

Manakin Case Study: visualizing geospatial metadata & complex items

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Increasingly, repositories are responsible for preserving complex items, and items with specific/unique metadata, such as geospatial metadata. These collections present unique challenges for the repository interface, and traditional approaches often fail to provide adequate visualization mechanisms.

This presentation is a case study of a particular collection that exhibits a Manakin solution to both of these challenges. The Geologic Atlas of the United States is a series of 227 folios published by the USGS between 1894 and 1945. Each folio consists of 10 to 40 pages of mixed content—including maps, text, and photographs—with an emphasis on the natural features and economic geology of the coverage area.

Complex Items: The current visualization model in DSpace offers a cumbersome browsing experience for complex items, as the default item view in DSpace is not optimized for items that contain more than a few bitstreams. The logical organization of the folio collection was as a single DSpace collection with 227 items, where each item contained multiple bitstreams representing each page of the folio. The result was an uninformative list of filenames, each linking to a very large (approximately 100 MB) image file.

Manakin allowed us to create a new detail view for the folio items using an image gallery-style viewing interface. This new view has thumbnails for each page and lower-resolution surrogates for screen viewing. It also allows a viewer to download either the full archival-quality TIFF or a reduced-quality JPEG. The combination of thumbnail surrogates and the ability to see all pages of a folio at once serves to increase the ease with which the collection is navigated and understood.

Unique Metadata: The current DSpace interface is unable to leverage the potential of atypical metadata, such as the geospatial metadata attached to the folio collection. Although geographic elements were added to the DSpace metadata registry following Dublin Core Metadata Initiative (DCMI) recommendations, the only visualization mechanism DSpace could offer was a flat listing of the metadata values.

Manakin allowed us to exploit the unique geospatial properties of the folio collection. It was determined that a map-based interface for browsing and searching would help a user to quickly determine the coverage area of a particular folio visually, as well as place the title in its geographic context.

Both of the challenges presented by this case study could have been addressed using the existing JSP interface. However, the awkward nature of such an implementation would be impractical to create and maintain; furthermore, no mechanism exists to restrict such changes to an individual collection. Manakin's modular architecture made the creation of this interface achievable by a small team in a matter of days. Currently, the interface is available online at <http://handle.tamu.edu/1969.1/2490>, and has been featured as an Editor's Pick on Yahoo.com for its use of the Yahoo! Maps API.

This presentation is the third in a set of three about the Manakin project. This presentation discusses a specific use case of using Manakin to express geospatial metadata and complex items. Other presentations in the set introduce Manakin and its major architectural components, and cover how to use themes to customize Manakin's look-and-feel at your institution.