Cross-departmental Initiative to Produce an Online Image Library for Staff at the National Gallery, London

Marie-Therese Gramstadt, Slide Librarian and Project Manager of the Image Library Project, The National Gallery, London

Introduction

Marie-Therese Gramstadt joined the National Gallery, London,[1] as Slide Librarian in February 2007, job-sharing with Isabel Drummond. Since June 2007 Marie-Therese has been Project Manager of the Image Library Project. Previously Marie-Therese worked with digital collections at the Crafts Study Centre,[2] Farnham, Surrey, and in an advisory role at the Visual Arts Data Service.[3]

The Image Library Project started as a collaboration between two departments, the Photographic Department and the Slide Library in the Libraries and Archive Department, but it became a collaboration across the whole of the National Gallery. In essence this is what the Gallery's Information Strategy Group,[4] who acted as the Project Board, had intended.

It should be noted that the Image Library Project concerns photographs taken of Gallery activities and events, images from the Photographic Archive, and works of art from other museums and galleries, and not the works of art in the National Gallery's collection.[5] National Gallery and National Gallery Company[6] staff can already access images and information about the National Gallery's works of art via the eMuseum[7] interface, which takes its data from The Museum System.[8] The Image Library Project ran from June 2007 and launched to the Gallery in April 2008. The relatively short timescale for the digital collaboration relates to the background work completed prior to the project starting.

Background to the Image Library Project—Digital Aspects

Many of the digital aspects were already in place prior to the project starting, for example the Photographic Department had all the imaging standards in place, including a workflow database to manage jobs. They had already been trialling an installation of Extensis Portfolio,[9] known as the Miscellaneous Images Database, which had been soft launched to Gallery staff. The Slide Library had previously tendered for a system to manage their growing collection of digital images and so had already done research into this area. From the 1990s the Slide Library had also been cataloging and managing their collection of almost 140,000 slides in an ADLIB[10] database and so had experience of the data they would need to catalog the digital images. This had been put into practice in March 2007 with a Slide Library installation of Extensis Portfolio for a collection of Scholars Resource images and data.[11]

The Image Library Project was given approval by the Information Strategy Group to start in June 2007. Some of the reasons driving the need for an Image Library included: the need for staff to be able to access copyright-cleared digital images for PowerPoint from their desktop; and staff in other departments e.g. New Media, to be able to access Photographic images for any National Gallery purposes, such as Web use. The Information Strategy Group wanted one project and one database to combine both collections of images; one of the pre-requisites was that we must use Extensis Portfolio.

The decision to acquire Extensis Portfolio as a digital asset management (DAM) solution for Photographic images was made jointly by the Photographic Department and the Information Services department in 2005. One of the reasons for this decision was the wide range of file formats supported,[12] and also the greater flexibility allowed by purchasing the Portfolio SQL Connect module,[13] which enabled data entered via the Extensis Portfolio Client to be manipulated at the back-end in the Gallery's Microsoft SQL Server database. Extensis Portfolio also has a range of features that speed up the workflow for photographers including integration with Adobe Photoshop CS3.

Initially Extensis Portfolio did not meet the requirements of the Slide Library due to the way that metadata is held and controlled in the system as well as the inability to manage external collections of images. However with authority lists (maintained externally, but held internally via the predefined list function) and the use of the SQL back-end to deliver what we wanted at the front-end we were able to meet most of our goals during the course of the Image Library Project.

The Image Library Project

The Information Strategy Group (ISG) acted in their role to prioritize and approve Gallery projects, by approving the Image Library Project Brief on June 14, 2007, and taking on the role of Project Board. Tim Henbrey, Head of Collections Management, and a member of ISG was chosen as Project Executive, effectively the champion of the project at management level, and responsible for agreeing to the Project Initiation Document (PID). The project team itself was kept small and included Richard Allen,[14] System Development Manager, Colin White, Head of Photographic, Denise King, Photographic Office Manager, and Marie-Therese Gramstadt, Slide Librarian.

The Initiation Stage: June to July 2007

During the Initiation Stage the project team met several times over the course of one month to discuss what the Image Library Project was to be and whether we had a viable project. It was understood that the Image Library Project would be carried out in addition to existing staff tasks and objectives and with no budget.

