Mt. Saint Helens and the Rise of Digital imaging in Academic Libraries

ACS/CINF
August 29, 2001
Chicago

http://faculty.washington.edu/curie/acshelens.html
What is a `digital’ collection?

And

Why would anyone want to have one?
Wow!

Look What I can do!
Digital can include:

- Text
  (ocr’d for searching of content and/or imaged for `flavor’ of original)
- Images
- Video
- Sound
- Other
Issues

• What should be imaged?
• Who’s going to do it?
• Who’s going to pay for it?
• Why are you doing it?
Issues cont.

• Who owns what?
  – Original
  – Copy of original
  – Image of original
  – Text/other connected with original
Issues cont.

• How?
  – Software
  – Hardware
  – Alone or consortium
  – Archiving
Digital Does not Equal Preservation

Digital does Mean Access
Multimedia Archive Issues

• Massive Amounts of data
• Rapidly evolving technologies
• Structured, semi-structured, unstructured and multimedia data
• Frequent modification of collections to support incremental and scalable projects
• Need to cater to different user characteristics, preferences, and capabilities
Selected Sites of Interest

American Memory Project (library of Congress)
  http://memory.loc.gov/
VIVA: The Virtual Library of Virginia
  http://www.viva.lib.va.us/
Making of America
  http://moa.umdl.umich.edu/
  http://moa.cit.cornell.edu/moa/
Digital Library Federation
  http://www.diglib.org/
COLLABORATION

• CISO
  Center for Information Systems
  Optimization

• CARTAH
  Center for Advanced Research Technology
  in the Arts and Humanities

• UW Libraries
CONTENTdm
CONTENTdm Components

Server (NT, Linux, AIX, or Solaris)

- Browser Client (HTML)
- Web Page Templates
- E-commerce Client
- Professional Client (Java)
- Acquisition Station
- Administration Tools

Access

Development

Administration
CONTENTdm Features

- Designed for large archives of digital assets
- Collections can be individually owned and defined, but integrated into the larger digital repository
- Search database of millions of objects and identify desired items in under 1 second
- Highly scalable system which can grow from tens of objects to millions
- Designed to be extendible – multiple clients for multiple uses
Picture Cube

[Image of a 3D cube viewer interface with car images on its sides]
Drawings and Diagrams
forms the southern boundary of the Spokane Indian Reservation may be acquired by any citizen, association, or corporation of the United States by appropriation under and pursuant to the laws of the State of Washington." Asked by a colleague if his bill carried the authority to construct a dam, Jones replied that it did not; that issue, "if I came up, would have to go to the Committee on Interstate and Foreign Commerce. They have to take their chances on that." 11

The laws of Washington pertaining to water rights were in disarray at the time. In its constitution, the state asserts jurisdiction over navigable waters. In practice, the War Department administered the Spokane River as a navigable waterway, but it did so unevenly; sometimes it granted permission to build bridges over the river and sometimes it told applicants they did not need permission. An Idaho court—the only court to rule on the navigability of the Spokane—had decided that "as far as the facts are developed, they indicate that Spokane river is of sufficient size and of such a channel as to be held a public highway." 12 To competing interests for use of the river at Post Falls, it happened, the judge remarked, "The water, as well as the light and the air and the rest of Nature's bounties, are not for the sole benefit and use of any single individual, corporation, or interest." A division chief of the Army Corps of Engineers would give his opinion some years later that "the [Spokane] river has navigability in its natural state and could be capable of carrying commerce between states, even though its navigability is interrupted by occasional natural obstructions." 13

On the question of water rights, Washington state courts were inconsistent; they recognized both riparian and appropriative rights, sometimes in contradicting decisions. It was axiomatic that lumber and utility lobbies defeated attempts to write a state water code in order to hold the river for themselves. Under state law, as it stood since 1891, water rights might be asserted merely by posting a notice at the site and filling a copy with the appropriate county auditor. Why the navigable status of the river did not color David Wilson's application for water rights is a question that has never been answered. All of the principles—federal and state agencies and prospective dam builders alike—seemed too abstract or indifferent to the matter of jurisdiction.

