# Digital Media Management =
Shared Shelf

How four diverse institutions are using Shared Shelf to support faculty campus wide—building image collections for research, teaching and learning, and providing access beyond their institutions.

by Judy Luther, President Informed Strategies

- Harvard University

- University of Delaware

- Lafayette College

- SUNY Purchase
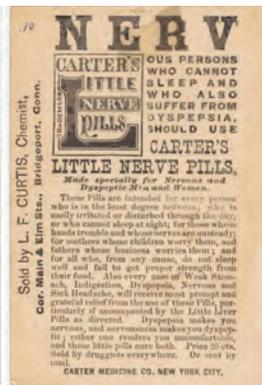
Digitizing, building, and managing institutional image collections can be daunting and complex. Quite often, image collections that reside in libraries are supported by one system, while several other disparate systems and tools are used throughout an institution to support departmental image collections as well as individual faculty members' and students' private collections.

Without a single system to manage images, and without the ability to capture rich metadata, many collections remain in silos and are largely undiscoverable. Images become much more powerful when faculty, students, and researchers have easy access to them for teaching and learning, and when they can share these images with the world.

This white paper illustrates how Harvard University, Lafayette College, the University of Delaware, and SUNY Purchase—institutions that range dramatically in size and have varying applications—are successfully managing diverse image collections with Shared Shelf. They describe how it has replaced multiple systems, how it is beginning to help transform the role of the library, and how its rich metadata and cataloging capabilities enhance image discovery and use in teaching and learning. Factors that led to their decision to adopt Shared Shelf are addressed along with the challenges they overcame and why collaborating with various institutional stakeholders was critical to their success.

Evolving roles
for academic libraries

The case studies presented here illustrate several trends in academic libraries that are significant in that they influence the way libraries are evolving to serve the needs of the institution, the faculty, and students. They are highlighted here as context for the changing academic environment.

The Need – Digital Images

As academic libraries expand their digital resource offerings to meet users' needs, image-based resources have lagged behind text-based ones. Although image file formats are different than those of books and journals, their value as a form of content continues to increase, as does their relevance to both the arts and sciences. Librarians have the skills to manage these collections, which can benefit all disciplines in the academic community. Managing images presents different issues than text, many of which will be highlighted in these case studies.

The Infrastructure – Standards

Information discovery is central to the library's role. Finding and connecting users to images requires standard metadata and vocabularies, and it is thus necessary to leverage the expertise of librarians and faculty members throughout the academic community in the development of image collections and a repository infrastructure that enables image discovery. Libraries are looking at the most effective means of cataloging digital images from the selection of standard versus a custom metadata schema to the practicalities of acquiring the information for previously uncatalogued material.

The Opportunity – Sharing

Open Access and Open Source represent exciting new means of collaboration and community building. Image collections that can be easily shared increase in value to both their provider and recipient. By taking advantage of open sharing, librarians can expose their collections to a much broader audience.

The Impact – Teaching & Learning

Academic librarians have always supported the work of faculty. Image collections are increasingly important to faculty members, as primary source material, to manage their own research, and to create lectures. High quality, reliably sourced images are increasingly important for teaching and used by students in projects and assignments. Images as a form of content must be supported by libraries as they are essential to the educational process and affect learning outcomes.

Harvard Standardizes Metadata
across 39+ Repositories

Solving a problem

In the late 1990s, Harvard created OLIVIA, a union database of metadata about images that enabled the management and description of visual resources located in multiple repositories across campus. This system began with the combined effort of two librarians and expanded when the university offered financial support to digitize collections. The initial group of 10 repositories rapidly grew to 20, and OLIVA became the first collaborative tool for sharing image cataloging across Harvard's campus repositories—now numbering 39.

Since participants in different departments were working with a shared record structure, they had to work together to generate best practices and a controlled vocabulary, and through this came to value and appreciate cooperative effort in building, standardizing, and sharing records and resources. During this period, OLIVIA adapted to fit evolving data content standards for describing works of visual culture as well as the images that document them.

However, as with any homegrown system, it became difficult to keep up with rapid advancements in cataloging technology, tools, and practices. After ten years, it was clear that OLIVIA had outgrown its usefulness and that it was time to replace the existing system with a next-generation, open-market image cataloging system.