The National Gallery favors the use of the Prince2™ methodology.[15] This stands for Projects IN Controlled Environments, a structured project management system, which is now recognised as the de facto standard for project management across both public and commercial sectors in the

UK. The Image Library, as a small project, used a scaled-down version of the Prince2™ methodology and adapted elements for use as appropriate, for example the project filing structure (Figure 1).

The Project Initiation Document (PID) was the result of our discussions and deliberations during the Initiation Stage. The PID built on the work of the Project Brief to ensure that there was a Business Case to carry out the project, who should be involved, that the project had a definite beginning and end (including a plan for each stage), a list of any risks, and finally a clear statement of what the project also did not intend to achieve. The role of the Executive was to agree to the PID and then present this to the Project Board for their approval before we could begin work on the project. The PID is then referred to throughout the project to ensure that the project stays on track; any deviations including delays to the plan, have to be agreed to by the Executive.

The Initiation Stage was essential to the success of a collaborative project, because the discussion that took place enabled everyone to voice their views and concerns, and this was encouraged so as to produce an accurate PID. For example the PID included the first draft of a Risk Log that was created to manage potential and actual risk within the project. This was then managed and updated by the Project Manager along with any changes in status throughout the lifetime of the project, and regularly reviewed by the project team and the Executive. Risks identified during the drafting of the PID included:

- The project team recognized that conflict could arise between the Slide Library's needs and those of the Photographic Department. This risk was managed by the only member of the project team not associated with either department. The neutral member of the team could then step in if necessary to resolve conflict.
- There was a risk working with a specific database system from the outset, that it might not meet all our needs.
- Prior to the beginning of the project a National Gallery User Needs Analysis was scheduled for early 2008, which was information the Project would therefore not be able to benefit from. This meant there was a risk that the project would not meet the needs of the users. This was balanced by the urgent need for staff to have access to the digital images from their desktops. We also attempted to gather as much user feedback prior to starting the project, for example, by meeting with Slide Library users face-to-face to go through a questionnaire. The Photographic Department had already had feedback from users regarding their installation of the Miscellaneous Images Database. Whenever possible during the project users were consulted and involved.

The Slide Library and the Photographic Department have different sets of users among Gallery staff, different ways of describing images, and different sorts of images from event photography to PowerPoint-quality works of art from other museums and galleries.The disparate nature of our image collections is a theme that we often returned to during the project, but it was very helpful to have time during the Initiation Stage to both express these opinions and also find common ground between the two Departments.

The Standards Stage: August to October 2007

During the Standards Stage, both the Photographic Department and the Slide Library still had misgivings about combining both collections into one installation of Extensis Portfolio. Therefore during this stage we had to begin by outlining our individual requirements including existing standards used, before we could create a unifying metadata schema, a set of Data Standards Rules, and a shared Subject Index.

Metadata Schema

In creating a single metadata schema we were conscious of the standards already available for use, including the VRA Core Categories,[16] and the IPTC metadata standards.[17] One of the benefits of using Extensis Portfolio is that it automatically extracts data from a variety of sources, including EXIF and IPTC metadata. This meant that the initial installation of the database already had many of the key fields readily available for use. We had to decide between us which custom fields we wanted to add so that we could catalog both collections of images. The images digitally captured by the Photographic Department contained EXIF[18] metadata that, when the images were added, Extensis Portfolio automatically extracted into the corresponding fields. Many of the Slide Library images that we had purchased for educational use by Gallery staff also contained data that was automatically added to the database.

Of particular relevance to the Slide Library were also the fields used by the collection works of art in The Museum System (TMS). To increase the chance of being able to tie up with the collection works of art in a future installation of the Image Library we held meetings with Gillian Essam, Collection Information Manager, in order to see where we could tie up with the data entry rules for TMS. We were able to tie up with the names for all the artists in the Gallery's collection, which had recently had data cleaned up. We also agreed on authority lists for other fields such as the current version of the International Directory of Arts for the Institution names.

