Coming around the mountain; A Norwegian tunnel

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Within the last 15 years, the Museum of Cultural History (MCH) has converted a substantial part of their archival records to a digital platform. The implementations of new systems carries with it change as well as challenges for the museum. Through appropriate organizational and managerial decisions the MCH has addressed a number of these challenges. By concentrating the responsibilities for database management to the Department of Documentation the MCH has also avoided pulverizing responsibility for its databases.

Background

The National Database Project of Norwegian University Museums

In 1991 the four university museums of Norway, the Museum of Cultural History (MCH) in Oslo, The Bergen Museum, The Tromsø Museum and the Museum of Natural History and Archaeology in Trondheim, started a project for the development of joint database-systems. One of the project's primary goals was to develop a tool for management of the museum collections, enabling digital access to a substantial portion of the collections for researchers, students and the general public.

This work has so far been undertaken in two main phases. The first phase (The Documentation Project) was a collaboration between the arts faculties and museums at the Norwegian universities. Under the Documentation Project the museums concentrated on converting paper-based archives to computer readable formats. The conversions were undertaken by scanning as well as transcribing original documents; government sponsored work groups located throughout the country were employed. The same groups subsequently formatted the converted texts with SGML.

The second phase (The Museum Project) started in 1998 and is based on cooperation between the four Norwegian university museums. In this phase conversion has continued, but greater effort is being made to create user interfaces. These database-systems are designed and built up as a series of modules.

Museum of Cultural History

The Museum of Cultural History (MCH) houses the largest prehistoric and medieval collections in Norway. These include the Viking ships, a collection of medieval ecclesiastical art, an antiquity collection from the Mediterranean and the national rune archive. The museum also houses an ethnographical collection and a numismatic collection. These collections form the basis of the museum's research, education and heritage protection policies. The museum is organized into six sections with a central administration and currently has 100 permanent positions as well as a large number of positions associated with projects.

The MCH has recognized and acknowledge the need for database-systems to allow the museums' staff an overview over the collection and to meet the ever-growing demand for digital access to the collections. The Museum has, in addition to the positions found within the Department of Documentation, canalized a considerable amount of additional funding to ensure long-term development of robust database-systems.

Department of Documentation

Unfortunately it is often the case that, when a museum begins with digitalization of its collections, the venture is primarily based upon projects that have been largely implemented by individuals who have no responsibilities for the management of the produced material after the project has ended. This material often lives a life of its own on some local PC, floating around on a server within the museum or on a CD in a desk drawer. Within the organizational framework of the Museums Project the Museum of Cultural History is the only museum at the moment which has designated the responsibility for the management and development of the museums' databases to a single department: The Department of Documentation. By concentrating the responsibilities for database management to one department the MCH has avoided the pitfall of having pulverized responsibility for the museums' databases.

Within this department the museum has one full-time position allocated to this task. The head of the department is involved in all activities and decisions concerning the databases and sits on the national board for the Museums Project. The museum has created an additional database-related position which will be filled by fall 2006. These positions are responsible for coordinating MCH's joint development of databases along with the other three university museums and participating in the development of a number of national databases primarily dealing with archaeology. In this manner the department is able to recognize, as well as address, current and future issues which would affect the museum. This in turn allows the museum to make appropriate organizational and managerial decisions to meet these challenges.

Archaeological artefact database

Archaeological finds make up the majority of the collections of the MCH. It was important for the museum to have a database-system which could be used in the administration of the collections. The development of the module for archaeological artefacts was organized as a project. A committee was formed with representatives from The Museum Project and the departments for Archaeology and Documentation at MCH. This group had a mandate to deliver an operational database-system for cataloguing of the archaeological collections. It was also decided that this system would be used to catalogue all newly acquired archaeological artefacts. The Museum Project with its high IT competence was responsible for the programming of the database. The Archaeology Department would represent the prime users of the finished database. Through the dynamics of this group the museum was able to have fruitful discussions around the final design of the database. In the process, the desired functionalities were discussed in relation to the time allocated, and priorities were made in order to complete the project within the given timeframe. Within the development period there was also scheduled time for testing of the applications' functionalities and to remove bugs.

