

EXECUTIVE SUMMARY (translation *Projektgruppens rapport*)

Image Databases and Digitisation – platform for ALM-collaboration

January 2003

<http://abm.kb.se>

INTRODUCTION

Due to widespread digital technology today it is possible for cultural heritage institutions such as archives, libraries and museums to make information about their collections accessible in digital form. The ability to present that information – both text and image based – digitally brings with it a long chain of benefits. For employees in the cultural sector, digital technology has become an essential working tool that facilitates ordering the wealth of information surrounding individual objects in the collections. The objects, in their turn, can be linked up with other co-related objects or sources of information. For the user, the technology facilitates searches for objects and documents stemming from a number of possible search entry points. In terms of preservation, visual documentation created by means of digital image capture protects the originals from the wear and tear associated with bringing forth fragile specimens out for inspection, as long as the user is content with studying a digital reproduction. Accessibility in its optimal form implies the possibility of conducting searches from a single platform, unhindered from aspects of time and physical space, with a wide variety of options as to how that information can be conducted and presented.

A great deal of groundwork is, however, necessary in order to create such “optimal accessibility”. The groundwork itself requires in turn an understanding for the problem area as a whole in order to reach the stage of decision-making. In today’s Sweden there does not exist an advisory agency to which archives, libraries and museums can turn with questions regarding those decisions that must be made regarding digitisation. Contact between institutions – and especially beyond the boundaries of certain types of institutions – is at present limited. Institutions therefore face these challenges on their own, in isolation from one another, making decisions about how one might best describe and make accessible the objects in their collections in a digital environment.

These conditions result not only in a dilemma situation for individual institutions in realising satisfactory solutions. Along with it comes an added responsibility in attaining satisfactory solutions that also may be compatible in a greater context.

Collaborative efforts between the country’s cultural heritage institutions would be advantageous so that the essential groundwork can be laid for the above mentioned optimal accessibility across institutional boundaries.

A successful digitisation operation requires additionally that policy-making principals define clear-cut goals. Digitisation includes much more than solely the photo-technical process of capturing an image via photography or scanning. Digitisation is a working process consisting of a number of steps, all of which are necessary in order to ensure that the material may later be of use. First after a policy for selection is defined and a policy for conservation established remain the central activities surrounding registration and photo-technical digitisation. Quality assessment and the planning of long-term maintenance of the digital material are also a part of

this working process. Each stage requires a policy where the best mode of procedure is implicitly defined. Each stage requires additionally the foresight in gathering together competence in the form of experienced personnel with special knowledge and skills.

Digitisation – both image capture and registration – demands integration in an institution's regular operations. Temporary projects, which today constitute the most common working model, are not tenable solutions for the longer term. Digitisation ought not be regarded as a goal in itself, rather, it ought to be dealt with as an undertaking requiring a strong anchor in regular activities. Such a long-term commitment requires that resources are continuously made available in order to cover costs for personnel, systems development, upgrading of equipment as well as the development and maintenance of registration principles, terminology and authority files.

VISION

The project's vision was to create a platform where participants from four central cultural heritage institutions of differing traditions could meet, exchange experiences, and find solutions to common problems. Opening up to discussion across institutional boundaries increased not only the reciprocal understanding for the somewhat differing traditions at archives, libraries and museums but also ensured that different perspectives were weighed against one another in the creation of solutions that may be implied by all.

ABOUT THE PROJECT

In March of 2000, the directors of the Royal Library (National Library of Sweden), the Nationalmuseum, the National Heritage Board, and the National Archives of Sweden turned in an application to the Bank of Sweden Tercentenary Foundation and the Culture of the Future Foundation regarding the funding of a collaborative project. The project description sketched out how the institutions would work together for three years in building up an administrative and technical platform where standards, norms, and policy regarding digital imaging could be developed. Funding was granted in November of 2000 solely by the Bank of Sweden Tercentenary Foundation, which meant the project obtained only half of the sought-after resources.

With a board of directors established, project committee members appointed, and a project leader in place, the project got off the ground in March of 2001. The new financial parameters brought with it a number of revisions, the first of which was shortening the project's time frame. The project committee's initial task was to redefine project goals in keeping with the project's vision. As a result, the committee was selected a portion of the described activities from the original project plan to be prioritised within the new time frame and financial parameters.

PURPOSE

The project's overall purpose was to commence the construction of a common platform for collaboration between archives, libraries, and museums where standards, norms, and policy for digital imaging and registration can develop. In more concrete terms: during 21 months (2001-03-05 – 2002-12-04), project participants were to illuminate requirements for the co-ordination of strategies regarding registration and analogue/digital imaging of objects common to

participating institution's collections such as graphic works, posters, drawings, sketches, maps, and photographs. More specifically, this groundwork required that project participants would:

- agree upon a common terminology for use within the project
- agree upon certain obligatory, common data element sets as well as authority file structure and policy
- compile recommendations for common strategies in the selection of standards and quality specifications for the production and storage of digital image files.

According to the project instructions, the project's results were to be directed to the entire ALM-sector (Archives-Libraries-Museums).

ORGANISATION

The four participating institutions were the Royal Library, National Library of Sweden (KB), Nationalmuseum (NM), the National Heritage Board (RAÄ), and National Archives of Sweden (RA).

Project participants were organised into the following groups: one steering committee, one project committee, one project leader, one researcher, six working groups with six working group leaders respectively and several working group participants, one webmaster, and one reference group.

The *steering committee* consisted of the following members: Johan Mannerheim, chairperson (KB), Jan af Burén (NM), Börje Justrell (RA) and Monika Minnhagen-Alvsten (RAÄ).

The *project leader* was Kate Parson (placed at KB).

The *project committee* consisted of the following members: Kate Parson (chairperson), Magdalena Gram (KB, until end January, 2002), Pia Leth (KB, from start February, 2002), Ann Hörsell (RAÄ), Lillie Johansson (NM), Göran Kristiansson (RA) and Tomas Rosenberg (NM).