Gillian Essam also provided guidance on the way we may or may not be able to control the accuracy of data in Extensis Portfolio. For example we were able to have a predefined list of artists' names, and we could restrict this field to only include names from the list. However we were not easily able to edit or find individual names on the list (especially with the hindsight that this may grow to five thousand names). So we had to compromise by using the sort name for the display name rather than having a separate artist's table that would link to the main table. Following from discussions and tests with a range of different images, we drafted a detailed metadata schema that included: the field

name; field type; field description; authority; whether it was an existing field in the Portfolio database or needed to be created; the display name for the field if content was to be displayed at the front-end; sample data; quality checks to be made; whether data entry was required; if a predefined list was required; if it was a multivalue field;[19] whether a default value could be added;[20] and any other notes. This document was part of the specification for the Build Stage.

Subject Index

Another important element of the Image Library Project was the inclusion of a Subject Index that we could use to subject search across both collections. This proved to be one of the most difficult aspects of the project. Although both

Photographic and Slide Library staff were keen to have a shared list of subjects, due to the nature of both collections there were many friendly disagreements and misunderstandings. Technically it was also not straight forward to implement a hierarchy, because Extensis Portfolio was designed to be used with the already available keywords function and did not contain fields that could export to a hierarchy at the front-end. Therefore the Subject Index continued to be discussed during project meetings well into the Build Stage.

Both the Photographic Department and the Slide Library were keen to have a Subject Index, and particularly one that could map to the TMS subject index schema that was due to be developed for National Gallery collection works of art in 2008. While we agreed to use controlled top-level subject

Figure 1. Prince2™ project filing structure as adapted for use by the Image Library in the context of a small project.
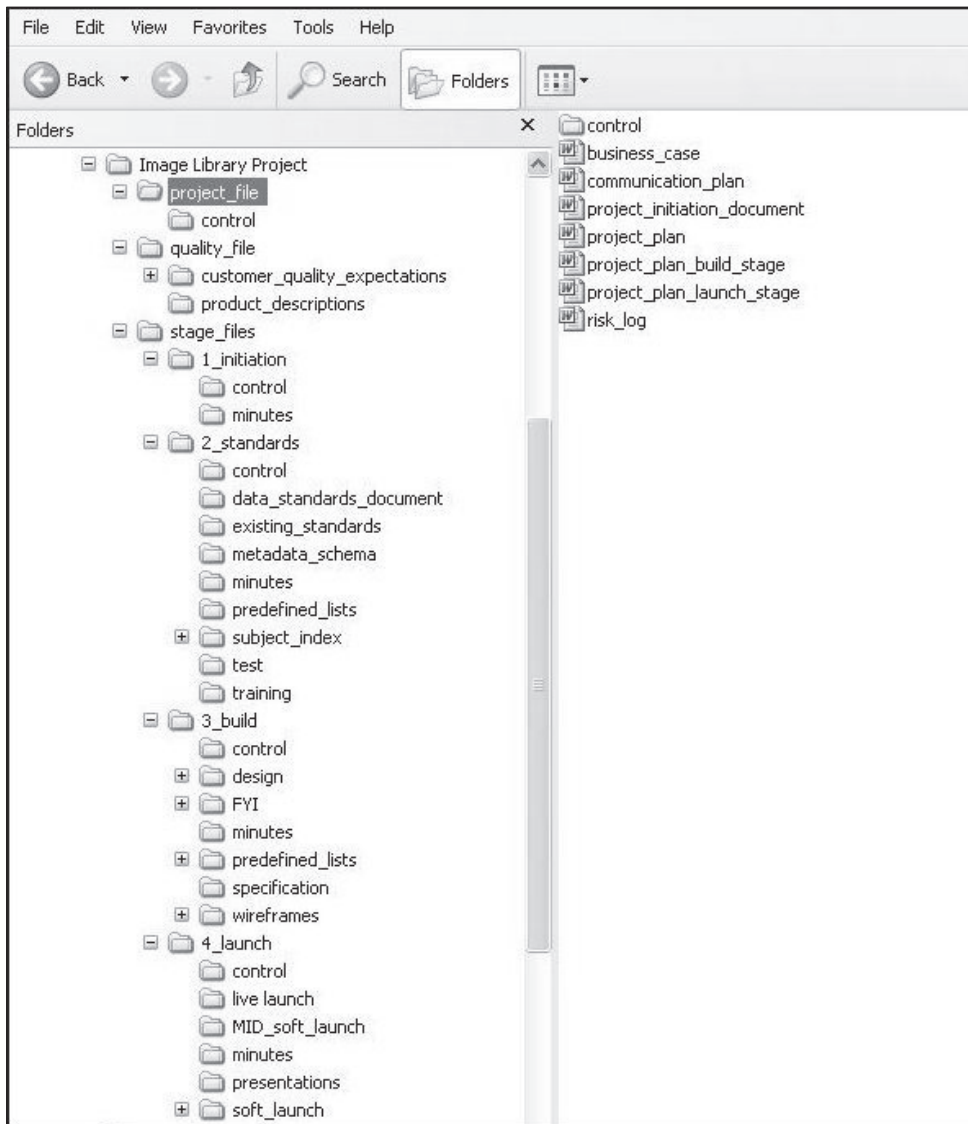
terms, we could not agree on how to use the keywords field. Due to the Picture Library nature of the Photographic collections, free text keywords were seen as an advantage to their creative users, so that different things could be thrown up by unexpected searches. The Photographic department was also keen to involve Gallery staff to build a folksonomy in a future phase of the project. Slide Library staff, although aware of Web 2.0 developments such as Steve.Museum[21] and Flickr,[22] were more traditional and preferred controlled keywords. Members of staff from both departments attended the MILE[23] conference at which Murtha Baca, Getty Research Institute, seemed to encapsulate both aspects of our approach to subjects and keywords. It was therefore a useful team-building exercise and boost for the whole project.

