Factors in Selecting a Digital Asset Management System:

Deborah Holmes-Wong, Project Manager
University of Southern California
Information Services Division

Digital Library Federation
Spring Forum 2003
May 16, 2003
Overview

- Collected vendor names for list to send RFI
- Sent RFI to 60 vendors
  - Integrated Library Systems (ILS)
  - CMS (Content Management Systems)
  - DAM (Digital Asset Management Systems)
  - CDN (Content Distribution Networks)
  - Integrators
- 32 vendors responded
- Analyzed vendor responses as well as open source products
- Sent RFP to 10 vendors
- 5 vendors responded
- Selected vendor with experience in industry, but not in libraries or academia
External Factors

- Dotcom explosion
- Dotcom implosion
- Knowledge management
Dotcom explosion

- **Software market**
  - Creation of software to manage Web sites, digital assets and share content over the Internet
  - Lots of companies with highly specialized software

- **Academia**
  - Perceived competition from content sites and Internet universities
  - Desire to move content to the Web to facilitate access; OAI
  - High salaries outside of academia cause brain drain
Dotcom implosion

● Software market
  – Mergers/bankruptcies
  – Blurring of distinctions among vendor products
  – Increased competition for new accounts

● Academia
  – Layoffs make stability of academia attractive to corporate IT managers
  – Loss of dotcoms makes academia an attractive market to software vendors
Internal Factors

- University’s strategic plan
- Merger of libraries, academic computing, student information systems, telecommunications
- Technologies favored
- Legacy system
- The RFI/RFP Process
University’s strategic plan

Content creation for digital archives focused on university’s urban initiative

- Collections to support study of Los Angeles as an urban center; mostly images
- Proposed geo-spatial browser as one search interface to provide spatial context for content
- Collaboration with external agencies seen as important in gaining access to this content
The Merger

- Leadership and staffing changes
  - Influx of staff who had worked in industry
  - Influx of professional managers both on IT and library sides of the house
  - Key vacancies left knowledge gaps

- Changes in organizational philosophy
  - “Buy” not “build” shop
  - Look to broader range of vendors for software
  - Change in definition of “large customer base”
  - Emphasis on formal project management structure
Structural challenges

- Changed reporting lines for digital information management
- New people in key positions
- Lack of consensus on whether “library” is collaborator or customer among IT staff
- Low-profile of digital library projects within ISD
- Competition with other projects
Favored Technologies

- Sun Solaris as OS
- Oracle as RDBMS
- Apple OS for scanning
- Windows for cataloging
- Java
- XML
- Tiff as storage
- Mr.Sid as large image viewer
Legacy System

- SIRSI Unicorn using BRS and Z39.50 server to create database for metadata
- Use WebCat for search & display
- FTP images and series of programs creates derivatives & metadata
- One developer responsible for everything and he’s retiring
Vendor categories

- Integrated Library Systems (ILS)
  - Endeavor, Innopac, SIRSI
- Content Management Systems (CMS)
  - Broadvision, Interwoven, Vignette, Percussion, Stellent
- Digital Asset Management Systems (DAM)
  - Documentum, Artesia, FileNet
- Content Distribution Networks (CDN)
  - Akami, Digital Island
- Integrators
  - Accenture, Deloitte Touche, Cap-Gemini
Integrated Library Systems

- Database schema structured for library standards out of the box (MARC and Dublin Core)
- Z39.50 searching
- Awareness of emerging library standards like the OAI
- Web-based search interfaces for public use
- Support of library functions such as:
  - Acquisitions
  - Cataloging
  - Circulation
  - Inter-library loan
- Built with authority control in mind
ILS Strengths & Weaknesses

- **Strengths**
  - Use of “library” standards
  - Focus on library community
  - Library personnel are familiar with the vendor
  - Low cost if adding to an existing system

- **Weaknesses**
  - Proprietary databases & architectures
  - Can’t route content
  - Small user base
  - Slow to adopt new technologies
  - Limited customization possible
Content Management Systems

- Content reuse & templating (banners, text, buttons)
- Manage Web pages and their relationship to each other and directory structure
- Manage and control approval processes for content
- Link management
- Upload new and edited pages to the Web server
- Retrieve content from a repository and present it dynamically or deploy it as a static Web page
- Search a repository for content
- Personalization