Researcher – Activity 1 was Christer Larsson (National Museum of Cultural History).

Working Group Participants – Activity 2 "Terminology"

Magdalena Gram (KB), *working group leader*

Jan Dahlström (RA)

Ann Hörsell (RAÄ)

Lillie Johansson (NM)

Hans Lindahl (KB)

Jonas Malmdal (NM)

Bengt Neiss (KB)

Tomas Rosenberg (NM)

Magdalena Svanberg (KB)

Hans Thorwid (NM)

Karin Åberg Waern (NM)

Working Group Participants – Activity 3 "Registration Principles". Object Categories

Lillie Johansson, *working group leader* (NM)
Jan Dahlström (RA)
Magdalena Gram (KB) (until end 2001)
Agneta Hildebrand (RAÄ)
Jonas Malmdal (NM)

Working Group Participants – Activity 3 "Registration Principles". Names of Private Persons

Ingrid Berg, *working group leader* (KB)
Agneta Hildebrand (RAÄ)
Lillie Johansson (NM)
Mårten Johansson (RA)

Working Group Participants – Activity 3 "Registration Principles". Obligatory Data Element

Mårten Johansson, *working group leader* (RA)
Olof Halldin (KB)
Ann Hörsell (RAÄ)
Lillie Johansson (NM)
Jonas Malmdal (NM)

Working Group Participants – Activity 3 "Registration Principles". Indexing of Images According to Motif

Magdalena Svanberg, *working group leader* (until 2002-09-09)
Kate Parson, *working group leader*
Carina Bromark (KB)
Eva Dahlman (KB)
Olof Halldin (KB)
Lillie Johansson (NM)
Mårten Johansson (RA)
Jonas Malmdal (until 2002-09-06) (NM)
Sussi Wesström (NM)

Working Group Participants – Activity 4 "Technical Quality and Standards"

Bengt Neiss, *working group leader* (KB)
Mats Berggren (RA)
Karl-Magnus Drake (RA)
Ann Hörsell (RAÄ)
Lars Kennerstedt (RAÄ)
Hans Lindahl (until end February 2002) (KB)
Jessica Lund (KB)
Magnus Matts (RAÄ)
Hans Thorwid (NM)
Tomas Rosenberg (NM)

Reference Group Participants

The following participated in one or more reference group meetings:

Sven Allerstrand (The National Archive of Recorded Sound and Moving Images)
Kjell Blücker (Bank of Sweden Tercentenary Foundation)
Gunnar Broberg (Dept. of History of Ideas and Sciences, Lund University)
Ingrid Cantwell (Stockholm University Library)
Stina Degerstedt (The Royal Library, National Library of Sweden)
Carl-Edvard Edvardsson (Regional Archives in Härnösand)

Magdalena Gram (from start 2002) (National Museum of Cultural History)
Bode Janzon (Regional Archives in Uppsala)
Lena Johannesson (Dept. of Art History and Visual Studies, Göteborg University)
Ulrika Kjellman (Dept. of ALM, Aesthetics and Cultural Studies, Uppsala University)
Christer Larsson (National Museum of Cultural History)
Hans Rengman (Consultant; Lecturer Dept. of ALM, Uppsala University)
Johan Scherman (Medialandet)
Anna Tellgren (Department of the History of Art, Stockholm University)
Erik Åström (Swedish National Council for Cultural Affairs)
Krister Östlund (Uppsala University Library)

Webmaster Anne Scherman (KB).

WORKING EFFORTS

The steering committee and reference group met five and four times respectively during the course of the project.

A project leader was hired full-time for the duration of the project and was financed in full by project budget. Other project committee members' commitment was calculated, according to the project plan, to the equivalent of 25% of full-time employment. The National Archives did not require reimbursement for participation in the project committee. 19 regular project committee meetings were held during the project period, excluding working meetings held during the drafting process of the project plan and final report.

Individual commitment in the working group committees was calculated in the project plan according to the template duration of meeting (four hours) + preparation time (eight hours, calculated as meeting time doubled), multiplied by projected number of meetings. Compensation was not made for individual commitment in the working group committees. Participating institutions were instead allotted identical amounts from the project budget, which internally were divided to the particular departments in question. 89 regular working group meetings were held, all six groups tallied together.

In what manner the project committee's and working groups' actual efforts agree with the prognosis calculated in the project plan will be reviewed at the project's evaluation seminar in January 2003.

The Webmaster was hired during the summer of 2001. Due to great flexibility, the Webmaster's efforts were able to fluctuate according to project demands, averaging out to about 25% of a full-time position.

In addition to the regularly scheduled working meetings, project participants met with one another in a number of different contexts. During the first portion of the project, each institution hosted project participants during educational visits. Seminars with invited guest-speakers were also initiated and carried out on request of the working group committees.

INITIAL PLANNING

In the initial stage of the project period, the project committee discussed which activities from the original project funding application should be prioritised. Even before the official start of the project, contact had been made with researcher Christer Larsson, National Museum of Cultural History, who during the first three project months would conduct a study according to the mission statement for Activity 1. As the results would serve as a foundation for the project the assignment description was formulated and delivered to him immediately.

A number of activities from the original project plan were prioritised with the intention of carrying out the eliminated activities at a later date. The present project was to therefore create a basis for a wider, more thorough project in the nearer future. The project management chose to prioritise issues concerning terminology, registration principles, and technical recommendations. The eliminated activities were mainly of administrative character, including:

- selection criteria for digitisation
- accessibility
- management issues in the cultural heritage sector
- information and educational campaigns.

Planning of the terminology activity (Activity 2) took place concurrently. A working group was formed, consisting of earlier appointed project delegates. The project leader made contact with terminology professionals at the Swedish Centre for Terminology. The activity's mission statement was formulated and delivered to the working group, which commenced its work in May of 2001.

The planning and formulation of the remaining working group's mission statements was discussed, together with the scope of each activity, determined by the overall time scheduling for the project. The mission statements were approved by the steering committee on May 29 2001. Decision-making regarding permanent staffing in the various working groups was delayed until the National Board of Culture's project group member was able to assume responsibilities at the institution in May of 2001.

