Choosing a Digital Asset Management System That's Right for You

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Planning is necessary in selecting the appropriate digital asset management system for your institution. Key issues one should consider in planning: the objects to be stored, where they come from, and how they will be accessed; the end users; and the needed staffing levels for system maintenance. During the development of the system requirements, think about the scope and objectives of projects and the business, functional, and testing requirements. Weigh the advantages and disadvantages of open-source and vendor-provided software. Talking with similar institutions and other customers about their experiences can provide valuable insight and advice.

KEYWORDS   digital asset management system, selection

INTRODUCTION

Whether you are affiliated with a university, a school, an archives, a museum, or an independent organization, you are most likely currently dealing with the difficulties of digital preservation. For both born-digital objects (such as Web pages, digital photographs, and word processing documents) and digitized materials (such as scans of paper documents), the problems of preservation, organization, access, and discovery are extremely difficult to solve. We are currently losing track of information at a greatly increasing rate. Stewart Brand speculates that the past half century will be looked on in history as a digital "dark age" in which digitally created information isn't made available in hard copy and is also not organized or preserved in any coherent fashion.[1]

To manage your assets, you will need both software and human solutions. Not only will you continue to need archival management and

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description of your digital objects, but a digital asset management system will require technological expertise to install, configure, and maintain your tools.

The trick to choosing a digital asset management system is asking questions that seem so obvious that you don't even think about needing to ask them. This is a young field, and much of the software is not robust, so if you are not careful in your selection process you can end up with the following:

- A search mechanism that tells you only that the search has been successful but doesn't return results
- A product that can be backed up but not restored
- An "accessible" product that has an accessible public user interface but no accessibility for the back office interface
- A system that can't be upgraded to a newer version of its software

All of these are real-life examples.

SELF-DISCOVERY

Before you begin developing your requirements, sit down and take a good long look at why you need a digital asset management system.

Determining What You Have to Store

What kind of objects do you want to store?

- Photographs?
- Text documents?
- Databases?
- Movies?
- Audio?
- Web pages?

Who supplies your objects?

- Your archives?
- Administrative departments?
- Faculty?
- Outside contributors?

How do they originate?

- Are they born-digital assets, such as digital photographs, word processing documents, and spreadsheets?

- Are they digitized objects, such as scanned photographs and digitized videos?
- Are they dynamic objects, such as wiki pages?

Most importantly, what do you want to do with the objects? Why do you want a digital asset management system?

- Do you want to preserve deteriorating objects?
- Do you want use them for business purposes, such as advertising your organization or licensing to outside users?
- Do you want to use them in the classroom?
- Do you want to share them with the rest of the world on the World Wide Web?
- Do you want to make them easier to find?

Determining Who Your End Users Are

The answers to the questions posed will also help you answer questions about who the users of your digital asset management system will be.

- If you are worried about preservation, then you need to think about the user needs of archivists.
- If you are using the resources for administrative purposes, then you need to worry about the user needs of the departments in question, some of which have very specific legal demands regarding privacy, retention, and copyright.
- For resources used in the classroom, you need to think about the user needs of both instructors and students.
- If you want to share your objects with the rest of the Web, then you need to think about the needs of those unaffiliated users and what you want them to learn about your organization and its shared objects.
- And no matter what, you need to worry about the user needs of catalogers, preservation experts, and digitizers who will be the people populating your digital asset management system. If you want it to be sustainable, it needs to be something they can use *easily and comfortably*.

In all likelihood, you will have a mix of different types of objects and different types of users. You might have visual images, textual documents, and multimedia files. You might have some scanned photos, some digitized slides, some born-digital photos. These disparate materials might serve the needs of your public relations department, of your faculty, and of external users. Nevertheless, you should think long and hard about focus. Each tool is going to serve a different set of needs well. While you want flexibility—a system that can grow with you and adapt to your changing needs—you

also want a system that will fill your short-term needs. Running a digital asset management system is difficult, and if you don't get some success in the early stages, it's unlikely that your organization will get the support to continue to build for the long term.