Early on in the Project we did not realise how big a job the Subject Index would be, and so it was only later on in the Standards Stage when we asked Elspeth Hector, Head of Libraries and Archive, to take on the job of building the Subject Index that we made progress. The actual time required to build a workable Subject Index meant that the project was delayed. However the delay was approved by the Executive because it meant the project would benefit both from a Subject Index that may tie in with the collection images in the future, and also because the delay enabled both departments to spend much needed time cataloging the images prior to the launch. Since the launch of the Image Library the full benefits of the Subject Index have been obvious by the speed with which cataloging batches of images is possible and the positive feedback from staff who have found the Subject Index to be an intuitive and useful tool for resource discovery.

Data Standards Rules

The Extensis Portfolio Client enables staff working on each collection to effectively shut out the other collection by selecting only the folder that contains their images. The permissions of the folders of images can also be set according to the owner of the images. Therefore there is no risk of deleting images that do not belong to you. However in sharing one database there is still a risk of adding or deleting data that does not belong to you and this is something that we had to manage with both trust and Data Standards Rules.

Staff from both departments were trained in using Extensis Portfolio and given guidance, both verbal and written, on the fields that should be used and how they should be used. A session was also held across both departments in which Elspeth Hector presented the Subject Index and controlled keywords and we discussed how these would be used and the approach taken to subject indexing an image within the time constraints envisaged. The Data Standards Rules and the Subject Index are both evolving documents and will be maintained after the project.

The Build Stage: October 2007 to February 2008

During the Standards Stage decisions were made that enabled a first draft specification for the Build to be

prepared. However Jim Gettrup, Web Analyst Developer, who designed,[24] built, and coded the front-end, also gave very useful input into elements of the standards, and helped us to prioritize aspects of the system that we wanted, but would not be possible in the timescale required. This meant that there was a necessary overlap between the Standards and the Build Stages. The final Image Library system was the result of many discussions and tests, which cannot be discussed in detail during the course of this paper.

The Build Stage of the project was a very intensive period for the project team, with meetings held every week. We were able to collaborate very effectively on the build of the Image Library in terms of its look and feel. Both the Slide Library and the Photographic Department were keen to emulate the clean and pared-down look of public systems such as Google,[25] and Windows Live Search.[26] The specification also required the Image Library to fit in with the existing Intranet, and this provided a palette and style sheet ready to be used. The Image Library also raised questions about the existing design of the Intranet, which led to input into the Gallery's Intranet Group discussions.

We drew wire frames to lay out the key features that we wanted to have in the build, and what we expected to be on each screen. This was a useful exercise and necessary for the front-end to then be designed, however it was only when we started testing the functionality of the front-end against the test data in the database that further questions were thrown up about the differences between the two collections and how these differences could be consolidated into one front-end.