The looseness of the laws and its location within an Indian reserve made Little Falls the most contentious power site on the Spokane. In their negotiations with property owners and lumber companies on Lake Coeur d'Alene over the level of

Audio and Video
CONTENTdm Client

• User Select search criteria
  – including Full Boolean search - phrases and adjacency
  – Search by defined fields
  – Search across selected or all fields
  – Search multiple collections

• Support for Dublin Core or other field sets

• Double-clicking thumbnail displays full-sized image
  – Tab access to descriptive Metadata
  – Metadata formatted in HTML
  – Supports multimedia

• HTML Client can be used by any browser (Mac, Unix)
**Enter search terms** in one or more fields or use the "Browse Terms" box on the right to find indexed words for each field. Select "Online Help" above for more detailed instructions about searching collections.

- **Title**: castle*
- **Subject**: 
- **Description**: 
- **Across All Fields**: 

**Start Search** | **Clear Fields** | **Change Selected Collection(s)** | **Search Preferences**

**Click on a thumbnail to view the full-sized item and corresponding description**

1. A castle, near Hanksville
2. Almural Castle, Portugal
3. Balmoral Castle, Scotland
4. Balmoral Castle, Scotland

Results: 74 matches
CONTENTdm Client

![CONTENTdm User Interface](image.png)
CONTENTdm Acquisition Station

- Distributed metadata entry

CONTENTdm Server

Acquisition Station (1st floor)

Acquisition Station (5th floor)

Acquisition Station (Other building or other country)
Acquisition Station Features

- Scan images, slides, negatives, etc., from input devices (TWAIN)
- Automated thumbnail generation
- Dynamically add or edit database items
- Upload new items to CONTENTdm Server
- Distributed Metadata collection
Acquisition Station Features

- Authenticated vocabulary
  - Can be assigned to selected fields
  - Restricts metadata input to allowed terms
  - Supports reviewed vocabulary additions
- Batch import
  - Load multiple objects into the Acquisition Station at one time
- Support for full resolution scanning
- Integrated with Windows NT or Unix security
Acquisition Station Features

<table>
<thead>
<tr>
<th>Icon</th>
<th>Title</th>
<th>Subject</th>
<th>Descriiption</th>
<th>Creator</th>
<th>Publisher</th>
<th>Contrib Date</th>
<th>Date</th>
<th>Type</th>
<th>Format</th>
<th>Identifier</th>
<th>Source</th>
<th>Filesize</th>
<th>Relation</th>
<th>Coverage</th>
<th>Rights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>allen1.jpg</td>
<td></td>
<td></td>
<td>University of Washington</td>
<td>06/1999</td>
<td>JPG</td>
<td>44.025 kb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>allen2.jpg</td>
<td></td>
<td></td>
<td>University of Washington</td>
<td>06/1999</td>
<td>JPG</td>
<td>43.212 kb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>allen3.jpg</td>
<td></td>
<td></td>
<td>University of Washington</td>
<td>06/1999</td>
<td>JPG</td>
<td>34.716 kb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brilliant_Trees_Take_Me</td>
<td></td>
<td></td>
<td>University of Washington</td>
<td>06/1999</td>
<td>MP3</td>
<td>3171.81 kb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Willie_Foster_Willie's_B</td>
<td></td>
<td></td>
<td>University of Washington</td>
<td>06/1999</td>
<td>MP3</td>
<td>2545.74 kb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5 Objects

[Buttons: Hold, Delete, Upload]
Server Administration Features

- Build text indexes
- Global search and replace
- Import from Access, Excel, etc.
- Export in XML, SGML, delimited ASCII
- Build Compound Items
  - Documents, Picture Cubes, Postcards
- Edit metadata from browser
Server Administration Features

- System Administrator
- Collection Administrator
  - Gatekeeper function - administrative approval for all additions and changes to the database
- Cataloger at Acq station level
- User
- Access controllable at the System level:
  - Domain, IP, User Password
CONTENTdm Server Administration

- Complete database administration through a Web interface
CONTENTdm Server Administration

- Fully configurable metadata
- Default metadata specified by Dublin Core
CONTENTTdm Custom Web Site Development

Web query building tool

CONTENT Query Builder Wizard

The CONTENT Query Builder is a tool that can be used to embed CONTENT queries into standard Web pages. The Query Builder allows you to define the query you wish to perform and guides you through the process of integrating the query into your Web page and formatting the results.

