A New Professional Application at the Musée d'Orsay

Laurence des Cars [*], *Françoise Le Coz* [#] *and Sylvie Julé* [¤]

[*] Musée d'Orsay, Paris, France

E-mail: laurence.descars@musee-orsay.fr

[#] Musée d'Orsay, Paris, France

E-mail: francoise.lecoz@musee-orsay.fr

[¤] Musée d'Orsay, Paris, France

E-mail: sylvie.jule@musee-orsay.fr

ABSTRACT

Based on evaluations conducted in the early 1990's on the use of its documentary system by curators and researchers, the Musée d'Orsay has adopted an original, resolutely user-oriented approach. The close collaboration of users to the project has made it possible to develop a centralised system made up of modules adapted to the different functions (curators, researchers, registrar's office, cultural service, visitors' information, etc). The main actors are provided with a tool that makes it easy for them to search the database but also to bring new information (creation of artwork or artist records, dealing with artwork movements, updating of information), using a graphical and ergonomic interface. This corpus, crucial in the life of the museum, is meant to become the reference on the museum collections. The step by step implementation of the system, which necessitated a close analysis of the organisation of work, has certainly contributed to the evolution of the way information technologies are perceived by the museum teams.

With this system of information and management of the collections new perspectives of publishing information are opened, in particular an online catalogue of the collections (more than 73000 entries).

KEYWORDS: user-oriented approach, database, methodology of project management

INTRODUCTION

The Musée d'Orsay (Paris) is about to celebrate the fifteenth anniversary of its opening to the public. It is a multidisciplinary museum studying and presenting a limited period covering only a few decades, from 1848 to 1914, in all its cultural aspects. A recent creation, the museum integrated the use of new information and communication technologies (NICT) in its museum programme, including a documentary database on the collections. In spite of the co-operation of the curators and researchers, the project was disappointing. In 1992-1993, the new guidelines for computer development resulted in a specialisation of applications according to different uses by the large public or by professionals. The problems encountered by users were analysed. The lack of an appropriate human-machine interface was a powerful obstacle, despite the

training sessions and the publication of a thorough user's guide. Two other issues added to this handicap:

- the cataloguing of artworks was not yet comprehensive,
- the number of terminals giving access to the data was insufficient.

These facts accentuated the reluctance of some of those who had the information to support computerisation.

To overcome these obstacles that, cumulated, endangered the future of the project, several decisions were made between 1993 and 1995:

- First, to offer as soon as possible a human-machine interface for users to consult the existing system (this was achieved in 1995).
- Secondly, to involve an important number of voluntary curators and researchers in the elaboration of a system that would meet their needs.

The curatorial department wanted to take possession of the system, and to do so, had very precise requirements:

- complete control over the data,
- simple and user -friendly graphical interfaces,
- data structured to allow for speedy research of precise information, a screening and edition mode that would meet the conventions of museum catalogue edition,
- tools facilitating repetitive tasks (edition of labels, of condition reports...),
- and, from 1995 onwards, to manage the localisation of the artworks and the planning of their movements.

The computing department added technical requirements:

- well-tried technologies,
- a wide competition on the market of computer development.

All these requirements prompted the launch of the Base Orsay project.

PRESENTATION AND AIMS OF BASE ORSAY

One of the essential characteristics of the system developed at the Musée d'Orsay was the centralisation of information. This option, strongly emphasized from the very first version of the database reflects the artistic creation of the period covered by the Musée d'Orsay (1848-1914). In those times, the idea of an intricate relationship between the arts, developed in particular by Baudelaire, explains the progressive disappearance of the traditional hierarchy between major and minor arts. In this logic, all techniques (painting, sculpture, decorative arts, photography, architecture drawings and archives) are dealt with a single computer referent.

The different modules

This centralisation of data also applies to museum logistics. Different modules coincide with different professional uses. This database thus constitutes an information and management system of the collections. To understand this approach, here is a description of the database and its modules.

