

A Manakin Case Study

Visualizing geospatial metadata & complex items

Adam Mikeal, Cody Green, Alexey Maslov,
Scott Phillips, Kathy Weimer and John Leggett

Overview

1. The Setup
2. The Collection
3. The Problem
4. The Solution
5. The Result

The Setup



Background

- ▶ Repositories increasingly contain complex items
- ▶ Metadata needs are moving beyond basic Dublin Core
- ▶ Traditional approaches fall short

The Collection

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Geologic Atlas of the United States

- ▶ 227 folios of maps, text and photographs
- ▶ Published by the USGS between 1894 and 1945
- ▶ Focuses on economic geology and geography

-



Digitized folios

- ▶ Each folio consists of between 10 and 40 pages
- ▶ Archival images are 300 dpi TIFF, ~100 MB each
- ▶ Only complete digitized version of this series in existence

DSpace collection

- ▶ 1 collection, 227 items
- ▶ Each item had multiple bitstreams; one for each scanned page
- ▶ Extra bitstream added; PDF for screen-viewing

Geospatial metadata

- ▶ Geospatial metadata exists in multiple formats
- ▶ Needed Qualified Dublin Core
- ▶ Used DCMI recommendations for values:
 - coverage.point:
41:30:00N87:45:00W
 - coverage.box:
northlimit=41.75; westlimit=-88;
southlimit=41.5; eastlimit=-87.75

The Problem

3

Browsing

- ▶ DSpace interface optimized for items with fewer bitstreams
- ▶ Uninformative lists + large files = **very** cumbersome browsing

Coverage

- ▶ No way to easily place the folios in their geographic context
- ▶ No searching across coverage area
- ▶ Search results not in context

Bottom line

- ▶ Great collection, poor user interface
- ▶ Failed to leverage unique properties of the collection

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Title: Chicago folio, Riverside, Chicago, Desplaines, and Calumet quadrangles, Illinois-Indiana
Authors: Alden, William C. b. 1871 (William Clinton)
Issue Date: 1902
Publisher: Geological Survey (United States)
Series/Report no.: Geologic Atlas of the United States 81
Description: Chicago folio, Riverside, Chicago, Desplaines, and Calumet quadrangles, Illinois-Indiana
Gov't Doc # : I19.5/1:81
URI: <http://handle.tamu.edu/1969.1/3691>
Appears in Collections: [Geologic Atlas of the United States](#)

Files in This Item:

File	Description	Size	Format	
081backcover.tif	300 ppi TIFF of back cover	102425Kb	TIFF	View/Open
081frontcover.tif	300 ppi TIFF of front cover	103242Kb	TIFF	View/Open
081insidefront.tif	300 ppi TIFF of inside-front cover	101153Kb	TIFF	View/Open
081page01.tif	300 ppi TIFF of page 1	105463Kb	TIFF	View/Open
081page02.tif	300 ppi TIFF of page 2	105821Kb	TIFF	View/Open
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081page04.tif	300 ppi TIFF of page 4	105699Kb	TIFF	View/Open
081page05.tif	300 ppi TIFF of page 5	106334Kb	TIFF	View/Open
081page06.tif	300 ppi TIFF of page 6	105967Kb	TIFF	View/Open
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081page27.tif	300 ppi TIFF of page 27	105650Kb	TIFF	View/Open
081page28.tif	300 ppi TIFF of page 28	105916Kb	TIFF	View/Open
081page29.tif	300 ppi TIFF of page 29	106379Kb	TIFF	View/Open
GFolio081.pdf	PDF Version of Geologic Folio 81	166708Kb	Adobe PDF	View/Open

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The Solution

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Manakin

► Of course :-)

Item View

- ▶ List model caused frustrating user experience
- ▶ Root problem: complex items
- ▶ Exploration causes loss of context

- ▶ Gallery-style thumbnails provide visual overview
- ▶ Lightbox-style previews provides detail in context
- ▶ Full-size JPEG allows for alternate download option

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Pocahontas folio, Virginia-West Virginia

Folio 26, published 1896 [Show full item record](#)

Latitude: 37:00:00 N
Longitude: 81:00:00W
Author: Campbell, Marius Robinson, 1858-1940
Gov't Doc number: I19.5/1:26
Published by: Geological Survey (United States)
In collection: [Geologic Atlas of the United States](#)
Permanent URI: <http://handle.tamU.edu/1969.1/3027>