You may save your work at any stage of this Wizard by simply bookmarking the current Web page.

Step 1

What type of query element do you wish to create?
- A simple hyperlink which invokes a single predefined query
- A pull-down list box containing a number of selectable queries
- A text box for entering search words

CONTENT Software
Center for Information Systems Optimization (CISCO)  
University of Washington  
content@cisco.engr.washington.edu

Copyright © 2001 DiMeMa Inc.
Hegg Strikes Gold!

Eric A. Hegg Photography Collection: Over 750 photographs from the Eric A. Hegg Collection document the Klondike and Alaska gold rushes from 1897 - 1901. Images include depictions of frontier life in Dawson City, the Yukon Territory, and Skagway and Nome, Alaska.

Select options on the map below by passing your mouse over the icons to learn more! Click the icon to search for images or enter your own search query in the text box.
Support for Compound items
  Documents, Postcards, Picture Cube

Full Resolution
  TIF or Compression choices such as Mr. Sid

Authenticated Vocabulary
  LC TGM or build from existing collection

Phrase searching

Extended Metadata Standards
  Dublin Core Qualified, VRA

Improved user interface
University of Washington’s Digital Collections
Featuring

A growing number of collections from the University of Washington Libraries and faculty in such diverse areas as the humanities, the natural sciences, and the regional cultures of the Pacific Northwest and Alaska. The site includes the award-winning project American Indians of the Pacific Northwest. These collections are especially strong in Seattle history, architecture, labor and industry, the Klondike Gold Rush, and our natural environment.

Materials

Are primarily pictorial, although some have accompanying essays and texts. Other media are presented, such as newspapers, reports, pamphlets, posters, and maps. More formats will be added in the future. The emphasis of these collections is on rare and unique materials.

Search

Within one, or within any combination of collections. Search by title, subject, description or a variety of other fields. By clicking on keywords you can immediately go to other material with that same keyword. You can easily access other collections with the same keyword.
All Collections

This site showcases some of the print, photograph and textual collections held in the University Libraries and in UW academic departments, as well as some found in the collections of our partner libraries, museums and historical societies. You may search any of the collections listed below, singly or in combination. Choose by title from the alphabetic list, or under the general topic. Combine collections using the "Search" page option above. This site is powered by the CONTENTdm multimedia archival system developed at UW's Center for Information Systems Optimization (CISO).

Regional Cultures

- American Indians of the Pacific Northwest - Library of Congress American Memory Award Winner
- Digital Northwest Collections - Photograph collections from University of Washington Libraries' Manuscripts, Special Collections, and University Archives Division relating to the Pacific Northwest and Alaska. To select a specific collection from DNW select from the dropdown box below.

The Natural Environment

- Freshwater and Marine Image Bank - over 1600 images relating to freshwater and marine subjects.
- Plants of Western Washington - over 600 views of plants commonly found in Western Washington.
- Mount St Helens Succession Collection - 235 photographs in a series of "permanent plot views", photos taken of the same site over a period of years, along with general aspects of impacted
All Collections

This site showcases some of the print, photograph and textual collections held in the University Libraries and in UW academic departments, as well as some found in the collections of our partner libraries, museums and historical societies. You may search any of the collections listed below, singly or in combination. Choose by title from the alphabetic list, or under the general topic. Combine collections using the "Search" page option above. This site is powered by the CONTENTdm multimedia archival system developed at UW's Center for Information Systems Optimization (CISO).