- The artwork management and localisation module is particularly intended for the registrar. It was necessary because of the large number of artworks under the museum responsibility (more than 73000). The reliability of the hand-written-cards had become too uncertain and access to information was too limited. For instance, the number of artwork movements exceeds several thousands a year. The implementation of this module was also motivated by
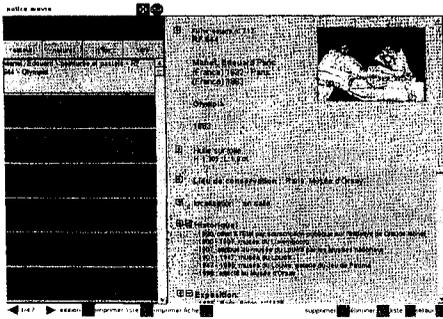
administrative reasons linked to the obligation to ensure a rigorous management of the French State collections (this issue was highlighted by several official reports published in the 1990's). For the module to be immediately adopted by the registrar's office, its ergonomics had to reproduce as nearly as possible the structure of the hand-written cards (Figure 1).

Figure 1: Artworks management screen

This module perfectly meets the requirements of a secured and internal use. It was not designed as a communication tool to be used by the visitors' information staff.

- To meet this need, the graphical localisation module will be functional in 2002. Here again, the idea was to follow as closely as possible existing uses, with maps similar to those handed out to visitors. It is based on the same data as the previous module (Figure 2).

Figure 2: Graphical localisation model

- The documentary artwork files constitute the core of Base Orsay in an "artwork repertory". These data had been collected first. The user-interface of the system that preceded Base Orsay allowed only for data retrieval. Base Orsay made it possible for curators and researchers to add new data and to update them. Until then, this task had had to be devolved to an external enterprise because of the importance of the volume of information to be processed and the complexity of integration tools. The structure of the final product is similar to that of the paper catalogue of the collections. (Figure 3). The main evolutions of documentary files have been devised to proceed to new editions of the collection catalogues. Technical developments of the Internet and the evolution of web sites incidentally make it possible to consider online publication of these files.
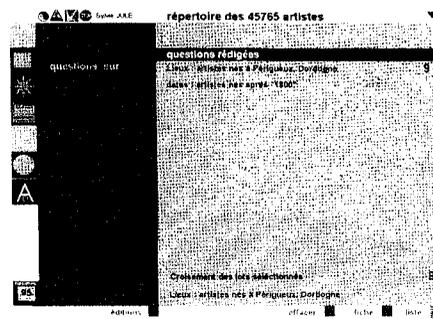
Figure 3: Documentary screen

Figure 4: Artist repertory model

• To the artwork repertory will soon be added an artist repertory (Figure 4), also integrated in the same fully cross-referenced system. The data came from an independent base that listed the artists documented in the museum research centre. The integration of this information, done by the museum documentary team, soon proved difficult because of the number of files to check. To give an idea of the task at hand, 34,000 artists were registered with a total estimation of 100,000 references. But the fact that it was not comprehensive made the very use of the database irrelevant. It was therefore decided to "freeze" the database and to merge it with the artists of the Base Orsay.

Implementation stages or how unforeseen events may favour the completion of a delicate project.

The museum has limited human resources. It is therefore more practical to segment projects into well-delimited stages ensuring an efficient, but not always speedy, completion. Priorities were decided on. The implementation of one module after the other ensures each time that the system functions in a satisfactory way for users who are trained to use it and accompanied in their mastering of the system. Several versions of the software are necessary before the exploitation, but even then, new versions are necessary to get a fully satisfactory result.

A number of lessons can be drawn. Even though the purpose of the Base was originally documentary, the addition of a management module proved decisive in the integration of documentary computing in the museum life. Between the initial brainstorm and the time of implementation, the computerised management of artwork movements had indeed become a priority. For this reason, the documentary module, although it had been designed first, was not the first to be implemented, and it came second to

the management module baptised "Kardex". Because this information is vital, the management module became the driving force of a more thorough use of computers. When computers take charge of a crucial part of the work of an institution, and when they do so in a satisfactory way, they quickly become indispensable. It was a point of no return from which to build on.