From the beginning we had agreed that we required a field to describe whether it was a Photographic Image or a Slide Library Image. This was because we had users who would only want to search one of the collections and so they needed to be able to uncheck the other collection and have their preference remembered by the system for future searches. There were also discussions about how restricted images would be handled,[27] and whether the concept of "restricted" images might put off Gallery staff. However it was clear that it was a benefit for staff to be able to search on restricted images, and a further tick box enabled staff to include them or not according to preference.

Some of the ways we managed to compromise over the different needs for Photographic Images and Slide Library Images included the different fields displayed for each collection at the results page and on the detail page (see Figures 2 and 3). This level of detail enabled us to prioritize the fields that our users required in the style and the order they displayed. We also chose three different types of search facility to encompass the different user groups among Gallery staff. Each search was then targeted to the fields relevant to each collection. The Quick Search acts as a fuzzy free text search providing a wide variety of results—dance, would bring back dancer, dancing and so on. The Advanced Search provides a Quick Search box alongside a choice of fields on which to filter the results—Slide

Library Images can be searched by Period and School, and Photographic Images can be searched by Date of Event and Department. The Browse by Subject search presents the user with an expanding/contracting hierarchy similar to the Windows Explorer function and then a search can be made at any point by selecting the subject term. To ensure the user does not waste time exploring the Browse by Subject, their choice of searching on either both or one of the collections is reflected in the accompanying number of results, displayed in brackets next to each subject term. (Figures 2 and 3)

The Project Initiation Document made it very clear that the project was to produce the Image Library system and not to do all the cataloging that was required by both departments. However both the Photographic Department and the Slide Library were concerned to start adding data as soon as possible. Therefore the project team agreed to implement simultaneously a test and live installation of the Extensis Porfolio database. From discussions we realized the risks we were taking, that any changes to the fields or data would need to be made in both the test and live site, and this would be our responsibility. We implemented an administrator log to record any changes, and anything as big as adding a new field was first agreed with the project team and Jim Gettrup, who was building the front-end.

The Launch Stage: March to April 2008
One of the useful aspects of the Prince2™ methodology is that a Communications Plan is set up at the beginning of the project and then updated throughout the lifetime of the project. The Image Library Project also benefited from lessons learned from the earlier soft launch of the Miscellaneous Images Database. When planning the Launch Stage of the project we were therefore able to consider all the possible interested parties including focus groups, to whom we could soft launch the Image Library to, and also gain useful feedback prior to launching to the whole Gallery. Although some interested parties had seen the test site and provided feedback prior to the soft launch, the majority of people did not see the test site until the first week of March 2008. The soft launch also provided time for members of both departments, not already involved in the project, to have an early look at the Image Library and provide feedback. The feedback provided