<table>
<thead>
<tr>
<th>Alphabetical list of all collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cities and Buildings Collection</td>
</tr>
<tr>
<td>John N. Cobb Collection</td>
</tr>
<tr>
<td>Asahel Curtis Photo Company Collection</td>
</tr>
<tr>
<td>Everett Massacre Collection</td>
</tr>
<tr>
<td>Freshwater and Marine Image Bank</td>
</tr>
<tr>
<td>Harriman Alaska Expedition</td>
</tr>
<tr>
<td>Eric A. Hegg Collection</td>
</tr>
<tr>
<td>Wilhelm Hester Collection</td>
</tr>
<tr>
<td>Industries and Occupations Collection</td>
</tr>
<tr>
<td>Darius Kinsey Collection</td>
</tr>
<tr>
<td>Frank La Roche Photographic Collection</td>
</tr>
<tr>
<td>Lake Union Improvement Company Album</td>
</tr>
<tr>
<td>James Patrick Lee Collection</td>
</tr>
<tr>
<td>William E. Meed Collection</td>
</tr>
<tr>
<td>Mount St. Helens Succession Collection</td>
</tr>
<tr>
<td>Plants of Western Washington</td>
</tr>
<tr>
<td>Prosch Seattle Views Collection</td>
</tr>
<tr>
<td>Prosch Washington Views Collection</td>
</tr>
<tr>
<td>Rainier National Park Mountain–Glacier Wonderland Album</td>
</tr>
<tr>
<td>Seattle Collection</td>
</tr>
</tbody>
</table>

Library of Congress American Memory Award

1,000 pages of textual sources. Developed for the Library in partnership with the Museum of History and Industry in Seattle.

Collections from University of Washington Libraries' University Archives Division relating to the Pacific Northwest area. DWN select from the dropdown box below.

<table>
<thead>
<tr>
<th>Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photos</td>
</tr>
</tbody>
</table>

10 images relating to freshwater and marine subjects. Photos of plants commonly found in Western Washington. Photographs in a series of "permanent plot views", photos taken of the same site over a period of years, along with general aspects of impacted
"For 500 generations they flourished until newcomers came... much was lost; much was devalued, but much was also hidden away in the hearts of the dispossessed... 

...Their voices insist upon a hearing and the cumulative wisdom of their long residence in this land offers rich insights to those willing to listen. The challenge now is to find a way to make knowledge of the ancient traditions, the experience of change and the living reality accessible and available..."

excerpt from *Native Americans of the Pacific Northwest: An Introduction* by David M. Buerge

---

**can learn from the images and writings of the time...** This provides an extensive digital collection of original photographs and documents about the Northwest Coast and Plateau Indian cultures, complemented by essays written by anthropologists, historians, and teachers about both particular tribes and cross-cultural topics. These cultures have occupied, and in some cases still live in parts of Alaska, British Columbia, Washington, Oregon, Idaho, and Montana. Maps are available that show tribal territories or reservation boundaries.

---

**essays include bibliographies and links to related text and images as well as study questions that K–12 teachers may use as they develop curricula in their schools. In addition to specific tribes (Haida, Tlingit and Tsimshian, Coeur d'Alene, Lushootseed, Makah, *Perce*), cross-cultural topics include Indian Boarding Schools, Chief Seattle and Chief Joseph, Salmon, and Totem Poles. An introductory essay provides an overview of the cultures, thisject, and the other essays.**

---

**digital databases includes over 2,300 original photographs as well as over 3,800 pages from the Annual Reports of the Commissioner of Indian Affairs to the Secretary of the Interior from 1901 to 1908 and six Indian treaties negotiated in 1855. Secondary sources include 89 articles from the Pacific Northwest Quarterly and University of Washington publications in Anthropology.**

