When opportunity knocks: Engineering a DAM system for digital collections

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CAS library staff are in the process of digitizing a unique and rare collection of materials from their special collections, which represent over 80 years of history in the field of alcohol studies in the United States. Materials from four different collections will be digitized, preserved, and made accessible within a consolidated digital archive, aptly named "ALCVault."

ALCVault will contain a wide variety of assets including scholarly journals and monographs authored by CAS staff; historic Summer School documentation; the entire Ralph G. Connor Alcohol Research Reference Files (CARRF) survey instruments; the *Journal of Studies on Alcohol and Drugs* archive; rare, historic temperance-related literature; and miscellaneous artifacts that document the history of alcohol studies.

These materials are organized within separate collections, and represent a broad spectrum of object types—from traditional journals and monographs, to databases and three dimensional artifacts. In addition to the challenge of ingesting, migrating, and linking metadata for such diverse materials, each collection represents unique use cases that require separate workflows, access control levels, custom metadata schemas, controlled vocabularies, and permission structures.

The poster below highlights some of the issues that CAS staff have encountered thus far in attempting to customize MaxxVault®, an enterprise level document management (DM) system to serve as a digital asset management (DAM) system in support of the library's multi-faceted digitization initiative.

Why customize a DM system?

As the saying goes, opportunity knocked. In this case, it didn't knock directly at the library's door, but rather library staff heard the knocking down the hall when MaxxVault, a local vendor specializing in document management software approached CAS business staff with their technology and service offerings. Although the business office did not choose to implement MaxxVault® as a DM system for business operations, library staff knew that as a content management system, MaxxVault® shares some common functionality with DAM systems, and could potentially be customized to serve as the library's digital repository, or DAM system.

Intrigued by the idea and interested in exploring the viability of extending their product for use as a DAM system within the academic market, the vendor agreed to a custom implementation of MaxxVault® tailored to meet the library's complex use cases. If the implementation was successful, library staff would promote the project, bringing visibility to the vendor's product among academic librarians looking for similar solutions.

DM vs. DAM

The core functionalities of DM systems and DAM systems are the same—in fact, DAM systems were built upon the success of early DM systems. The differences in these two types of systems are a result of specialization developed in support of different media types and use cases.

A DM system is designed to manage text-based documents and records within a business operational environment, while DAM systems are designed to manage rich media, most often within creative, marketing, and production environments. Despite these differences, under the hood, both types of systems include a core set of modular components including a content repository, a metadata index, a search engine which searches across both the content engine and the metadata index, a rights management system, and a workflow engine (Arthur, 2005). These systems appear to users as one seamless application, and are often further integrated with additional business or creative applications.

Capitalizing on strengths

By layering DAM functionality on top of a DM system instead of starting from scratch, library staff can build on the existing strengths of DM platforms, including optical character recognition (OCR), text-specific search features, text processing integration, and document manipulation.

While MaxxVault's strong text-handling capabilities enable granular access to the textual content within the library's archival documents, additional features must be added to the DM system in order to provide the functionality of a true DAM system—including support for audio and video formats, multiple custom metadata schemas, embedded metadata (read/write), image transformation, video transcoding, and virtual collections. Above and beyond basic DAM features, our use cases indicate the need for additional system requirements including granular permissions levels, complex digital rights controls, thesaurus integration, and a front end web interface integrated (either directly or via API) with the library's new website, which is administered using the Drupal content management system (CMS).

Issues and challenges

Customizing any type of information system is always a complex endeavor. As library staff worked with system engineers to begin customizing MaxxVault®, they quickly recognized that some requirements would present greater challenges than others.

Rich media: To date, staff have focused on digitizing documents and images to become acquainted with how the system works in supporting these formats. We have been assured that the vendor can adapt MaxxVault® to accommodate audio and video formats as well.

Workflow: MaxxVault®'s native workflow controls have been successfully configured to support our multi-step approval processes. Out-of-the-box, we have found MaxxVault®'s access and permissions controls satisfactory for our use cases. To assist with asset ingest, we purchased a scanner recommended by the vendor that was then integrated into our workflows as a direct capture device. The scanner enables student workers to perform basic indexing at the time of capture, followed by professional indexing at later stages by librarians. Only minor tweaking was required from MaxxVault engineers to accomplish this.

Metadata: MaxxVault® enables users to create multiple custom metadata schemas. Implementing a schema based on Dublin Core was relatively straightforward. However, we needed significant assistance from software

engineers in order to create certain types of custom fields.

Data migration is often one of the more challenging DAM related tasks. Our experience confirmed this, as the process of transferring data from flat files and legacy systems was not as straightforward as we had hoped. MaxxVault®'s field mapping interface was less than intuitive, resulting in many hands-on sessions with system engineers. Also, linking assets to their corresponding metadata records required more manual manipulation of our data than expected.

Controlled vocabularies: MaxxVault® does not support direct thesaurus integration. However, we are working with the vendor to implement a coding system that will automatically assign numerical codes to documents when scanned. These codes with then be converted into descriptors assigned from a controlled vocabulary upon system ingest.

Interface: The current MaxxVault® web portal highly resembles the system's backend administrator interface. Although it provides many options for users who are familiar with the system, it appears to be designed to enable web access for power users rather than as an intuitive portal for uninitiated end users to access, search, and retrieve digital media. As a solution, we plan to create our own custom interface that will be integrated into our Drupal-based library website, with support for faceted search, linked asset search, thesaurus integration, and user created collections.

Training: Administrative training was provided by the vendor. However, this training was not customized to our specialized implementation. After working with the MaxxVault® system for this project, library staff have come to regard the system as powerful but not as intuitive as more mainstream DAM solutions. Throughout this project, library staff have relied heavily on system documentation and direct hands-on assistance from the software engineer.

Lessons learned

There are a multitude of benefits and challenges that come with the decision to build your own (DAM) system instead of using "off the shelf" software. The main benefit of working directly with a vendor to customize a software solution is the opportunity to leverage the expertise of the vendor's system architects and technical support staff to tailor an application to support your specific use cases. In situations where IT support is lacking within an organization, approaching a vendor and proposing an exploratory project of mutual benefit can be a feasible solution.

When embarking on a project such as this, library staff have learned that it is critical to communicate your expectations clearly and make sure that your vendor understands your specific goals and use cases. If the vendor is not familiar with DAM systems, it can also be helpful to provide your vendor with examples of features or functionality from existing systems that you would like to implement.

Another issue to keep in mind is time. If your project does not produce revenue for your vendor, recognize that your needs may not be prioritized above those of paying customers. Again, as with any project, clear communication of expectations, schedules, and deliverables for both parties up front is critical for a successful implementation.

It remains to be seen whether customizing a DM system to serve as a DAM results in a viable solution for ALCVault. Ultimately, both library staff and MaxxVault will need to evaluate their return on investment based on their respective project goals.

References

Arthur, Magan. (2005). *Intro to Digital Asset Management: Just what is a DAM?*