Staffing Levels

Don't think about a digital asset management system as a stand-alone project with a one-time cost for set up. Think about the parallels to your physical building. The initial costs of designing and creating the building are high, but buildings have ongoing costs as well. The building needs electricity, HVAC (heating, ventilation, and air-conditioning), plumbing, garbage cleanup, security, and protection from the elements. If you put your objects in the highest quality, most well organized, acid-free boxes in a basement and then abandon the building for ten years, you will return to mold, vermin, break-ins, and water damage. In just the same way, a digital asset management system can't survive without maintenance. Whether that maintenance is done in-house or by a contracted off-site service, it will always carry a cost.

In order to attain success, therefore, you absolutely cannot ignore the reality of staffing.

Maintenance includes the following:

- Everyday tasks of an archivist, such as accepting materials from other departments and cataloging
- Digitizing and associated tasks, such as OCR (optical character recognition)
- Copying materials into your digital asset management system
- Figuring out bugs in the system and either reporting them or fixing them
- Running the server, upgrading it, patching it, and securing it (for locally run systems)
- Maintenance contracts (for off-site, remotely hosted systems)
- Upgrading the software when necessary
- Changing the design when necessary
- Modifying the system so it can take new types of objects or display more metadata and content
- Migrating the objects[2]

All of this is a massive task and requires both archival knowledge and technical knowledge. The system will not run or maintain itself, on either the technical or the design side.

If you aren't going to have a lot of staff, you are almost certainly going to have to give up preferred features in your digital asset management system. As you write requirements, think about what's really necessary and what's only highly desirable.

WRITING REQUIREMENTS

Once you know the nature of your digital assets and your user base, you can write your requirements for a digital asset management system. At a minimum, you need to develop *functional requirements*: what abilities does the system need to have?

Find out what other equivalent institutions have looked for when choosing digital asset management systems. Call colleagues to ask them directly or look online; many institutions make the documents used in their own search process public. For example, Brandeis University made the documents used in its search for a digital asset management system available in its institutional repository.[3]

You might also find it fruitful to examine the OCLC's (Online Computer Library Center) "Trustworthy Repositories Audit & Certification (TRAC): Criteria and Checklist."[4] Although many of the items on this checklist are process oriented rather than tool oriented, thinking about the processes surrounding your digital asset management system will help you determine the functions the tool requires to support those processes.

As you develop your requirements, think about different ways of framing your project:

Scope

You need to keep your project from become a monstrous devouring beast. In this day and age, a massive amount of information is digital. If you try to take it all in at once, try to preserve it perfectly, try to serve the needs of all your users in one fell swoop, *you will almost certainly fail*. Make your initial project achievable in a limited time frame. Aim for low-hanging fruit. The software tool you install today will almost certainly be obsolete in ten years, so don't worry about the software product you choose today serving objects or use cases in the far future. For long-term preservation, you should guarantee that all of your data is standards compliant, that it can be exported from whatever system you choose, that you keep preservation metadata, and that you develop a system for finding your digital objects even if your software configuration changes. None of this is dependent on your digital asset management system being around for the long haul, so make a decision that serves your current needs.

Business Requirements

What problem are you trying to solve?

Objectives

Look back on your scope and your business requirements. Realistically, in the short term, what is the goal of this project? What software functionality

would you like to have in place? What staff processes and workflow? What digital collections do you aim to put in to the project in its early stages?

Functional Requirements

Here you really want to focus on the tool itself, not the human processes. Be as specific as possible when initially listing your requirements. Should your system be able to do simple keyword searches? Should it be able to do searches on full text? Should it be able to do searches based on specific metadata fields? Does it need to be able to handle specific public standards for interoperability, preservation, or description (e.g. PREMIS, OAI-PMH, or Dublin Core)?

Testing Requirements

Eventually, you are going to be looking at a list of digital asset management systems and comparing it to your requirements. It's quite possible that your functional requirements will be far too long a list for reasonable testing. Here's where you simplify it, generalizing as necessary to create a manageable list of functions that a digital asset management tool needs to be able to perform for you to consider it.