While Activities 1 & 2 were up and running, it was decided that Activities 3 & 4 would not start until after the initial stage of the project, thus ensuring that earlier attained results would provide foundation for the other activities. Activity 3 "Registration Principles" consisted of four sub-activities logically scheduled for implementation in short but intensive stages, one after the other, for the duration of working groups activities (September 2001 – November 2002). Parallel and during the same period, Activity 4 "Technical Quality and Standards" would be implemented. Activity 4 would be carried out by a larger working group whose tasks would be carried through partly by the group as a whole, partly by smaller specialised groups within the whole.

The project committee also discussed early on how one might in the best way possible create conditions in which the project would thrive successfully and at the same time firmly establish a consensus between partners regarding the collaboration. The project committee arranged a full day kick-off meeting for a small group of individuals with representatives from the steering committee, project committee, and working committees. The seminar was held on September 17, 2001 under the leadership of two consultants from consulting firm SINOVA. In addition to an opening discussion on project work as a working model and an exercise in getting to know one another better, the group discussed a number of fundamental issues to the project. The most important issues dealt with participants' expectations and goals with the project. During the meeting, the need for a concrete mission statement from the project initiators (steering

committee) for the entire project became relevant. In addition, participants voiced the need for more clearly defined roles within the project hierarchy. As a result, the steering committee formulated a mission statement, which leads to a new version of the project plan being approved on October 22, 2001. The new project plan contained the project committees goals and sub-goals, together with a template for calculating individual and group time commitment in the project. Additionally it contained a description of the delegation of duties conferred upon the steering group, the project leader, the project group, working groups, and a reference group. A shortened version of the project plan – the project description – was created for general distribution and publication on the project's website.

Educational study visits or excursions were arranged in the hope of providing the opportunity for project participants to become familiar with each others' working environments and create an overall impression of how the everyday tasks of working with registration and digitisation fit into place in each institution's regular operations. Development strategies and other related projects were presented on these occasions.

EXTERNAL CONTACTS

The project management decided at an early stage that extensive information campaigning would best be delayed until work had further progressed and that there might be concrete results to present. Plans to implement the project had earlier been discussed in the community in different contexts, for example the conference ABM-forum 2000 (arranged by the DIK Association, the Royal Library, National Library of Sweden and the Swedish National Council for Cultural Affairs) and in the union journal published by the DIK Association. Further information was directed on these occasions to the planned project website, the intention being that it would serve as the junction for information and continuously updated project results.

The projects website later became the natural junction for information regarding the project. In July 2001 a Webmaster was appointed and during the summer months a web structure for the project was built up. The site consisted of a public portion directed towards other cultural heritage institutions and the general public, and an internal portion tailored to project participants' needs via a password, Appendix 1 (*"Projektets genomförande, Bilaga 1"*).

Opportunities for the project leader to present the project to an external audience arose on a number of occasions during the project period. The project was presented in Lund, Sweden on April 2, 2001 at a pre-conference workshop on the theme "Best Practices". The workshop was held in conjunction with a three-day conference arranged by the European Commission and the National Archives during Sweden's presidency. In June 2001 the projects was presented during working meetings, together with representatives from the National Archives of Sweden, at the Schweizerisches Bundesarchiv in Bern, Switzerland. The project was also presented at a reference group meeting held for Swedish professionals from specially appointed so-called "key responsibility libraries" for the humanities in Uppsala in November 2001.

The project was presented twice in 2002. In August the project leader presented a paper on the on-going project at a section meeting during the IFLA (International Federation of Library Association) 68th annual General Conference and Council in Glasgow, see Appendix 2 (*"Projektets genomförande, Bilaga 2"*). The project committee presented the project work during the DIK Association conference ABM-forum 2002 in Gävle, Sweden. In addition, the project leader took part in the following conferences:

- *Museiveckan*, Umeå. March 19, 2001. Arranged by the Swedish Museums Association
- *Experts Meeting on Coordination of National Digitisation Policies & Programmes* (observer) and *Access to Official Documents and Archives*, Lund. April 4-6, 2001. Arranged by the European Commission and the National Archives of Sweden.
- *First Expert Meeting SEPIA WP5*, Stockholm. April 26-27, 2001. Arranged by SEPIA (Safeguarding European Photographic Images for Access), European Commission on Preservation and Access.
- *Expert Round Table Meeting on Technology* (observer), Stockholm. June 14, 2001. Arranged by DigiCULT, IST Support Measure (IST-2001-34898)
- *International Cultural Heritage Informatics Meeting (ICHIM)*, Milano. September 3-7, 2001. Arranged by Archives & Museums Informatics (A&MI).
- *Digitalisering, bevarande och förmedling – museer och arkiv med elektroniska förtecken*, Stockholm. May 23, 2002. Arranged chiefly by the DIK Association and the National Archives of Sweden.
- *Museiveckan 2002*, Stockholm. March 18-20, 2002. Arranged by the Swedish Museums Association.
- *Digital Cultural Heritage IV: Networked Virtual Museums and Memory Institutions*, Maastricht. July 10-13, 2002. Arranged by the McLuhan Institute.

The project leader took part in lectures on subject headings and indexing arranged by the Royal Library, National Library of Sweden and participated in National Heritage Board's course in digital imaging, PICTOR.

The project committee established informal contact with representatives from the National Museum of Cultural History's national secretariat for photography for the purpose of exchanging information on current projects and discussing the need for a more extensive collaboration between institutions in the cultural sector.

In addition, a number of various external contacts were made during the course of the different activities. These contacts are presented with the result reports from each activity respectively.

THE PROJECT WEBSITE

The project's web pages were an important working tool for project participants. One condition for the success for the website as an internal tool was the establishment of routine between the working group leader or secretary and the webmaster. Sending material directly to the webmaster ensured that all meeting documentation and materials could be continuously updated on the project site. The routine was chiefly the webmaster sent a message to individuals or group concerned when the material was posted for access on the site. This facilitated the handling of updated or revised documents, so that new information was continuously posted centrally on the site rather than stored in different individuals' computers.