Previously, objects were catalogued using either an Access base or Word documents. At the onset of 2004 the museum began cataloguing all the recently acquired archaeological artefacts in the new database. To implement such a radical change in the daily work routines the new database-

system was launched in a presentation for all of the staff at the museum, with the main goal of informing everyone that they were expected to use the system from that time on.

Before the presentation, a user manual had been developed and, in the weeks after this first presentation, all employees of the museum were given the opportunity to take a one-day course. A number of the staff within the Archaeological Department, having learned the database more thoroughly, were assigned the role of super user. This enabled them to answer questions and give guidance in how to use the database. With this combination of measurements, the staff could begin using the new system with a minimum of problems.

The MCH has, as other museums, several locally developed databases. To integrate these with the converted material it was necessary to use a significant amount of time for quality control, updating of nomenclature and for washing of data. The museum, despite the development of the archaeological artefact database, still needs to make simple databases so that the workflow does not stop. But how has the museum been able to avoid 'cowboys' from developing their own databases outside the museum's established database-systems? By simply enforcing one golden rule; no one is allowed to create a database without first contacting the Department of Documentation regardless if it is in Access or Excel. By enforcing this simple rule the museum is able to control how information is stored. This ensures that at a later date information can be imported into an established database with little extra effort and funding.

Photographical database

The photographical database-system had first been developed and used at the Tromsø Museum. This application was developed primarily for registering of their historical photographical archives. Bergen Museum developed it further, enabling them to register their photographs from the medieval excavations at Bryggen in Bergen. The MCH took it one step further and added additional functionality.

The paper archives connected with the photographical collections had been converted under the Documentation Project. In 2004 the MCH initiated a large-scale scanning of its photographical collections. This project has produced over 200,000 scanned photographical images. These scanned images have now been linked with the photographical paper archives allowing the user the ability to search for both objects and subjects within the photographical database. The photographical database and the artefact database have been connected. Before these links were established employees were required to register information about the artefacts in both bases. Now all information concerning the objects in the collection is registered primarily within the artefact database. As images over a larger portion of the collections become available through the artefact database, the database has developed into a more diversified tool for the museum. This is seen primarily through the exhibition planning. In several instances, only a quick overview is needed to decide whether it is necessary to study certain objects more closely or not. The photographs, in connection with the written catalogue, can in this way reduce the need to handle the objects in the collections, thus ensuring easy access and at the same time protecting the objects from unnecessary handling.

Collaboration with the other four university museums

One of the main goals with the Norwegian Museums Project is to develop a joint system which can be incorporated in all of the university museums.

The photographical and the archaeological database-systems are a result of one museum's needs that the other collaborating museums are able to use within their daily work. The Museums Project ensures that all the museums involved in this process have access to the latest developed system. This also means that the museums cooperated in developing database functionalities that are as similar in form as possible. Experiences from the SGML-formatting in an earlier phase of the project show that there have been variations in the tagging schemes at the different museums. This is only natural considering how the practice of cataloguing differed from museum to museum. However, this was not so apparent until one began the process of conversion from a

paper-based archive to a digital-based archive. The MCH has learned, through the development of the artefact database, that it is most unlikely that the involved museums will ever reach 100% identical systems. This is primarily because collections as well as methodology differ. However, it is important to agree to work towards a system with as many similarities as feasible.

Where we are now in the process

The National Database Project of the Norwegian University Museums, the Museums Project, is in its last year as a project. From 2007 the Museums Project will go over to be a permanent organization. This organization will be owned by the four universities, and a board of trustees will oversee the coordination, development and maintenance of these joint database systems.

At the MCH the one-day course for learning the archaeological database-system now also includes the photographic database and is repeated at intervals, as new people are employed or more members of the staff realize the advantages of the database in their daily work.

New routines are often experienced as extra work. With introduction of the new systems, the existing routines are exposed in a way that clearly shows their weaknesses and advantages. The implementation of the database systems requires a more systematic and accurate approach to work ethics.

Earlier manual cataloguing allowed people to cut corners, resulting in incomplete catalogues. Now incomplete catalogues are clearly visible, allowing the museum to address the problem.
Statistical information showing the amount of information that has been generated within an allocated period of time can be extracted. This gives necessary data for an evaluation of the amount of work required to catalogue different types of archaeological material. This in turn enables the museum to budget external projects more precisely.