Figure 2. A Quick Search results page, displaying thumbnail images courtesy of Scholars Resource }
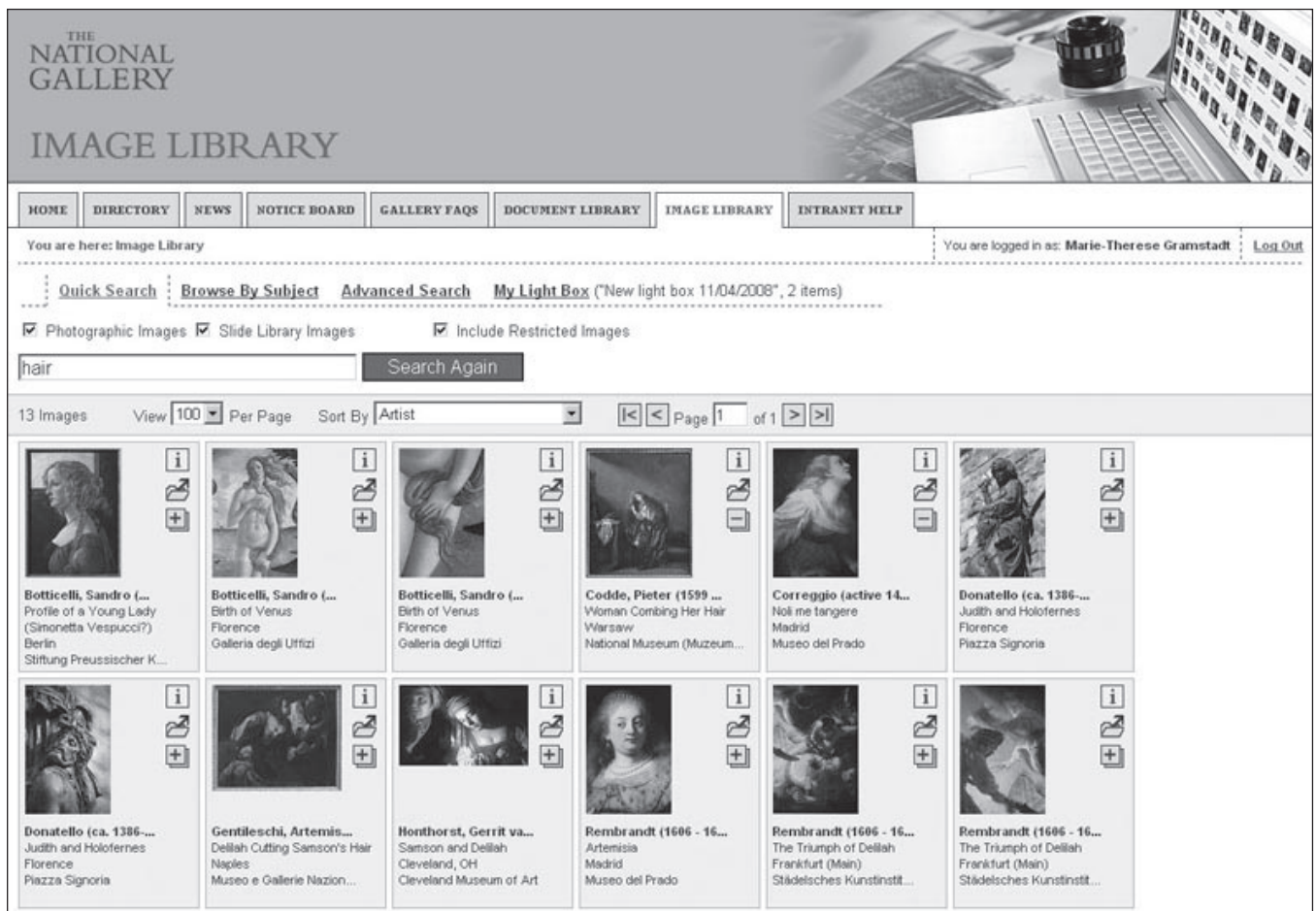
from a range of different users across the Gallery meant we were able to prioritize some key aspects of the Image Library that we wanted to change prior to the live launch.

The Image Library has also been incorporated into the existing training schedule for staff. This is to encourage staff to be aware of their obligations regarding the use of the images according to the different copyright restrictions for each collection, and to ensure they have a point of contact if they have any queries. New staff will receive an e-postcard alerting them to the benefits and terms and conditions of the Image Library.

The quiet success of the Image Library since its addition as a tab on the Intranet on April 7, 2008, is that it has been immediately familiar to all members of staff we have spoken to, and a valued part of existing staff resources.

After the Live Launch: Continuing Collaboration and Closing the Project

Earlier in the project, decisions were made in agreement with the Project Board, about how the Image Library would be managed after the end of the project. During the Build Stage a document was written to include all requests for change and future developments. Each request was prioritized, and the status monitored. After the project the same project team will meet at regular intervals to request and prioritize changes to the system, these will then be prioritized by the Information Services department according to all Gallery system priorities. Tim Henbrey, Head of Collections, who was Executive, will now be the Project Owner, which effectively maintains his existing level of responsibility to the Image Library.

By planning in advance what happens after the project ends, Tuckman's Adjourning phase,[28] often referred to by others as the Mourning phase, can be avoided. In addition to the measures put in place for the support and maintenance of the system, the Project Manager is also required to complete reports and organize a Post Project Review prior to the official close of the project. Log files[29] and other documentation maintained during the course of the project will be incorporated into an End of Project Report and a Lessons Learnt Report. Finally before the project can be closed the Executive and Project Board will need to decide whether the aims, as outlined in the Project Initiation Document (PID) have been met.

Collaboration will be continuing across both departments regarding the future development of the system, the development of the Subject Index, and responding to feedback received on the Image Library. ♉

Figure 3. A detail view page, displaying a medium-sized image courtesy of Scholars Resource http://www.scholarsresource.com.