DEVIATIONS FROM THE PROJECT PLAN

After the fact, one can conclude that time allotment for each activity in the project plan proved to be overly optimistic. Differences between institutions – not the least of which with regards to terminology – was greater than expected, and required that more time than was calculated was necessary for the fundamental discussions for each activity. Adhering to stipulated time frames required in turn greater demands on the working group members in order to complete all tasks

in the mission statements in time. Calculation of time intended for the internal review of results was also inadequate. Due to the high level of personal commitment in the working groups, project work was prioritised so that work continued even after the original time limits were crossed. It is to the credit of the project participants, that the overall time line for the project was not negatively affected by this. All activities were thusly able to begin according to the project plan. Conversely, the individual activities were drawn out for longer periods than was calculated. This resulted in an unplanned overlapping between activities, as participants in some cases worked simultaneously with the wrapping up of one activity while acquainting oneself with the coming challenges in the next activity. Employment contracts for the project leader and webmaster were also extended as a result of the all too optimistic time frame of the project.

In the early stages of work in Activity 3 “*Indexing of Images According to Motif*”, the group found the mission statement in the project plan to be unclear and requiring further definition. After discussion with the project committee, the working group presented a proposal with redefined goals for the activity. The proposal was accepted September 17, 2002 and became the basis for continued work in the group.

Within Activity 4 “*Technical Quality and Standards*” the working group estimated that the results would greatly benefit from being presented in digital form, in addition to the textual recommendations specified in the mission statement. The group realised that the digital form would better exemplify the relevant problem areas and illustrate how image quality is affected by the successive decisions faced at each stage of the digitisation process. After consultation with the project committee, the working group devised plans for a web-based resource in conjunction with the project website. The web resource would even become available in CD-ROM format.

PROJECT EVALUATION

In January of 2003 a seminar will be held where the participants’ experiences from the collaboration will be presented and discussed. The point of departure for the seminar will be a questionnaire within which participants will be requested to evaluate issues concerning the project’s organisation, planning, internal information strategy, working models, etc. The purpose of the seminar is to create a substantial basis for possible future collaborative efforts.

THE CENTRAL ISSUES IN THE PROJECT

The working groups’ tasks were divided into three main areas: *Terminology*, *Registration Principles*, and *Technical Quality and Standards*. Four different aspects of registration-related issues were investigated: *Object Categories*, *Names of Private Persons*, *Obligatory Data Element*, and *Indexing of Images According to Motif*.

Prior to the start of the groups’ work, a study was conducted mapping out achieved results and praxis in the ALM-sector with the purpose of serving as a basis for the project’s comprehensive scope (Activity 1).

Results from the project’s different activities are intended either for immediate application or are rather intended as a basis for further study and/or development.

Speaking a common language

The fundamental prerequisite for collaboration of any kind is the ability to communicate with one another. To effectively communicate, both parties require a common language. The initial task for the project participants was therefore to construct a common terminology to be used in the project.

Already from the outset, project management recognised the importance of effective communication in the group context. Past experiences had shown that incongruities in language usage were common not only between different institutions but also internally within one and the same institution. These same experiences predicted that a collaborative project between four different institutions would carry a high risk for misunderstandings without a pre-defined common terminology. The purpose of constructing a common vocabulary for the project was to prevent ambiguity in communication and act as a source of support for the daily project work.

The first step was recruiting the help of professional terminologists from the Swedish Centre for Terminology. A number of working process models were discussed. Next, a list of possible terms that might be required for the project work was made. The following process of defining concepts and agreeing upon appropriate terms required many lengthy, drawn-out discussions and the activity took considerably more time to carry out than was initially planned.

Upon completion of the activity, the group compiled a vocabulary (in Swedish) consisting of 45 terms which was to serve as supportive guidelines for the coming working groups' tasks: *analogt fotografi, auktoriserad form, auktoritet, auktoritetspost, auktoritetsregister, bild, bildfil, bildfångst, bildobjekt, data, databas, databasapplikation, databashanterare, databärare, dataelement, dataelementkatalog, dataelementnamn, dataelementtyp, dataelementvärde, dator, digital bild, digitalt fotografi, fil, filformat, fotografi, fotografisk avbildning, fotografiskt objekt, förlaga, indexera, kategoriindela, klassificera, klassifikationssystem, kontrollerad ordlista, kontrollerad term, kopia, masterversion av bildfil, metadata, motiv, objekt, original, reproduktion, samlingar, term, tesaurus, upphovsman.*

The results are presented in their entirety under the heading “*Definiera begrepp*” (Terminology).

Interesting to note: two important international efforts regarding terminology were underway concurrent with the working group's activity. These were published after the completion of the activity and have therefore not been taken into consideration. Results of these international efforts are the standard SS-ISO 5127 Documentation – Terminology and the “draft” standard ISO-DIS 12231 Photography – Electronic still picture imaging – Terminology.

What types of image-based objects do we have common in our collections? What names do we give these types of objects?

One important entry point in an institution's database is the possibility of searching and sorting results according to the particular “type” of object in question. Many categories of objects, for example drawings, graphic works, and photographs, can be found not only in museum collections but also in the holdings of archives and libraries. They do not, however, always possess the same referential name. Collaboration concerning the establishment of common names for categories of objects creates the potential for conducting searches for specific types of objects managed by different institutions and from a single set of criteria. This provides in turn

the possibility of gathering statistics regarding collections managed by custodians of cultural heritage.

Thirteen categories are presented as a result of the working group's efforts, together with a number of proposed common names for those categories. The categories are described and exemplified with the help of a number of possible sub-categories.

The results are presented in their entirety under the heading “*Objektkategorier*” (Object Categories).

How does one lay the groundwork for the creation of a common database of personal names?

