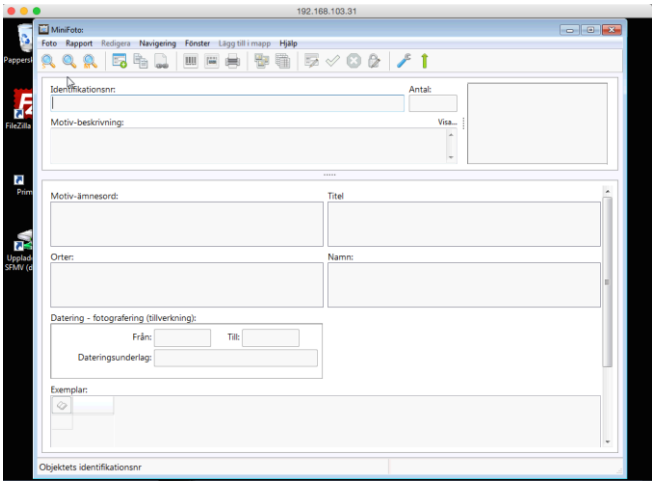

***Figure 1**. Screenshot from Primus, one collection management system used by more then 200 museums and cultural heritage institutions in Norway and Sweden.[8]*

Approach

Since resources for digitization are limited at Nordiska Museet, collaborating with The Centre for Conservation of Cultural Property to test a method to register descriptive metadata was a welcome opportunity. Nordiska Museet began a review of which photographic archives were suitable for this project and this method. As one of the goals was to make it available to a wider public with publication on the platform DigitaltMuseum[9] among others, the copyright was one determining factor. When selecting archive, they evaluated media formats, motifs and how much information were documented at so called object level, as well as the period when the motifs were photographed. They decided to go for a photographic archive where all these criteria could be met: The archive of Gösta Glase.

When writing the contract/specifications, it was stipulated which fields in IPTC metadata the Centre for Conservation should create/register. The decisive factor was partly what information was available in the archive, partly which fields the collection management system Primus offered for this type of import. Nordiska museet had some experience using ExifTool[10] in a previous project with The National Archives, and wanted to try it for this project as well. For The Centre for Conservation this was a new method to apply IPTC metadata to image files.

At the beginning of 2022, Nordiska Museet had received funding to prepare and send approx. two thousand slides distributed

over eight archive volumes from the extensive archive of Gösta Glase and the project could start. The volumes arrived to Kiruna at the end of March the same year.

Image capture

After communication with archivist Karin Mårtensson at Nordiska Museet, it was decided that the slides, instead of taken out of their mount, were to be digitized in their handcrafted paper mounts on which part of the descriptive metadata also could be found. Hence the standard method for digitizing slides at The Centre for Conservation, scanning them in a Hasselblad Flextight X5, were not going to work. A camera station was therefore ordered at the beginning of April and the delivery was delayed until the beginning of May, because the manufacturer did not have them in stock. Environmental factors have made certain parts of electronic equipment difficult to obtain.

However, test files could still be done on another camera station in line with the contract/specifications that Nordiska museet and The Centre fo Conservation had agreed on. The specifications concerning the image file were as follows,

Image capture
Colour depth: 24 bitar
Color space: Adobe RGB
Size: Maximum 6000 pixlar on its longest side

File formats for delivery
DNG, 24 Bit
TIFF, 16 Bit
JPG, 8 Bit (kompression level 12) and slightly sharpened.

The image capture was done with a camera station, Canon EOS R5 and a Canon 100 mm lens, F/8, 1/10 sek, program; Capture One Pro.

IPTC-data making and prepping

It took a few tests för The Centre for Conservation to get ExifTool to work as desired. All commands, directions and filenames needs to be set in a way ExifTool understands. After Nordiska Museet had done a first test to import the IPTC data applied to the image files with ExifTool into Primus, a short investigation regarding the writing of the photographer's name was done. As the name posts for Nordiska museet in Primus had the following format: Surname, First name and the Centre for Conservation were using a csv-file for importing into ExifTool citation signs before and after the name had to be added. When that worked as they wanted, the image technicians could start their work. The Centre for Conservation registered the metadata in an excel sheet, one row for each image-file and columns that corresponded to the IPTC fields Nordiska museet wanted: Caption-Abstract, By-line and Keywords. The instructions on where to find these data were as follows:

Caption-Abstract (description of the image) could be found on the papermount.