Reaching a decision

An early user of the Artstor Digital Library, Harvard was already familiar with the Artstor interface. In addition, they prioritized the ability to collaboratively catalog assets and realized that apart from Artstor, no other vendor possessed this community vision for image collection management. Library leadership made the decision for Harvard to become one of nine early adopter institutions working with Artstor to develop Shared Shelf. They contributed their experience and expertise, sharing the image cataloging practices already developed at Harvard and advocating for the increased use of common vocabularies.

Of primary importance to Harvard was adopting a system that incorporated image cataloging standards, like the Visual Resources Association (VRA) Core (http://core.vraweb. org/), and controlled vocabularies. Shared Shelf was unique in allowing the creation of hierarchical records: records that include both a work record describing, among other properties, the original item, its creator, and location, as well as a display record describing the image, its format, and owner.

Equally important in a new system was the aforementioned ability to foster collaboration and allow faculty members to share resources. Shared Shelf offered Harvard the opportunity to share not only the content of their collection, but also

cataloging roles and permissions. The ability to work with faculty to manage their personal collections, and later make them available across and beyond the institution, has been a powerful and appealing aspect of Shared Shelf.

Implementing Shared Shelf

After working with Artstor staff to migrate and load OLIVIA data into Shared Shelf, the system is now being used as a cataloging tool for more than 4 million images sitting on top of more than 30 repositories housed in the Harvard Library Digital Repository, and used across disciplines. Content ranges from the Fine Arts Library's teaching images to its extensive Judaica collection to archival collections, such as the photographic images used in the School of Design and the Schlesinger Library on the History of Women in America.

Shared Shelf allows Harvard to restrict content so that all images are used for only their intended purposes. For example, thumbnails and metadata are widely shared across campus, while access to high-resolution images is limited due to copyright restrictions.

Realizing the benefits

Shared Shelf is part of a larger ecosystem for image discovery. It is a core part of the infrastructure that supports Harvard's Visual Information Access (VIA), a central repository of over 4 million descriptive records and images, and is viewed as a

metadata bridge between the many repositories on campus that contain images and the discovery tools to which they supply robust data on the images. Shared Shelf feeds VIA, but is not visible to users working in this patron-facing environment.

"Shared Shelf is a powerful tool that is all about community. We can send images wherever they need to go, including beyond our institution."

Ann Whiteside, Librarian/Assistant Dean for Information Services, Harvard University

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As a powerful cataloging tool, Shared Shelf employs standards for images that have been in development for over 15 years. The VRA Core data standard is used in combination with guidelines for Cataloging Cultural Objects (CCO; http://cco.vrafoundation.org/) that enable enhanced online access. These standards build upon common practices in the museum, library, and archive communities so that institutions are not reinventing the wheel.

The ability to assign role-based permissions in Shared Shelf allows Harvard to parse projects in ways that were previously impossible. Librarians can grant professors defined access to specific fields, giving experts in various disciplines, such as botany or art, the ability to contribute their subject knowledge to relevant parts of a cataloging record.

Once images are cataloged, libraries can use Shared Shelf to distribute metadata to multiple sites. For example, Harvard's collection of aerial photographs of mid-20th-century Boston can be sent automatically to Shared Shelf Commons, Shared Shelf's Open-Access platform, as well as to VIA. Images can also be easily sent to Omeka, a platform for virtual exhibitions, through the Shared Shelf Omeka plug-in.

University of Delaware Unifies
Access to Images

Solving a problem

The University of Delaware began digitizing image collections at a time when CD-ROMs were used as storage devices for digital files. The library digitized a local collection of postcards depicting Delaware and also created large digital files of historic maps of Delaware and the Mid-Atlantic. However, the lack of flexible tools was a hindrance to using these digital image files.

At the same time as the library began experimenting with their collections, the campus IT department was working with the university museum to digitize their images. As a result, the university soon had multiple systems on campus, though none of them were very satisfactory.