One additional important point of entry into the collections of cultural heritage institutions is by way of reference to individuals who in some way are related (for example, as creator, archive builder or donor) to the object in question. Often the same individuals are related to different institutions' holdings. It is therefore essential that the information about these individuals correlate, for example, with regarding to spelling of names.

Compiling documentation on individual persons such as year of birth, title, area of profession, etc is a time-consuming task. Sharing the compiled documentation across institutional boundaries – for example, by means of a common database or via a portal – would be a major benefit stemming from collaborative efforts in the ALM-sector. The construction of a common database shared by cultural heritage institutions holding the documentation of private persons represented in the holdings requires however a consensual strategy for how that documentation is to be registered and organised.

The results are presented in their entirety under the heading “*Personer och namnformer*” (Names of Private Persons).

How should information regarding our image-based objects be organised in a database?

The fundamental requirement for conducting border-crossing searches between different institutions' linked collections is that the stored information is compiled and structured compatibly. A set of such regulations is essential in defining which parts of the information regarding the individual objects in the holdings are possible to register in a database and how that information ought to be organised.

Using the international standard *Categories for the Description of Works of Art* (CDWA), the working group has compiled a “data element catalogue” comprising of recommendations as to how the information surrounding objects in the collection should be structured in a digital register. The term “data element” means here the smallest component in a register that can be consistently demarcated from all other information in the register. The purpose of demarcation is partly to facilitate conducting searches from a standard set of criteria, partly to ensure that register in the ALM-sector become compatible. Additionally, in some cases the demarcation of data element facilitates the use of authority files and controlled vocabularies.

The data element catalogue can be used as a set of guideline for the compilation of local data element catalogues as well as providing the keystone for comparison (“mapping”) between different institutions data element catalogues. It also provides a basis for the stipulation of minimum levels of registration in the registration of image-based objects with regards to collaboration on the national level.

The results are presented in their entirety under the heading “*Obligatoriska dataelement*” (Obligatory data element).

How does one describe the visible “content” of an image?

An additional, fundamental point of entry into an institution’s collections is by way conducting searches for image-based objects in the register according to a certain “motif”. The purpose of indexing according to motif is to find image-based objects possessing a visual representation of the concept that the search/indexing term refers to. Examples of different types of motif can be anything from types of animals, historical events, seasons, and natural phenomenon. The requirement involved in conducting searches according to motif are that the image-based object had been indexed with the help of special, “controlled” terms describing the image’s visual content. Indexing according to motif is not a part of regular registration practice at the participating institutions. The working group has illuminated this problematic challenge and investigated the prerequisites for implementing description of motif as a component of the registration of image objects.

The results are presented in their entirety under the heading “*Motivindexering*” (Indexing of Images According to Motif).

What are the important things to keep in mind during the digitisation process?

Digitisation occurs today at all of the participating institutions without any higher degree of collaboration or peer consultation between institutions. This means that institutions work isolated from one another while facing the same daily challenges. During each phase of the photo-technical digitisation process one is inevitably faced with a number of decisions that will have a direct affect on the final quality of the digital material. These decisions even affect the possibility of re-using that material in different contexts and from a number of different platforms. In addition to the rationalisation of the decision-making process, a broad and comprehensive co-ordination of strategies regarding digitisation and digital preservation would ensure consistent quality and that the material would be exchangeable across institutional boundaries.

The working group has compiled recommendations spanning, amongst other issues, selection of file formats, technical production-based metadata, colour calibration, image quality, authenticity, and the long-term preservation of digital documents. The results are presented under the heading “*Kvalitet och standard*” (Technical Quality and Standards).

An educational presentation of the results – using examples of best practices with additional visual material – can be found in the CD-ROM-appendix to the printed final report as well as in the form of a web resource at <http://abm.kb.se>.

THE PROJECT IN A BROADER CONTEXT

In recent years, there has been an on-going debate concerning ALM-issues and how those institutions, which maintain the material Swedish cultural legacy, can in the best way possible fulfil the citizens’ demands for full-access. With regards to the principles of democracy and the goal of providing unfettered access, it becomes obvious that cultural heritage institutions’ strategies ought to be co-ordinated. The central issue has come to deal with how that co-

ordination ought to be implemented in order to achieve optimal results. Co-ordination of strategies across institutional borders can be implemented in a number of ways.

Co-ordinating the general operations of ALM-institutions can be implemented, as one example, through central co-ordination from higher levels in the institutional and/or departmental hierarchy. Today, the responsibilities for archives, libraries and museums are divided between the Departments of Culture and Education. This may contribute to what may be interpreted as a lacking of co-ordination between cultural heritage institutions. In other countries, the solution of central co-ordination of ALM-institutions has enjoyed increased popularity, as shown in the examples of the newly christened governmental agency ABM-utvikling in Norway and in the somewhat more established agency ReSOURCE in Great Britain.

One other variation of co-operation in digitisation across institutional boundaries is the numerous projects that seek to co-ordinating strategies, where participants work parallel to one another towards in order to attain goals established individually at each institution respectively. The networking project MINERVA¹ and the investigative project DigiCULT² are prime examples.

One more additional variation of co-ordination in the ALM-sector is the collective efforts between institutions according to shared goals, with the purpose of creating applicable results for all involved. As cultural heritage institutions define common goals, one defines simultaneously that which is unique for each cultural heritage institution. This project has been such an example.

In response to a committee proposal to further investigate conditions for development of co-operation between institutions, in October 2001 the Department of Culture requested of the Royal Library, National Library of Sweden, the National Archives of Sweden, and the Swedish National Council for Cultural Affairs that a study be conducted charting ALM-efforts. A working committee was formed with representatives from the above institutions as well as the National Heritage Board and the implemented and completed the assignment. The findings³ were turned in to the Department of Culture in March 2002, and in turn were circulated for consideration to more than 70 institutions in the country. Returned remarks and comments are currently undergoing preparation for further publication. The report portrays the project *Image Databases and Digitisation – platform for ALM-collaboration* as a unique example of ALM-collaboration on the national level, which strives to cover the fundamental need for organised co-operation while awaiting more permanent support.