---

**essays and digital databases may be accessed by clicking on any of the images on this page, or you may enter your own search**
<table>
<thead>
<tr>
<th><strong>Collection:</strong></th>
<th>Mount St. Helens Succession Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong></td>
<td>Goat Ridge to the north of Mount St. Helens (1980)</td>
</tr>
<tr>
<td><strong>Site location:</strong></td>
<td>Goat Ridge (1980)</td>
</tr>
<tr>
<td><strong>Subjects (Keywords):</strong></td>
<td>Heavy tephra deposits; Mt. Rainier in distance.</td>
</tr>
<tr>
<td><strong>Subjects (LCSH):</strong></td>
<td>Diagenesis</td>
</tr>
<tr>
<td><strong>Event date:</strong></td>
<td>1980-07</td>
</tr>
<tr>
<td><strong>Publisher:</strong></td>
<td>Roger del Moral</td>
</tr>
<tr>
<td><strong>Notes:</strong></td>
<td>Tephra impact; North of crater</td>
</tr>
<tr>
<td><strong>Photographer:</strong></td>
<td>Moral, Roger del</td>
</tr>
<tr>
<td><strong>Coverage:</strong></td>
<td>United States -- Washington (State) -- Saint Helens, Mount</td>
</tr>
<tr>
<td><strong>Source:</strong></td>
<td>Mount St. Helens Succession Collection</td>
</tr>
<tr>
<td><strong>Slide ID Number:</strong></td>
<td>GOAT1</td>
</tr>
<tr>
<td><strong>Accession number:</strong></td>
<td>msh2</td>
</tr>
<tr>
<td><strong>Copyright Statement:</strong></td>
<td>© Roger del Moral</td>
</tr>
<tr>
<td><strong>Publication date:</strong></td>
<td>1999-04</td>
</tr>
<tr>
<td><strong>File Format:</strong></td>
<td>jpg</td>
</tr>
<tr>
<td><strong>Data URL:</strong></td>
<td><a href="http://www.biology.washington.edu/delmoral">http://www.biology.washington.edu/delmoral</a></td>
</tr>
</tbody>
</table>
Mount St Helens Post-Eruption Chemistry
atbase Administration

- Add new items
- Build text index
- Update/delete existing items
- Global search and replace
- Export metadata to ASCII delimited format
- View/edit collection description
- View/edit collection field properties
- Lock administration
- Full Resolution Manager

art the Complex Document Client
Enter search terms in one or more fields or use the "Browse Terms" box on the right to find indexed words for each field. Select "Online Help" above for more detailed instructions about searching collections.

Click on a thumbnail to view the full-sized item and corresponding description.

1. Dead Trees near mouth of Toutle River
2. zolmsh12
3. zolmsh13
4. zolmsh14

Results: 23 matches
### Edit the fields below:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Dead Trees near mouth of Toutle River</td>
</tr>
<tr>
<td>Photographer</td>
<td>Zoller, Bill</td>
</tr>
<tr>
<td>Institution</td>
<td>University of Washington, Dept. of Chemistry</td>
</tr>
<tr>
<td>Date of Photograph</td>
<td>1980-07</td>
</tr>
<tr>
<td>Location</td>
<td>Mt. St. Helens, Toutle River (Wash.)</td>
</tr>
<tr>
<td>Notes</td>
<td>This slide shows the furthest extent of the ash kill of trees on the Toutle river. Unknown to us is the tree species that grew in the area.</td>
</tr>
<tr>
<td>Keywords</td>
<td>Toutle river; Dead trees</td>
</tr>
</tbody>
</table>
| Object            | Volcanoes--Washington (State)  
|                   | Saint Helens, Mount (Wash.)--Eruptions
|                   | Trees--Washington                                                   |
| Coverage          | United States--Washington (State)--Saint Helens, Saint Helens, Mount  |
| Photo Type        | 35mm Slide                                                          |
| ID Number         | zolmsh10                                                            |
| Rights            | Free use                                                            |
| Date              | summer 2000                                                         |
| Format            | jpg                                                                 |
What’s next?

Antarctic Research Stations
Chernobyl
More volcanoes
Resources and Acknowledgements:

Thanks to Greg Zick of DiMeMa
www.contentdm.com

Colorado Digitization Project
http://coloradodigital.coalliance.org

UW Libraries Digital Project

Bill Zoller, Prof. Chemistry