

Project Planning

Once the decision has been made to create a digital image collection, its scope and form need to be tailored to the particular institution: the more time spent in review and analysis before embarking on the first scan, the more successful a project is likely to be. Remember that projects may be carried out in partnership or collaboration with other institutions or initiatives, and that this may allow sharing of both costs and expertise.

Collection Selection

The first step is to select the collection, collections, or part of a collection to be digitized. Consider the level of interest in the selection and its relevance to the scanning institution's mission. Make sure that the scale of the proposed project is practical, considering the broader technical environment: the operating systems, networks, and bandwidth in place, and overall budgets and priorities. It is advisable to think through an overall strategy but to begin with smaller projects and work up gradually to a more ambitious program.

Conservation and Access Status

Collections that are already in good condition and have consistent metadata control make for far less arduous imaging projects. Ensure that the items are not too physically fragile to withstand the imaging process without damage, and decide which scanning method is most appropriate (see *Selecting Scanners*). Appraise the collection's organization: well-organized collections facilitate a robust linking of physical object and digital surrogate through such strategies as consistent file-naming protocols, while chaotic collections do not. Maintaining such relationships between analog and digital assets is crucial for managing hybrid collections. Completing conservation and cataloguing of any selected collection before beginning the scanning process is highly recommended.

Legal Status

Discover whether any legal clearances are required to reproduce the originals or to modify and display the reproductions. Be aware that many license agreements are of limited duration, which may be a problem if the intention is that a digital image collection be available indefinitely. Projects are much more straightforward if clearance requirements are minimal, as for instance when the items to be digitized are in the public domain or the scanning institution owns reproduction rights.

Project Team and Workflow

Identify the team that will be required to complete the project. Digitizing projects generally require the expertise of many different departments and/or individuals, whose availability should be considered when plotting out the project timeline and workflow. Decide which, if any, of the many tasks involved—conservation, photography, scanning, cataloguing, metadata capture, storage—are to be outsourced. It will be necessary to review workflow constantly in order to recognize and resolve weaknesses and bottlenecks.

Standards Selection

It will be necessary to decide which imaging (file format, resolution, naming protocols, and so on) and metadata standards to employ, taking into account the nature of the original material, the staff time available for indexing and cataloguing, and the likely users of the collection. (See *Image Capture and Selecting a Metadata Schema*.) Certain standards may already be in place within an institution, and participating in certain partnerships or collaborations may prompt the selection of standards already in use within the larger group.

Digital Asset Management

The standards in use within the larger group may also influence the selection of hardware, software, and, perhaps most critically, an image or digital asset management (**DAM**) system. It is important to remember that DAM software cannot develop asset management strategies (though it can be used to implement or enforce them) and that whatever management system is used, its usefulness will depend on the quality of metadata it contains.

DAM systems can track digital image creation and modification, record the location of master and derivative files, allow search and retrieval of files, monitor migration schedules, control access, and so forth. Turnkey or customizable off-the-shelf DAM systems are available at a broad range of prices and levels of complexity, and it is also possible to utilize desktop database software or more powerful client/server systems to create in-house customized solutions, or to employ some combination of commercial and in-house systems. XML-based solutions such as native-XML or **XML-enabled** databases are likely to become more popular in the future.

The most appropriate image management solution will be dictated by the available budget, the scale of the project and its projected growth, the available technical infrastructure and support, the projected demand, and similar issues. Most institutions will want to incorporate their DAM system into a general, institution-wide automation or digital library plan. This will require some level of integration with existing or planned collection and library management systems, online public access catalogues (**OPAC**), publishing systems, and perhaps business or administrative systems. The use of consistent data structure and content standards ensures flexibility by facilitating the exchange and migration of data and thus promoting interoperability and **resource sharing** within (and between) institutions.

User Requirements

All aspects of a digital imaging project will need to take into consideration the needs of each class of potential user, but these will most particularly guide decisions about presentation and delivery. Understanding user needs requires probing the assumptions of differing groups, which may be achieved through user studies. These may reveal particular requirements or limitations, such as the desired level of image quality, necessary information-searching facilities, or a predefined network infrastructure. For example, medium-resolution images of a particular collection may be sufficient for classroom use by undergraduate students, but they may contain too little information for a conservator exploring the technical construction of a work. Security protocols can be used to give different image and metadata access to the various users of a collection, if this is deemed necessary (see *Security Policies and Procedures*). It will be necessary to select which data elements should display to the various user groups, which should be searchable, and what kinds of searches should be possible.

Other requirements or preferences may also be revealed through user studies. Will users want to integrate image display with other institutional information? For example, would users want to display a record from a curatorial research database or library management system alongside the image? Will users wish to be able to integrate search results into word processing or other documents, and, therefore, should copying or downloading of the image and record be facilitated (which might have legal implications)? Do users require thumbnail images for browsing, and, if so, what type of identification should accompany each image? Would image processing or image manipulation functions (such as changing colors, zooming, or **annotation**) be helpful to users? It may not be desirable or even possible to fulfill all such desires, but it is useful to be aware of them. (See *Delivery*.)

Digital Preservation

It will be absolutely necessary to develop a strategy for ensuring long-term access to, and preservation of, assets. This will require choosing that combination of tactics—such as documentation, **redundant storage**, **refreshing**, migration, **emulation**, and resource sharing—that best suits the institution and its resource limitations, such as storage capacity. (See *Long-Term Management and Preservation*.)