Additionally, the recent extensive archival report (published in Swedish, *Arkiv för alla – nu och i framtiden* SOU 2002:78) emphasised the need of co-ordination between ALM-institutions. Among other issues, the report illustrates the importance of a common national strategy for providing access and for long-term preservation of digital materials.

CONCLUSIONS

In carrying out this project, four central cultural heritage institutions of differing character have had the opportunity to meet, exchange experiences, and seek out solutions for commonly held challenges. Working together has ensured the establishment of a network of professional contacts between institutions that previously enjoyed only limited contact regarding digitisation.

It has been a valuable experience to set one's own institution's needs and realm of possibilities in relation to the other participant's home institutions. This has led to not only increased mutual understanding for the somewhat differing tasks at archives, libraries and museums, but also understanding and respect for the different professions in the ALM-sector.

The initial activity in the project dealing with terminology clearly illustrated that co-operative efforts require time. In order to attain a shared vision with regards to digitisation operations in the ALM-sector it was essential to allow the time required to thoroughly discuss and exchange ideas, so that it might be possible to create that mutual understanding and respect. Only then can one stand on a common, shared platform.

Results from the individual working groups are presented in each final report respectively (available only in Swedish, March 2003). Each final report lays the groundwork for both practical application and future collaborative efforts. The final reports must first, however, be circulated and discussed within the various departments of each institution respectively. Our intention is to conduct a jointly held seminar where employees from participating institutions gather to discuss the project's findings and results (February 2003).

Today in Sweden there is no directive regarding routines or guidelines for cultural heritage institutions in the construction and compilation of digital resources. A strategy is needed on the national level for digitisation and long-term digital preservation, much like that which is formulated within the framework for the MINERVA-project. Our project contributes in defining long-term needs common for cultural heritage institutions with image-based collections. Digitisation provides citizens the right of access to their cultural legacy, at the same time as it protects that material legacy so that coming generations may also enjoy it. To further develop the collected proposals in this report requires that the leaders of our institution take a stance on these issues. The integration of our proposals into the daily operations requires that resources are prioritised and allotted to continued education of personnel, systems development as well as the acquisition and upgrading of technical equipment. Resources could possibly even be rationalised through collaboration across institutional boundaries.

In addition to those activities which were carried out during the project period, a number of issues remained which funding did not cover. Other issues have also shown to be of pressing interest during the course of events, which ought to be considered in future collaboration contexts, for example authority files with regards to geographical/topographical names.

The purpose of this project was to commence construction of a platform where issues concerning digitisation and registration could be developed jointly by cultural heritage institutions. The results from the individual activities in the project are partly applicable in their current form, partly intended as forming the basis for future collaborative efforts. It is therefore of central importance that the project's results are brought into the daily working operations of cultural heritage institutions. Apart from the activities' findings, the results have even given

voice to a number of new issues that ought to be considered in future collaborative efforts. The future is, however, unclear. Which issues ought to be prioritised, and how will it be financed?

¹ Ministerial Network for Valorising Activities in Digitisation (MINERVA)
<http://www.minervaeurope.org>

² IST Support Measure (IST-2001-34898) Digital Culture (DigiCULT) <http://www.digicult.info>

³ Gram, Magdalena. (2002). *ABM-samverkan mellan arkiv, bibliotek och museer. En lägesrapport på uppdrag av regeringen från Kungl.biblioteket, Riksarkivet, Statens kulturråd och Riksantikvarieämbetet.* Stockholm. This report is available only in Swedish.

Projektets genomförande, Bilaga 1

WEBBPLATSENS STRUKTUR

**Bild databaser och digitalisering -
plattform för ABM-samverkan**

Ett samarbetsprojekt mellan
Kungl. biblioteket, Nationalmuseum, Riksantikvarieämbetet och Riksarkivet
finansierat av **Riksbankens jubileumsfond**

Läs om projektet i **projektbeskrivningen**

Senast uppdaterad 2002-11-11
Sidredaktör: **anne.scherman@kb.se**
Kungl. biblioteket
http://www.kb.se/ABM_plattform/Default_Start.htm

Medarbetarnas anslagstavla

Nytt

Nu finns färska, fina kommentarer till aktivitet 4:s delrapport för läsning på vår "Kommentera"-sida!

Delaktivitet motvindexering presenterar nu sin rapport under rubriken Kommentera. Tiden är knapp så *skymda er* att läsa och kommentera. **Senast den 3/12 måste ni skicka in** era åsikter till **Kate Parson!**

Arbetsgrups-, projektgrups- och styrgruppsledamöter: **boka den 22 januari 2003.**

Projektets genomförande, Bilaga 2

PARSON, KATE. *CREATING COMMON GROUND TO STAND ON – IMAGE COLLECTIONS AND DIGITISATION PRINCIPLES.*

“Paper” presenterat vid 68th General Conference and Council, International Federation of Library Association (IFLA), Glasgow, augusti 2002.

Paper: Creating Common Ground to Stand On – Image Collections and Digitisation Principles

Author: Kate Parson
Project Leader, *Image Databases and Digitisation - platform for ALM-collaboration*
Royal Library of Sweden
Stockholm, Sweden

Abstract: *In applying their signatures to the document "Funding Application for the Project Image Databases and Digitisation - platform for ALM-collaboration" (2000-03-02), the directors of Sweden's National Library, Nationalmuseum, National Heritage Board and National Archives embarked upon a joint venture project that aimed to build a common platform for collaboration between archives, libraries and museums where standards, norms and regulations for digital imaging practices and registration may be developed. The project aims towards the creation of a common working language and agenda for four cultural heritage institutions of differing traditions.*

Introduction

A survey from 1999 charted the activity of more than 200 digitisation projects in the ALM-sector in Sweden. In recent years, a growing number of ALM-institutions (archives, libraries and museums) have begun to digitise parts of their collections and present them in database environments, with or without linked digital image files. In many cases, cultural heritage institutions maintain collections with similar types of objects used for the purposes of research, education and enjoyment. Full and seamless accessibility, as seen from the end user's perspective, would require that these materials are made accessible through automated searches from a number of entry points. For the user searching for information, it is of little relevance which type of cultural heritage institution it is that physically maintains the sought-after material. Despite a number of common points of interest due to the overlapping of the collections maintained, ALM-institutions work independently and often without much communication regarding digitisation efforts. As a result, the institutions work in isolation from one another with problems that are mutually significant.