Notes

[1]The National Gallery, London houses one of the greatest collections of Western European painting in the world. These pictures belong to the public and entrance to see them is free. http://www.nationalgallery.org.uk

[2]Crafts Study Centre http://www.csc.ucreative.ac.uk

[3]Visual Arts Data Service http://vads.ahds.ac.uk

[4]The Information Strategy Group (ISG) was set up at the end of 2000 to make proposals regarding information management for the approval of the Management Committee, to prioritize and approve projects, and to monitor project management and performance.

[5]Photographs taken of National Gallery collections are not included in this paper, because they are already managed both through The Museum System, the collection database, which contains all necessary museum information, and an in-house Collection Information Database, which provides information about the photographic objects associated with each work of art. The Photographic Department have also previously been involved in digital imaging projects e.g. The MARC project in the mid-1990s http://users.ecs.soton.ac.uk/km/projs/marc

[6]The National Gallery Company Ltd is a commercial organisation that contributes financially to the National Gallery by providing a range of services (retail, catering, picture library and e-commerce), publications and products, designed to enhance the Gallery experience for visitors and other customers. See also: http://www.nationalgalleryimages.co.uk/About%20us.aspx

[7]eMuseum, a Gallery Systems product. http://www.gallerysystems.com/products/emuseum.html See also: http://www.emuseum.com

[8]The Museum System, a Gallery Systems product. http://www.gallerysystems.com/products/tms.html

[9]The initial procurement of Extensis Portfolio by the Photographic department: http://www.extensis.com/en/about/customer_stories_content.jsp?id=1900237

[10]ADLIB Information Systems http://www.adlibsoft.com

[11]Scholars Resource http://www.scholarsresource.com

[12]A list of file formats supported by Extensis Portfolio: http://www.extensis.com/en/products/asset_management/portfolio-file-formats.jsp. Prior to setting up the Image Library Project, the Gallery had also made use of the wide range of formats supported by Extensis in order to produce a Document Library available to staff via the Intranet, including documents from across the Gallery such as the staff handbook, and HR policies.

[13]Further information regarding the use of Portfolio Server with the SQL Connect module: http://dl.extensis.com/downloads/PF/EN/P/PortfolioServer-8-5-DataSheet.pdf

[14]Richard Allen, also a member of ISG, was included in the project team for his role both in project monitoring, and project management support.

[15]Prince2™ is an official trademark of the UK's Office of Government Commerce http://www.prince-officialsite.com

[16]VRA Core Categories http://www.vraweb.org

[17]International Press Telecommunications Council (IPTC) standards http://iptc.org/photometadata

[18]Exchangeable Image File Format (EXIF) http://www.exif.org

[19]Although Extensis Portfolio is a single table database, there is some flexibility in that a custom field can be created that is multivalue e.g. multiple artists.

[20]Version 8.5 of Extensis Portfolio enables the user to set defaults for fields. This can be done either at the point of adding the images, in which case values can be assigned to the whole batch of images, or in the background to all images. However when using one database between two groups of people the defaults need to be agreed at the administrative level.

[21]Steve.Museum: the museum social tagging project http://www.steve.museum

[22]Flickr http://www.flickr.com/photos/library_of_congress

[23]Metadata Image Library Exploitation (MILE) Semantics & Semiotics Metadata Conference, January 18, 2008, http://www.mileproject.eu

[24]We also had input from Elizabeth Kent, a freelancer who has worked for the Gallery's New Media department, who provided designs for some of the buttons and general feedback.

[25]Google http://www.google.co.uk

[26]Windows Live Search http://www.live.com

[27]Restricted Images are images that may be suitable for some staff to access or may require copyright to be cleared for use; therefore staff can still search and find a thumbnail and medium-sized image but are unable to download the original without permission. The medium-sized image is low resolution, but just about big enough for staff to know if they want to request the image. An R button enables staff to send an autopopulated email to either Slide Library or the Photographic Office to request the image quickly.

[28]Tuckman, Bruce W., & Jensen, Mary Ann C. 1977. Stages of small group development revisited, Group and Organizational Studies, 2, 419- 427.

[29]For example the Project Issue log was a useful record of any issues throughout the lifetime of the project. The Risk Log and Lesson Learnt Log will also be incorporated into these reports. See also: Office of Government Commerce. 2005. Managing Successful Projects with Prince2. London: The Stationery Office. p. 163.