Reaching a decision

It was clear to the library administration the university needed to replace ContentDM and Luna (in use, respectively, by the library and IT department) and in their place adopt a single source for cataloging, storing, and discovering images—one that possessed robust tools and enabled the use of authorities and standards. The university was an early customer of the Artstor Digital Library and the library was thus familiar with its system and tools, which included sophisticated zooming capability that allowed users to examine specific areas of an image in great detail. They realized these same tools would be effective with images and primary source materials across disciplines and saw the potential for Shared Shelf to support the management and use of their local image collections. One of the most important components of Shared Shelf to the University of Delaware was that its interface enables the use of different authorities to implement standards—a capability that is important to most effectively catalog images. The library administration recognized the importance of their role in managing images and decided to underwrite the cost of Shared Shelf on their campus. With this commitment to

Shared Shelf funding in place, the IT department joined the library in using the system and discontinued their support of other options.

Implementing Shared Shelf

During the Summer Faculty Institute, the library offers an introduction to the creation and maintenance of local collections in Shared Shelf. When a collection is submitted, library staff reviews the design of the metadata structure (keeping in mind each collection's intended teaching or research aims) while faculty members serve as the subject experts entering specific data and sometimes detailed commentary directly into the records. The Center for Digital Collections has four staff members in addition to numerous students who work to scan images—sometimes at a rate faster than librarians can even process them.

"Shared Shelf was designed from the ground up to deal with images. Images are at the core of what it is about."

Gregg Silvis, Associate University Librarian for Information Technology and Digital Initiatives

Since faculty members were already familiar with the Artstor Digital Library interface, it was easy for them to understand and use its complement, Shared Shelf. The library explained that locally created collections could be hosted in Shared Shelf and shared as publicly or privately as faculty members required: whether restricted to personal use, shared with a class, made viewable on campus alongside collections in the

Artstor Digital Library, or exposed to the open Web through Shared Shelf Commons or the Digital Public Library of America (DPLA).

Shared Shelf hosts three collections for campus-only use. The Visual Resources Center provides access to more than 75,000 images illustrating the history of art and architecture from prehistoric times to the present, and the University Museums has a substantial general art collection and a growing African-American art collection. Since the Visual Resources Center and museum did not want their internal inventory to be made public, they chose to limit access to the campus community.

By contrast, the university also has public collections in Shared Shelf Commons. Their Franklin C. Daiber Botanical Collection contains 500 photographs of specimens found in the region, and the William Augustus Brewer Bookplate Collection has 12,000 examples from the libraries of such notables as Charles Dickens, Walt Disney, Harry Houdini, Paul Revere, and Eleanor Roosevelt. Both collections in Shared Shelf Commons are also discoverable through the Digital Public Library of America (DPLA), providing even greater access to these cultural resources.

Realizing the benefits

At the University of Delaware, Shared Shelf functions as a single repository for all local image collections (including both academic and commercial images). From the library's perspective, this simplifies and streamlines an otherwise complex process of image pooling and sharing. For University of Delaware faculty, the ability to have a secure environment where their images can be easily found and accessed is a significant improvement in collection visibility and use of local resources.

New opportunities to create websites of primary source material for teaching and further research are possible with the ability to publish content to Omeka through an easy-to-use plug-in. For example, a team of scholars, students, and librarians have drawn digital images from the university's collections and organized them on the website "Colored Conventions" (http://coloredconventions.org/), which examines black activism in the nineteenth century. The site includes sample assignments for teaching and research guides for further study.

The role of the library is expanding to provide support for discovery and use of images in much the same way that libraries have supported text formats. Shared Shelf helps with this shift by providing the infrastructure required to develop and manage digital image resources as effectively as other, text-based formats.

Lafayette College Transforms
the Role of the Library

Solving a problem

The majority of image repositories developed locally over the past decade were created to convert art department slides into digital files, and thus preserve and store teaching images. This was the case at Lafayette College, where a librarian was embedded in the Visual Resource Center, located within the art department. Lafayette had begun experimenting with two different systems, one that managed images locally, and another a collaborative co-development effort of libraries at several outside academic institutions. The latter experience

reinforced Lafayette College's desire to be part of a larger community, and to take advantage of collective wisdom regarding image management and cataloging. "Homegrown" was not considered a viable solution going forward.

Reaching a decision

The library leadership realized that in order for a solution to be worth the investment, it needed to be sustainable, standards-based, and supported by a broad community. Lafayette recognized the value that Artstor could bring to this initiative, and in

2007 opted to participate in Artstor's Institutional Hosting Pilot program, a precursor to Shared Shelf that allowed participants to upload and host small numbers of local images alongside those in the Artstor Digital Library.