CHOOSING A TOOL

Generating a List

To pick a list of tools to compare, it's time to turn again to comparable institutions. Don't just turn to the usual list of universities or schools or museums that are your size and in your region. In this case, comparable institutions are other groups with similar needs. If you are a large university digitizing a small photograph collection, you don't want to compare yourself to a large university providing data warehousing to scientific data sets. Instead, you want to compare yourself to other organizations who are digitizing small photograph collections. Go out online and look for other collections like yours and see what software those organizations are using. Call them up; most archives' staff are happy to speak with you about their selection process and their comfort with the software product they use.

Vendor-provided, Free Software, or Open Source

Some organizations won't bring in any software solutions that don't come backed by a shrink-wrap vendor-provided guarantee. Other organizations

are strongly committed to open-source solutions. In this young field of digital asset management software, neither open-source nor vendor-provided solutions is necessarily going to be perfect for your needs.

Open-source software has several advantages:

- It is free. This is often a vital consideration, especially in a tight economy.
- It is free not just as in "free beer" but as in "free speech."[5] Historically, vendors have not done a great job of meeting the needs of libraries and archives. Open source software can be developed and modified by the libraries and archives themselves and therefore can be customized to meet your needs, either within your organization or by similar organizations that have the same requirements you do.
- Many other libraries and archives, because of these advantages and because of philosophical considerations, will be using the same software. You will be in a shared knowledge pool with other people who have similar needs.

On the other hand, open-source software has also been called, aptly, "free as in kittens" by library technologist Karen Schneider.[6] Open-source software might not cost anything to purchase, but without vendor support, may have a very high cost of installation, maintenance, and configuration.

It is important to remember that many vendor-provided software solutions *have exactly the same problems*. Some open-source software tools have reliable, helpful, active user communities as well as private consultants you can pay for maintenance. Meanwhile, some private software vendors give terrible service in return for costly service contracts; have buggy, poorly tested products; or have negligible migration paths and poor standards compliance. Don't assume that just because you are paying for service that you will get a better product than if you get your service from the goodwill of a shared community.

In other words, whether you choose a vendor product or an open-source solution, speak to other users before you commit. Do they like the level of service they are getting? How many in-house technical people do they have? Are they comfortable with the software they've chosen? Don't believe the snazzy, polished vendor demos. Don't believe the ideological, optimistic hype from the open-source press releases. Talk to other customers.

CONCLUSION

This field is young, and most of the software solutions are not fully mature. Moreover, even outside of the question of what tools you should use, the community has not settled on universal standards for process, work flow, and all the other support structures that go into creating a preservation and

access environment. Five years from now, you will look back on some of the decisions that you made today and you will wonder how you could have been so foolish. *That's okay.*

What's important now is that you choose something maintainable, scalable, and flexible. You don't want a set of decisions and a product that will serve you for the next fifty years. You want a set of decisions that will support you removing the information you put into a product in the year 2009, converting the data as you change your mind, and moving it into the next best thing in 2015.

NOTES

1. Stewart Brand, "Written on the Wind," *Civilization Magazine* (November 1998), available at http://www.longnow.org/views/essays/articles/writtenonwind.php.

2. These tasks are described in more detail in Gail M. Hodge, "Best Practices for Digital Archiving: An Information Life Cycle Approach," *D-Lib Magazine* 6, no. 1 (January 2000), available at http://www.dlib.org/dlib/january00/01hodge.html.

3. See "Brandeis Institutional Repository Planning Documents, 2006–2007," available at http://hdl.handle.net/10192/21866.

4. See http://bibpurl.oclc.org/web/16712.

5. See http://www.gnu.org/philosophy/free-sw.html.

6. See http://www.techsource.ala.org/blog/2007/01/it-and-sympathy.html.

ABOUT THE CONTRIBUTOR

Deborah Kaplan is Digital Resources Archivist, Digital Collections and Archives at Tufts University in Medford, Massachusetts. At Brandeis University, she ran a DAM selection committee which chose DSpace, and as a member of the editorial team for the OA journal *Transformative Works and Cultures* she advised on digital preservation issues.