The use of "Kardex" has *de facto* become compulsory for some museum teams, and curators and researchers have to attend a training session to learn how to update new data. Some of them have volunteered first, out of an interest in the system or because they had specific needs (huge volume of their collections). They were joinded by other users in 2000. French national museums have to proceed to a check (*récolement*) of the collections every three years or so, a process that was made easier by Base Orsay. The ease of this operation (hardly 15 minutes of training were necessary) (Figure 5) helped rallying the last irreducible opponents, while at the same time the validation of information, the recording of new acquisitions went on and future perspectives (publication) were explored.
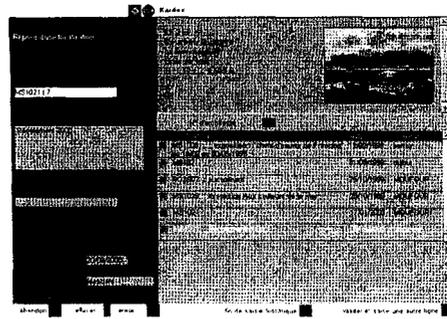

Figure 5: User-friendly up-dating screen

ORGANISATION AND METHOD

In order to guarantee the fulfilment of these ambitious aims, a new organisation chart and new working methods were implemented.

Due to its professional uses, the responsibility for "Base Orsay" had to be transferred from the cultural service to the curatorial service. Thus the project could be supervised by a curator, which facilitated the involvement of the museum teams.

Steering authorities

A curatorial steering Committee of information systems was thus created. This committee is chaired by the head of the computer department and made up of curators, researchers, the system administrator and one representative from the cultural service and it meets on a monthly basis. It defines general objectives, the strategies to fulfil them, establishes priorities, and sets up necessary workgroups. Its reports regularly inform the museum director and the executive secretary.

The follow-up committee studies technical issues, organises work between the museum teams, and creates specific workgroups when necessary. It meets as often as required.

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Workgroups are set up for varied lengths of time, starting with the collection of needs and remaining operational for as long as necessary to the end of their task.

External actors
Of the importance of an input of external contributions

To achieve those goals, multiple abilities were necessary, in particular for the collection of needs: screen modelling, the chairing of meetings, co-ordination with outside enterprises, etc. The museum therefore chose to hire the services of a consultant. In order to be accepted by the museum teams, the consultant had to command an extensive knowledge of museum practices: the specific uses of art historians and those of documentary databases. He also had to have ability for synthesising the needs expressed by users, and to conceive ergonomic screen models that met sometimes-contradictory demands. For instance, the interface had to remain user-friendly even though it had to process complex requests. Finally, this consultant had to be able to communicate easily with computer programmers. These aptitudes were found in the person of Laurent Chastel, who besides being André Chastel's son, had already followed the evolutions of databases in the 1980's and had devised an interfacing system for two national databases.

His part was crucial at the time of the collection of needs and in the conception of the system. Relaying the determination of the museum to involve users, he chaired and animated the meetings of the workgroup in charge of the elaboration of the new system. During several months, this group made

up of about fifteen people (the most eager curators, researchers...) met at least once a week for long, sometimes fastidious or stormy sessions. The curator in charge then sometimes had to compel some participants to keep on attending these meetings for a project in which they did not believe. Laurent Chastel's good mood and his deep knowledge of this "microcosm" ensured the completion of the project.

Relations with the computing enterprise

No software development can be made in-house because of the lack of specific human resources. The museum therefore has turned to external service providers. Following a first consultation, the firm RS2I has been selected for the design of the model. Familiar with the development of databases and of information systems, this firm did not command any references in the cultural field. As they were willing to enter this market with a renowned institution, they were prepared to reduce cost and keep a high level of quality.

The redaction of detailed specifications comes after a first stage of understanding the museum needs as stated in the terms and conditions. Once validated by all in-house and external participants, this document is used by the enterprise to determine the cost and the planning of the development. This stage is essential as financial or technical constraints often lead to compromises: what seems simple in the mind of the neophyte is sometimes hardly feasible. As a result, it is necessary to inform end-users regularly of palliative solutions. Then comes software development. This also necessitates a follow-up to deal with the problems that may arise.

Indeed, the development has effects on several levels of software: Oracle, for the management of the database, Delphi as development language, and XML for screening. The firm RS2I has suggested using XML for the screening of the artwork card very early on (in 1998), whereas at that time this approach was very unusual. This choice was made for two reasons: first to dissociate the content of a card and its appearance, secondly to have an international exchange standard. It must be owned that a large part of programming difficulties arose from the implementation of the graphic interface set by the museum. The number of functions to be taken into account often complicates the last stage, testing, and so does the number of layers involved (data, structure of the data, field, request and interface parameters). The organisation of work must allow for a dialogue between the developers and the end-users.