Their success in managing nearly 600 images in the Artstor workspace, paired with Artstor's willingness to listen to Lafayette and deliver a system that met their faculty's diverse needs, led to an interest in Shared Shelf.

> ## "Shared Shelf has allowed us to provide a valuable service to our users and literally transform the role of the library. It is a sound, prudent investment for the long term."
>
> Neil McElroy, Dean of Libraries

The development of Shared Shelf also came at a time when Lafayette was ready for a school-wide image cataloging and management system. The use of images was widespread in most departments, and the library felt that the management of digital image collections should be part of their service orientation. Feeling that the time was ripe for a new system, the library chose to underwrite the funding for Shared Shelf, and correctly assumed that once its value was demonstrated additional internal funding would be reallocated to support it.

Implementing Shared Shelf

The diverse departments interested in using Shared Shelf at Lafayette confirmed their view of the campus-wide importance of the resource. The first area to adopt Shared Shelf was special collections, followed by the art department. This group rapidly expanded to include other departments such as religious studies, history, anthropology, the sciences, and engineering. The various applications of Shared Shelf resulted in a wide array of digital image collections serving a diverse audience. In the history department, for example, different faculty

members all teaching a single course are managing a shared teaching image collection. Since all images are hosted on the same platform, the professors have access to their own images as well as ones contributed by their colleagues or commercially produced, and can easily organize them into groups or download them directly to PowerPoint for class lectures.

For librarians working with digital collections at Lafayette, one of the most engaging elements of Shared Shelf is the ability to involve faculty as subject experts in the process of building digital asset collections. This can be easily accomplished by setting role-based permissions that allow designated individuals to input descriptive metadata into specific fields only—enhancing the value and usefulness of the images. Shared Shelf makes it possible to handle metadata at scale and allows image records to be developed over time.

An example of a collection being cataloged through role-based permissions is Lafayette's East Asia collection—a series of postcards and images from slides, books, or negatives. The descriptive metadata is being contributed by faculty experts, while metadata referencing rights information and technical information important to preservation is entered by library staff members.

Similarly, in the Experimental Printmaking Institute (EPI), a laboratory where students work with professional artists-in-residence to create prints, more than 300 images of editions and prints are being digitized and collaboratively cataloged for wide online sharing and use in a future catalogue raisonné.

Realizing the benefits

The growing need to use and interpret images and primary source material is evident today in most disciplines, and no longer limited to a primary academic department such as art. Although libraries have not typically played a stewardship role in adopting image repositories, librarians are experienced in bringing together a coalition of constituencies. Including image management in a library's resources is consistent with the expanded view that libraries are not limited to acquiring published information, but can play an active role in the creation of new knowledge.

Key requirements for an image platform are that it needs to be connected to and supported by the community. Because it is community-supported and overseen by an external organization with expertise in digital image use, Shared Shelf will continue to grow and adapt to Lafayette's digital image needs and expectations.

Faculty members in all departments at Lafayette can use one set of tools to manage different collections. Librarians work with faculty not only to acquire digital collections but also to develop local collections that can be more widely shared. The tools in Shared Shelf utilize librarians' understanding of metadata as well as faculty members' subject expertise in the creation of resources that can be used to support teaching and research.

SUNY Purchase Enhances Teaching and Learning

Solving a problem

Five years ago, the software used for tracking images at SUNY Purchase was the same system that had originally been implemented to replace the school's slide collection. Despite the clear need for using images in an arts-oriented school, it was not being used. Faculty complained that the existing EmBARK software was too difficult to use, and librarians found the cataloging modules inadequate. Librarians also knew that they required a shared, campus-wide system as departments outside of the fine arts were beginning to use and manage image collections on their own with a variety of sub-optimal solutions.

Reaching a decision

When they observed that many faculty members were uploading assets to personal collections in the Artstor Digital Library, the art librarian recognized the potential for Shared Shelf to support the development of local collections. Since they were already an Artstor Digital Library customer, Shared Shelf seemed to be a natural fit, as it would enable a one-stop shop for both librarians and faculty members already familiar with Artstor. In addition to using a familiar interface, Shared Shelf also had the advantages of being cloud-based and possessing a collaborative setup that would enable inter-departmental work. With these factors in mind, the art librarian recommended the adoption of Shared Shelf to Purchase's Library Director.