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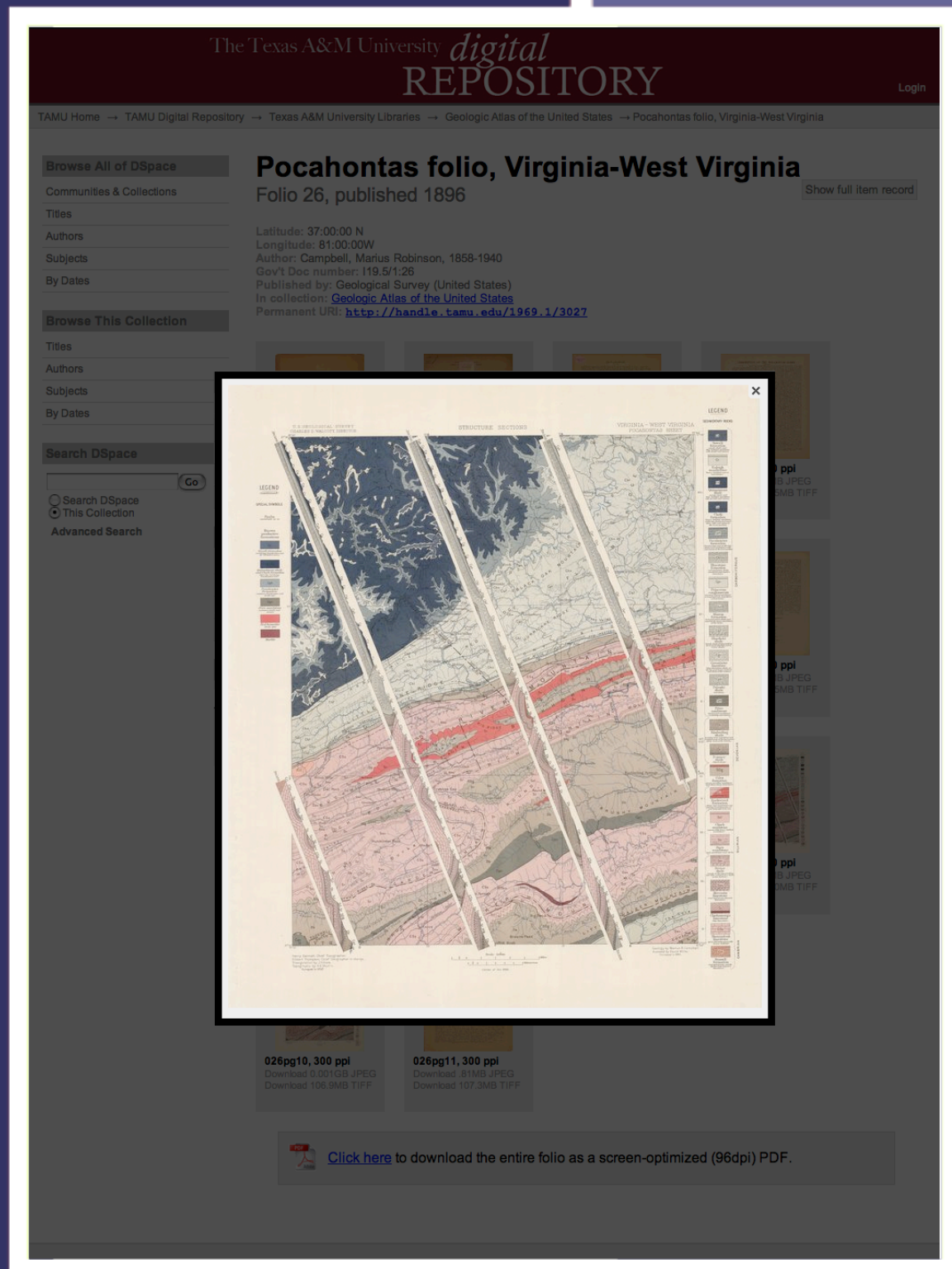
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[Click here](#) to download the entire folio as a screen-optimized (96dpi) PDF.

- ▶ Gallery-style thumbnails provide visual overview
- ▶ Lightbox-style previews provides detail in context
- ▶ Full-size JPEG allows for alternate download option



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Pocahontas folio, Virginia

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Latitude: 37:00:00 N
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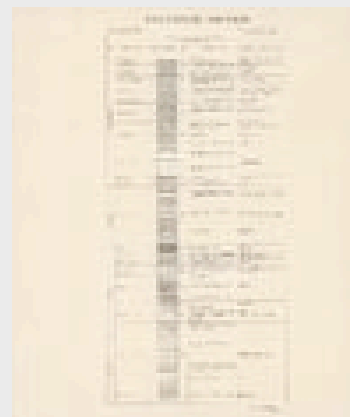