Through better organisation, the tasks involved could be realised more effectively and the numerous problems solved together. Co-operation regarding registration principles and the applied technology would lay a foundation for providing future users the opportunity to conduct searches from a single platform. This opens up the possibility, in turn, for new learning opportunities. Among other things, complex searches might then be possible, resulting in relevant “hits” amongst different types of materials in the collections.

Background

In March of 2000 a project proposal was drawn up between members of the Royal National Library [1], the National Archives [2], the National Heritage Board [3] and the Nationalmuseum [4] of Sweden. The joint venture project aimed to create a starting point: a common platform for

collaboration between archives, libraries and museums where standards, norms and regulations for digital imaging practices and registration may be developed. The project would aim towards the creation of a common working language and agenda for four cultural heritage institutions of differing traditions. In this paper I will describe our work in the project - started in March 2001 and to be completed in December of 2002 - which has grown out of the need and desire to pool intellectual resources and tackle a number of digitisation issues over institutional boundaries.

Participating institutions

- The Royal Library, Sweden's National Library was established in 1661 with legislature concerning legal deposits and today is assigned by the Department of Education to acquire, describe, preserve and to make available all materials published in the country. The present volume of the book collection is estimated at 3.5 million; the poster collection, one half million; maps, 300 000; portraits 750 000; and assorted image-based materials (drawings, photographs, engravings and other prints) number another half million.
- The National Archives was established in 1681 and today is the overseeing organisation for the state's national, provincial, municipal and numerous private archives, as well as the custodian of the archives of the Department of Defence. According to legislation for archives, and under the supervision of the Department of Culture, the law stipulates the responsibilities of preservation, organisation, and care of records for the purpose of making them available according to the public's right of access. The archives house a wide spectrum of different types of materials: text-based documents but also considerable holdings of older manuscripts, maps, drawings, microfilm, sound and image-based materials.
- The National Heritage Board has its roots in the 1630's and later in 1786 was established as an academy of antiquities with the responsibility of recording and caring for ancient monuments. Today the Board is regulated by the Department of Culture and is the central organisation in the country responsible, together with the provincial governments and regional museums, for seeing to it that Sweden's unique cultural heritage and diversified cultural landscape is preserved and used. Historical maps, topographical and architectural registers, together with image-based documentation of monumentally important sites make up the larger portion of the Board's physical collection of materials.
- The Nationalmuseum, also under the supervision of the Department of Culture, is the national depository for older works of art in Sweden. (Modern and contemporary works are housed at Moderna museet.) The collections consist mainly of older painting and sculpture (16 000 works), art handicrafts (30 000 works), drawings and graphic works (500 000 works).

A significant thing to note is that these four institutions had not previously worked together as a group before. As my colleague Wolfgang Undorf pointed out yesterday, ALM-collaboration has been quite sporadic and may be described as "informal action" [6]. The idea of ALM as an organisational solution for co-ordinating strategies of the different (but in many ways similar) types of cultural heritage institutions has existed in Sweden for a little over a decade. However, to this date, most efforts have been at the local level and otherwise have been limited to concrete, goal-oriented projects between archives and libraries.

After months of brainstorming, a project committee consisting of representatives from these four institutions (A - L - M and ArtM) set the wheels in motion in creating the aforementioned "common platform" upon which shared strategies in collection management and digitisation could be discussed. A number of specific, pressing needs and concerns of the four participating institutions regarding both registration issues and digital imaging issues were identified. Additionally, for the purpose of streamlining the project work, the area of concern for the project was limited to the custodianship of specifically image-based objects maintained commonly between all four participating institutions: maps, drawings, graphic works,

photographs, and posters. The project was granted funding by the Bank of Sweden Tercentenary Foundation and one year later, in March of 2001, the organisational structure was put in place. With a budget of 330 000 euro and 10 500 projected man-hours of work divvied up by 25 project participants over 21 calendar months, the project was finally lifted off the ground. Title of the project: *Image Databases and Digitisation - platform for ALM-collaboration* [5].

At the start of the project period a number of working groups was established to share current practices and research best solutions (both the possible and the “impossible” solutions) to better long-term collections management. These committees comprised of the in-house experts from each institution and who agreed to spend a portion of their time alongside their regular responsibilities to project work. Issues regarding terminology, collections description in a database environment, the implementation of shared authority files, and standards of technical quality for visual, digital documentation of the collections were pinpointed and prioritised as major areas of concern. Other issues that earlier had been identified (such as selection criteria for digitisation projects, authority file collaboration regarding topographical names and geographic places, legal issues such as copyright, and a programme of educational seminars and workshops geared towards smaller institutions and private-interest organisations) were put on hold for the interim, with the hope of addressing them at a later date and with renewed funding.