Implementing Shared Shelf

A variety of departments currently use Shared Shelf with support from the visual resources librarian. Hosted collections include a theater costume collection and an image collection contributed by the art museum. In addition, Shared Shelf hosts born-digital student publications and yearbook scans.

> ## "If Artstor is well integrated into teaching and learning on campus, Shared Shelf is a no-brainer."
>
> Kimberly Detterbeck, Art Librarian

Teaching and Learning Days at the Purchase College Library introduce faculty to educational technology programs and techniques, ranging from Moodle to classroom polling to the concept of the flipped classroom. During a one-day session, the library demonstrates the capabilities of Shared Shelf as a solution for creating image collections that benefitted from the robust functionality of the Artstor platform.

One of the professors approached the librarians with the problem of what to do with all of his teaching slides— a technology **no longer supported in Purchase classrooms. The visual resources librarian began working to digitize his lectures, and as the slides were converted to digital files, the professor provided the description of each image as raw data. This data was then added to the metadata, created by the librarian for each record, and all digital slide images were organized by course and presentation sequence. The professor's classes are** taught in a large studio auditorium equipped with a digital projector, and the professor found that the ability to enlarge **and zoom in on image details particularly useful to his teaching.**

In the design and drawing course that he teaches, he also includes images of student work uploaded to Shared Shelf to demonstrate how others have completed and conceptualized assignments. Highlighting the best examples from prior classes provides an opportunity to showcase the quality of student work and illustrate learning goals. Preserving student work has other applications, too. Digital portfolios can be used for assessment, program review, and teacher evaluation. Because Shared Shelf allows restricted sharing, faculty **members can rest assured that only the appropriate parties see private assessment comments and materials.**

Fine arts faculty members also take advantage of Shared **Shelf for their personal use. The aforementioned professor** uploaded images of his own artwork to Shared Shelf and, through the Omeka plug-in, created an online portfolio he can **send to museum curators and gallerists interested in** exhibiting his artwork.

Realizing the benefits

Shared Shelf effectively functions as Purchase's local digital **asset management system and has become a core part of** their infrastructure. Faculty members no longer have to take **on the burden of preserving and managing their teaching** images. Since Shared Shelf files are Web-based, they are **safeguarded and preserved for long-term use and can be** accessed anytime, anywhere. Images can also be transferred when new computers are acquired, and are not tied to a personal laptop or desktop.

Summary

Images as a form of content are important to almost all departments on campus, whether they are photographs of campus buildings for school recordkeeping, satellite images for archaeology, **slides of plant specimens for botany, or** pictures of art for fine arts courses. While libraries have effectively managed the transition of their print text-based materials to online resources, images present different challenges. Image files represent not only art, but also primary source material of many kinds, and as such are an

important resource for teaching and research. **The increased attention to student engagement and the importance of visual literacy contribute to the need to create a solution for digital image management in the academic environment.**

When considering alternatives for such a solution, librarians must consider which infrastructures and tools are necessary for successfully working with and sharing images. Librarians should be asking what features are needed to best manage

and utilize their collections. Some important considerations are: the ability to zoom in/out of images, record adequate metadata, easily import and export data, selectively expose or restrict images, and support teaching and research. Institutions that have been involved in development projects are quick to recognize the advantages of working with collaborative, community-based systems dedicated to managing these resources.

Librarians are experienced in providing support to all departments on campus. They understand the value of using cataloging standards that apply to archives, museums, and libraries. And they are uniquely positioned to work with faculty members to leverage their subject expertise in cataloging. Thus it is increasingly part of the librarian's charge tomanage digital image assets in addition to text material.

Having one system that supports the entire campus simplifies the process for constructing, searching, and using image collections. With all images on the same platform, it is possible to share them with other faculties, departments, or with other institutions. Special collections can be exposed to the college community, to a group of schools

or academics working together on a project, or made discoverable through Open-Access forums such as Shared Shelf Commons or the Digital Public Library of America.

As libraries extend their role in the digital environment they can offer a suite of tools that enables the collaborative development of image collections in support of the teaching, learning, and research process. ■