By-line The photographers name, should be written as follows: ”Surname, first name”

Keywords (Date of capture) Fetch from the front of the box where the image is stored.

	A	B	C	D
1	*SourceFile*	*Caption-Abstract*	*By-line*	*Keywords*
2	Gösta_Glase_K6_80_001.tif	Östergötland. Hamnen Norrköping	"Glase, Gösta"	u.å
3	Gösta_Glase_K6_80_002.tif	Östergötland. Gamla Linköping	"Glase, Gösta"	u.å
4	Gösta_Glase_K6_80_003.tif	Östergötland. Kolmården	"Glase, Gösta"	u.å
5	Gösta_Glase_K6_80_004.tif	Östergötland. Kolmården	"Glase, Gösta"	u.å
6	Gösta_Glase_K6_80_005.tif	Östergötland. Gränna päronträd	"Glase, Gösta"	u.å
7	Gösta_Glase_K6_80_006.tif	Östergötland.Kolmårdens djurpark	"Glase, Gösta"	u.å
8	Gösta_Glase_K6_80_007.tif	Östergötland. Norrköping E4-an	"Glase, Gösta"	u.å
9	Gösta_Glase_K6_80_008.tif	Östergötland. Norrköping E4-an	"Glase, Gösta"	u.å
10	Gösta_Glase_K6_80_009.tif	Östergötland. Kolmården	"Glase, Gösta"	u.å
11	Gösta_Glase_K6_80_010.tif	Östergötland. Kolmårdens djurpark	"Glase, Gösta"	u.å
12	Gösta_Glase_K6_80_011.tif	Östergötland. Kolmården Lilla Älgsjön	"Glase, Gösta"	u.å

***Figure 2**. Screenshot from the .xlsx file corresponding to TIF-files*

When a full volume had been photographed and the three formats of files Nordiska museet had ordered (DNG, TIF and JPG) and the list of descriptive metadata corresponding to that volume had been created, a short process of editing the csv-files in a way that ExifTool and the command prompts understands was needed. The process involved shifting the semicolon to comma and the three quote-signs to one.

With the command that was used, one csv-file for each format of images was needed. Below is an example of the command in the prompt:

C:\windows\exiftool.exe -csv=C:\Users\Nordiska\TIF\Nytt-test-TIF.csv -overwrite_original *.tif -charset iptc=utf8 -v

```
Arkiv  Redigera  Format  Visa  Hjälp
SourceFile,Caption-Abstract,By-line,Keywords
Gösta_Glase_K6_80_001.tif,Östergötland. Hamnen Norrköping,"Glase, Gösta",u.å
Gösta_Glase_K6_80_002.tif,Östergötland. Gamla Linköping,"Glase, Gösta",u.å
Gösta_Glase_K6_80_003.tif,Östergötland. Kolmården ,"Glase, Gösta",u.å
Gösta_Glase_K6_80_004.tif,Östergötland. Kolmården ,"Glase, Gösta",u.å
Gösta_Glase_K6_80_005.tif,Östergötland. Gränna päronträd,"Glase, Gösta",u.å
Gösta_Glase_K6_80_006.tif,Östergötland.Kolmårdens djurpark,"Glase, Gösta",u.å
Gösta_Glase_K6_80_007.tif,Östergötland. Norrköping E4-an,"Glase, Gösta",u.å
```

***Figure 3**. Screenshot from the .csv file corresponding to TIF-files*

Since the SourceFile needs to correspond to the data on the right row there was a need to switch the .tif to .dng and .jpg in the csv-file and after that run the same command, but editing the command so it finds the right csv-file and change *.tif to *.dng and then once again changing it to *.jpg.

Results

The import of the IPTC data that had been applied to the image files into to Primus worked out well for Nordiska Museet overall. Even if some supplementary registration was required afterwards the museum experienced this as a smooth and efficient method to get both the image and the descriptive metadata into their collection management system Primus and for the public to explore the collection on www.digitaltmuseum.se.