The first activity of the project was to establish a common working language that would enable participants to communicate on an even level, and to avoid unnecessary future misunderstanding. Experts from the Swedish Centre for Terminology (TNC) were brought in to help map out the standard terminological working process of unearthing the concepts at hand and the assignment of terms to represent those concepts, together with definitions for those terms agreeable to all. At any given point during the 30 weeks of our terminology activity, we had 50+ terms on the table up for “excerpting” or definition. Of those terms, some were alternately discarded and added to the list, according to the group’s findings along the way. We started with a list of terms we deemed critical for smooth communication in the project and divided those terms essentially into two categories, registration terms (ex. “thesaurus”, “indexing”, “classification”, “controlled vocabulary”, “controlled term”) and technical terms (“data”, “data carrier”, “image capture”, “digital image”). Our working committee of 13 people was set up, and the members assumed responsibility for the category of terms central to their area of work. Other experts employed at our institutions were called upon to provide additional expertise. To begin with, we explored the concepts and terms used locally at each institution and sought to pin down on paper the existing definitions for those terms to share with each other. A number of terms we found were traditional only for the “type” of institution it was found in. We began to formulate our discoveries, saying “In the archive world we would say *archive builder* rather than *collector*” or “In the museum sector we would never use the library’s terms *cataloguing* and *controlled vocabulary*, instead we would say *registration* or *key word lists*”. Next, we explored general lexicons and other reference and terminological research materials, together with ISO documents featuring terminological reports. Our final task was to pare down our research, and, where no ISO definition was present, agree on a formulation taken from our findings that would best suit our purposes for the project. As our initial project activity -- and in retrospect an invaluable first step in our collaboration -- the terminology activity allowed the project participants to get to know one another and become more familiar with the working language environments and professional traditions of the archive, library, and museum sectors respectively.

With a stable vocabulary as our point of departure, the project work was then divided into two parallel work-packages that were to span the remaining fifteen calendar months of the project period: on the one hand, activities concerned with digitisation standards; and on the other hand, activities regarding registration issues.

The working committee concerned with digitisation standards set out in their work by following a plan that outlined key areas to be discussed and researched. The goal was to establish best-

practice recommendations primarily for the benefit of the four participating institutions, however even other ALM-institutions and organisations active in the digitisation of cultural heritage were intended to benefit from the findings. These key areas were:

- the selection of file formats for varied purposes (long-term storage, presentation in a web environment, and delivery formats to be made available to users) and including a study on long-term preservation and maintenance/migration of data;
- technical metadata essential for documenting image capture;
- quality standards for visual, digital documentation of objects in the collections;
- principles and guidelines in colour management;
- and the principles and guidelines with regards to authenticity.

Subcommittees were set up to tackle each key area, and in an initial phase each institution provided insight into and compared current working practice. Following this, each subcommittee delved into researching existing working methods and models in use at other various leading institutions and organisations for the basis of their summary recommendations. This is the point we are at now, in late august of 2002. Additionally, as a sort of concluding exercise, this committee will also to provide a summary of compiled working methods and routines when setting up digital and photographic imaging projects before the project period is complete. Practical hands-on visits to the photo and digital imaging studios of the participating institutions has provided a great deal of material to work with (insight into the tricks of the trade) that might otherwise have gone unobserved and unmentioned in our regular activity report. The working committee has decided to present this guideline of working methods and routines as a website where the entire activity's findings (both the report and the guideline) will be gathered. Not entirely unproblematic in the context of digitisation standards and working methods is the fact that the technology changes rapidly. As we all know, over time file formats are bettered and replaced by new formats, data carriers are exchanged for different carriers, digital storage is becoming more compact and the technology to hold it compact more affordable. "Best practices" in this field have a relatively short shelf life. Ideally our results will be maintained and updated in a sort of after-the-project-life.

Alongside the first work-package concerning technical quality guidelines and best practices there is, as I mentioned, a second work-package running parallel that has to do with registration principles. More specifically, it consists of four individual activities run one after the other during the course of the same fifteen months:

- one prefatory activity to explore and propose a common way of classifying/labelling the different types of objects in our collections in order to better organise and retrieve information in the database;
- a second activity which explores the possibility of developing shared name authority files between institutions;
- a third activity to compile a proposal delineating minimum-level obligatory data elements for the identification and description of objects;
- and a fourth and final activity that in effect is a research stint on the indexing of images according to motif (concept-based image retrieval, rather than content-based image retrieval).

Again, the committees' work was entered into by presenting existing practices at each institution. The next step was to debate what optimal practices might look like, that is, exploring what kinds of expectations we have as records custodians and also what kinds of expectations our users have as members of both a general public and as niche researchers. At this point, our working committees have proposed recommendations for the first three registration activities. At this time, we are in the introductory phase of our last - and most difficult - activity for this work-package. During the fall we will explore and debate image description and indexing according to such abstract properties as "motif", and have planned a

series of meetings with art historians and art theorists on the subject. In addition, we have made contact with a number of professionals in the private, commercial image bank agency sector in Sweden and planned a meeting where we can share experiences with indexing tools and discuss our various needs regarding image retrieval.

Conclusion

I find it difficult to make conclusive remarks about the project results as such, as all of our current results are being considered internally before publication at the end of this year with the end of the project. I am happy, however, to be able to say that our project has been favourably evaluated for its initiative in an investigational governmental report on ALM-collaboration published in March of this year [7]. Among the final recommendations, the report calls for a permanency of precisely those issues - in addition to other digitisation issues - that our project has opened doors for in discussing in a trial format, ie. project form. As to open doors, it has been said more than once in our meetings: even if the only thing we were to achieve in our project time was the gaining of a clearer understanding and respect for our colleagues at neighbouring cultural heritage institutions, then indeed that must be worth something in itself.

[1] Royal National Library of Sweden: <http://www.kb.se>

[2] The National Archives of Sweden: <http://www.ra.se>

[3] The National Heritage Board of Sweden: <http://www.raa.se>

[4] Sweden's Nationalmuseum: <http://www.nationalmuseum.se>

[5] collaboration project *Image Databases and Digitisation - platform for ALM-collaboration*: http://www.kb.se/ABM_plattform/Default_Start.htm. [Starting February 2003 see <http://abm.kb.se>.]

[6] Wolfgang Undorf, *Means before purpose - the development of cooperation between cultural heritage institutions in Sweden*. August 2002.

[7] Magdalena Gram: *ABM-samverkan mellan arkiv, bibliotek och museer: En lägesrapport på uppdrag av regeringen från Kungl. biblioteket, Riksarkivet, Statens kulturråd och Riksantikvarieämbetet* (ALM Co-operation between Archives, Libraries and Museums. A Report by Order of the Swedish Government on the Situation at the National Library, the National Archives, the Swedish National Council for Cultural Affairs, and the National Heritage Board). In Swedish only. Published March 2002.