(Boiko 2001)
CMS Strengths & Weaknesses

● **Strengths**
  - Templates for data entry and display
  - Routing with workflow approval process
  - Easy to move content from the desktop to the Web
  - Emphasis on newer technologies and open architecture

● **Weaknesses**
  - Authority control and the capability to define and use metadata
  - Not designed for search and retrieval of content
Digital Asset Management Systems

- Asset capture and digitization
- Asset management
- Access control including security tools and digital rights management
- Flexible storage that allows assets to be reused
- Distribution to the appropriate individuals internally and externally
- Publication to the Web or other channels

(Trippe 2001)
DAM Strengths & Weaknesses

● Strengths
  – Flexible database schema, some flexibility in interface configuration
  – Security & digital rights management are key components
  – Capability to route content for review
  – Large install base outside of academia with a variety of needs

● Weaknesses
  – Complex
  – Different standards used
  – Designed for intranets
  – Authority control is an add-on
Content Distribution Networks

- Functions related to the publication/broadcast of content
- Transport protocols for pushing content
- Protocols for harvesting content
- Security protocols to enable transport and harvesting
- Network connectivity, caching and load-balancing

(Mears 2002)
CDN Weakness

- Narrow set of functions that assume that the content has been created and is being managed using something else.
Integrators

- Consulting firms that build systems for customers from existing software to fulfill a specific set of requirements.
- Roots in financial systems consulting
Integrators Strengths & Weaknesses

- **Strengths**
  - They build what is specified and customize software to meet specific needs

- **Weaknesses**
  - Expensive
  - Recommend software based on what they know, not on how well it fits with your needs
The RFI/RFP Process

- Challenges with the process
  - Favors selection of commercial software over open source
  - Favors vendors who are better organized and better staffed

- Challenges with the evaluation
  - Level of granularity in requirements
  - Involving the right decision makers in the process
  - Prioritization of requirements
## RFI Showstoppers

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflows and approval processes</td>
<td>Collaboration with external agencies; University Strategic Plan</td>
</tr>
<tr>
<td>Flexible templates for data entry and display</td>
<td>Collaboration with external agencies; University Strategic Plan</td>
</tr>
<tr>
<td>Capability to allow external applications to search and retrieve content</td>
<td>Dotcom explosion</td>
</tr>
<tr>
<td>Requirement</td>
<td>Factor</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Referential integrity</td>
<td>Legacy system</td>
</tr>
<tr>
<td>Management of derivatives</td>
<td>Legacy system</td>
</tr>
<tr>
<td>Operating system</td>
<td>Favored Technologies; Sun OS</td>
</tr>
<tr>
<td>Client platform</td>
<td>Favored technologies; Use of Apple OS &amp; Windows</td>
</tr>
<tr>
<td>XML support</td>
<td>Favored technologies; XML</td>
</tr>
<tr>
<td>Requirement</td>
<td>Factor</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Database support for Oracle 9i</td>
<td>Favored technologies</td>
</tr>
<tr>
<td>Versioning and rollback</td>
<td>Legacy system</td>
</tr>
</tbody>
</table>
Open Source and/or University Created

Looked at ADL, DLXS, Cheshire II, D-Space, DLESE, Greenstone, Perseus, Virtual Data Center

Generally found:

- Extensive customization requiring commitment of developer to meet our requirements
- Public documentation insufficient for decision making
- Lack of “reliable” support model if software does not function as promised

Scores for these packages were comparable with vendors whose software required excessive customization
Challenges moving forward

- Docu who?
- Complexity of new system
- Lack of resident expertise
- Interpretation of requirements
- Interpretation of design document
- Finishing this before we start something else
Future Uses

- Institutional Repository
- Course Management
- Virtual Collections
Institutional Repository

- Means to allow faculty to store and retrieve content they have created for research purposes
- Rights management functions
- Push content to other systems
  - E-journal publication
  - Reference works
  - Course management systems
  - University Web site
Course management

- Route readings and syllabus through curricular committees
- Route thesis and dissertations through appropriate committees
- Route student work to appropriate teaching assistants and faculty
- Place all content in a life cycle; expire content at the end of a semester; archive student work
Contact Information

Deborah Holmes-Wong
Project Manager, Digital Information Management
University of Southern California
dhwong@usc.edu
213-740-2867