Due to circumstances surrounding personnel resources at Nordiska Museet at the start of the project when the specifications were written, certain information was missing. For example, how the museum previously had worked with the data in the various fields in the Primus photo module. One result was that the data created in the field for Caption-Abstract had to be manually moved after the import of the images was complete. This had nothing to do with the efficiency of the method per se, instead it was about maintaining the continuity of collection management. To some extent it also had to do with limitations of Primus. The initial challenge is to match the available metadata in the collection with

the few fields Primus at this point are able to read. The following fields are the one requested by the Primus community[11]:

Fotograf (Photographer – image information)
Fotograf – historisk händelse (Photographer – historical event)
Alternativt nummer (Alternative number)
Ämnesord (subject word)
Motivämnesord (Motif topic word
Motivbeskrivning (description of motif)
Datering (Date)
Titel (Title)
Benämning (name/designation)

The number of fields available could be increased if more users in the Primus community see that as high priority and if the technical obstacles aren't too high. There are different standards for metadata in image files and it is therefore not always easy to find a way that allows Primus to read from all types of metadata fields into the appropriate Primus field.

Conclusions

What Nordiska Museet first and foremost learned from this project was about the conditions and opportunities Primus as a collection management system and its photo module gives them in order to work with this tested method. The experience is that the method absolutely streamlines the registration work. Nordiska Museet would like to see an increase in the number of fields in Primus where metadata can be imported from the image files. It also became clear how important the preparatory work is. When choosing collections, the understanding of the process of registering in the collection system and how the specifications for a project similar to this should be formulated is of utmost importance. Furthermore it is important to consider what type of governing documents could be needed and how those could affect the collection manangement in place. and of course also technical issues concerning for example format, space for archiving/storage and policies regarding publication.

In the case of Primus, the information that cannot be retrieved from the image file, can instead be added to the post in batch via so called meta-operations. These meta-operations can be used in almost all fields in the post, but best used if it is the same information that are being added on a big number of posts. This is mainly dates, archive reference, copyright, some subject words, descriptive text. If one combine the two functions, importing the IPTC-data and meta-operations, the work will be most efficient. Making templates from which information can be copied to many records is another way to make the registration more efficient.

Working with Capture One Pro software, metadata can be created at image capture instead of in a separate excel document. However, in order to be able to get an overview and to be able to more efficiently control the metadata, The Centre for Conservation would still recommend exporting the metadata out of the files to be exported to an excel document. Excel, and other programs similar to that, are easy to learn and work with to create a .csv file, in comparison to having to learn different systems for collection management. This is why The Centre of Conservation sees that working with creation of descriptive metadata to a .csv file is more sustainable and more efficient.

***Figure 4**. Example of how an image file looks like when downloaded from the website DigitaltMuseum.se that is where the publication of images in Primus is being done if copyright allows it and the museum has chosen to.*

References

[1] OECD Reviews of Digital Transformation: Going Digital in Sweden (OECD Publishing, Paris. 2018) http://dx.doi.org/10.1787/9789264302259-en , pg. 28.
[2] 9 av 10 tillbaka och fortsatt digital boom (Sveriges Museer, 2023) https://sverigesmuseer.se/wp-content/uploads/2023/01/museibesoken-2022-rapport-fran-sveriges-museer-2.pdf, pg. 7.
[3] http://www.sfmv.se
[4] https://www.nordiskamuseet.se/en/articles/about-nordiska-museet
[5] Vägledning digitalt bevarande (Digisam, Riksantikvarieämbetet 2021) pg. 17.
[6] Strategi för en stark demokrati – främja, förankra, försvar (Kulturdepartementet, 2018) pg. 64
[7] Årsedovisning (Stiftelsen Nordiska museet, 2022) pg. 57
[8] https://kulturit.org/primus
[9] https://digitaltmuseum.se/
[10] https://exiftool.org/
[11] https://kulturit.org/en/about

Author Biography

Carolina Gustafsson has a background as a photographer. After seeing the images of the photographer Sune Jonsson she saw the importance of cultural heritage and how much it affects our society, who gets to tell their story. Since 2002 she has been working in different managing positions, starting at the National Library of Sweden until the latest as a supervisor at The Centre for Conservation of Cultural Property since nine years now.