Documentary Expertise
The museum also had a thorough documentary expertise acquired through the intermediary of the firm GRAHAL. This was a valuable asset at the time of data-migration and at the time of checking the data-structure in the new database. The museum priorities included maintaining the coherence of the data, the tracing of actions, and their reversibility.

A Visual and Iterative Process
To ensure a good communication between end-users and the project managers, new working methods have been implemented in the museum.

Each workgroup meeting was of course followed by a report. From the beginning, this took the form of

graphic charts: screen models and chaining of screens. As soon as possible, a model was computerised to verify their relevance and feasibility.
At every stage, there were constant exchanges between end-users and project-managers. Each stage is validated by all. This process is time-consuming as it often implies profound changes. If such an organisation today seems self-evident, it nonetheless constitutes a huge workload for all those involved. But the alternation between brainstorming, conception, validation and modelling, with constant exchanges, is really the condition for the museum to ensure a satisfactory result of the definitive conception.

CONCLUSIONS
Finally, we would like to highlight four major points.
The first point we wanted to insist on is the attention to technological evolutions a system such as Base Orsay induces. The permanent evolutions of computer software mean that such a tool cannot afford to be static. It must be able to evolve constantly both in terms of technology and on the conceptual level. Computer uses create new needs, but above all they induce previously unfathomed new working and thinking environments.

Secondly, the example of Base Orsay and its already long history also makes it possible to assess the place of documentary computing in a museum, in particular in financial terms. It must be regarded as a permanent element in the life of a museum and not as a one-time investment. This idea is sometimes difficult to bring through, when the amounts at stake are compared with other operations vital for the museum.

When considered more closely, systems of this kind appear to be constantly bordering between the two budgetary notions of investment and functioning. This situation leads to new rounds of bargaining with every budgetary year. This relative instability explains why we have to compromise and sometimes to give up ideas. These administrative difficulties also reflect the necessarily fluctuating relationship between the museum and society.

As far as methodology is concerned, the user-oriented approach described earlier is successful. The application has been designed with a wide participation of involved professionals. The project team remains attentive to users' needs and to their remarks, organises as many training sessions as necessary and devises tools to help users, including paper documentation and on-line contextual help. Basc Orsay thus really meets daily needs of over a hundred users, and makes it possible to share information efficiently between the different museum departments.

Finally, concerning the use of the base, the gains in terms of efficiency, availability, and reliability of information must be highlighted, particularly for collection management. As for scientific use, the end result to this day is more contrasted. The reference to paper is often preferred, as using the database means acquiring new working habits. This can be explained by the fact that, in the field of research, complex notions, the bulk of information, imply a longer training time before one can master this new tool. Nevertheless, the perspectives of on-line and off-line publication are a motivation for the users to become

actors in the project, especially as the author of each update is identified. We hope that part of Base Orsay will be available on the Internet with a specific interface by 2002.

ABOUT THE AUTHORS

Laurence des Cars, curator in the Musée d'Orsay has graduated at the École du Louvre and the Paris IV-Sorbonne University. She is a former student of the École Nationale du Patrimoine and a specialist of late nineteenth-century painting. She contributed to exhibitions and to the catalogues published on these occasions. Within the curatorial department of the Musée d'Orsay, she is in charge of the co-ordination of documentary databases.
E-mail:
laurence.descars@musee-orsay.fr

Françoise Le Coz studied History of Art (École du Louvre, Paris IV-Sorbonne University). She was part of the group who had to define the possible uses of computers by the public in the Musée d'Orsay. She is now in charge of the museum Web site (within the Cultural Department) and she is the administrator of Base Orsay (as part of the Curatorial Department).
E-mail: *francoise.lecoz@musee-orsay.fr*

Sylvie Julé, head of the Computing Service in the Musée d'Orsay, was between 1987 and 1998 Computers System Manager for CXP, a firm specialised in information and a consulting service in software-package selection.
E-mail: *sylvie.jule@musee-orsay.fr*