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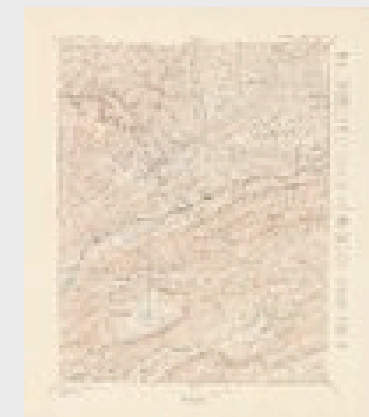
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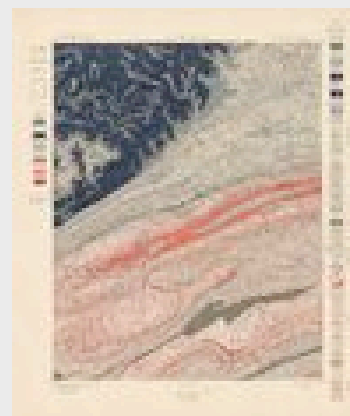
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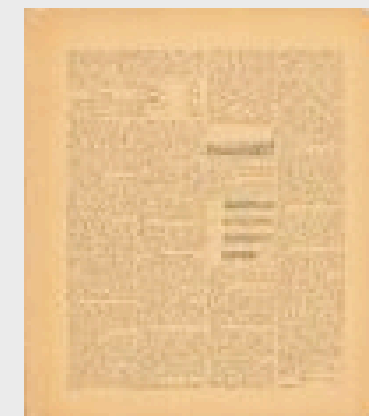
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Manakin's role

Item view

- ▶ Manakin made this easy; merely override the item view template (XSL)
- ▶ Method easily extends to more complex item structures
- ▶ Built-in METS would allow for correlation of images

Collection view

- ▶ Map-based interface obvious choice for context
- ▶ Yahoo! Maps chosen for ease of API and aesthetic qualities
- ▶ Geographic coordinates were available for every item

- ▶ Map places every item into a geographic context
- ▶ Allows user to quickly determine coverage area
- ▶ Provides a visual understanding of the geographic context

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- ▶ Map places every item into a geographic context
- ▶ Allows user to quickly determine coverage area
- ▶ Provides a visual understanding of the geographic context



Manakin's role

Collection view

- ▶ Manakin made this easy; merely override the collection view template
- ▶ Example of a customized collection within an existing repository
- ▶ XSL used to write the JavaScript that renders the map

Search view

- ▶ Search results needed to be placed in geographic context, too
- ▶ Searching capabilities should be customized to the collection's needs

- ▶ Search results are plotted on the map for visual placement
- ▶ Search results are listed underneath for more detail
- ▶ Search interface customized for collection's particular needs

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Coverage:
Keywords:

Search Results for Collection: Geologic Atlas of the United States


Previous Page 1

Your query "((Texas))" produced 9 results.

El Paso folio, Texas	Richardson, G. B. (George Burr), 1872-1949 (1909)
Nueces folio, Texas	Hill, Robert Thomas, 1858-1941 (1897)
Austin folio, Texas	Hill, Robert Thomas, 1858-1941 (1902)
Colfax folio, California	Lindgren, Waldemar, 1860-1939 (1900)
Pocahontas folio, Virginia-West Virginia	Campbell, Marius Robinson, 1858-1940 (1896)
Boise folio, Idaho	Lindgren, Waldemar, 1860-1939 (1898)
Coos Bay folio, Oregon	Diller, J. S. (Joseph Silas), b. 1850 (1901)
Fort Benton folio, Montana	Weed, Walter Harvey, 1862-1944 (1899)
Tintic special folio, Utah	Smith, George Otis, 1871-1944 (1900)

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- ▶ Search results are plotted on the map for visual placement
- ▶ Search results are listed underneath for more detail
- ▶ Search interface customized for collection's particular needs



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Coverage:

Keywords:

Search Results for Collection: Geologic Atlas of Texas

Your query "((Texas))" produced 9 results.

El Paso folio, Texas
Richardson, G. B. (George Burr), 1872-1949 (1909)
Nueces folio, Texas
Hill, Robert Thomas, 1858-1941 (1897)
Austin folio, Texas
Hill, Robert Thomas, 1858-1941 (1902)

Manakin's role

Search view

- ▶ Manakin made this easy; merely override the search view template
- ▶ Customized results required overriding the search results template
- ▶ XSL used to renders map, reading Lat/Lon coordinates from DRI

The Result

5

Bottom line

- ▶ Better user experience
- ▶ Improved access
- ▶ Utilizes the unique properties of the collection

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(140 Downloads/Visits)

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Geologic Atlas of the United States (Add to Navigation Trail)
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More info

Katherine H. Weimer, Rusty Kimball, Steven Bereyso, Brian Surratt, Adam Mikeal, and Alexey Maslov. "Access and Preservation of Scientific and Cartographic Literature Using an Institutional Repository: USGS's Geologic Atlas of the United States in Space". *Documents to the People*, Vol. 4, No. 4. Winter 2006.

Live site

<http://handle.tamu.edu/1969.1/2490>

Link to “BETA user interface”



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