Creating a Digital Scholarly Edition in the Humanities: Syracuse University's *Marcel Breuer Digital Archive*

Project Background

In 2009, the National Endowment for the Humanities awarded Syracuse University a grant to digitize the Marcel Breuer Papers and to create a web interface to bring together material from geographically disparate archival collections related to the work of the modernist architect. Partner institutions include the Smithsonian Institution's Archives of American Art, Harvard University, the University of East Anglia, the Bauhaus Archives, the Eidgenössiche Technische Hochschule in Zürich, the Royal Institute of British Architects and the Vitra Design Museum. Key elements of the project include:

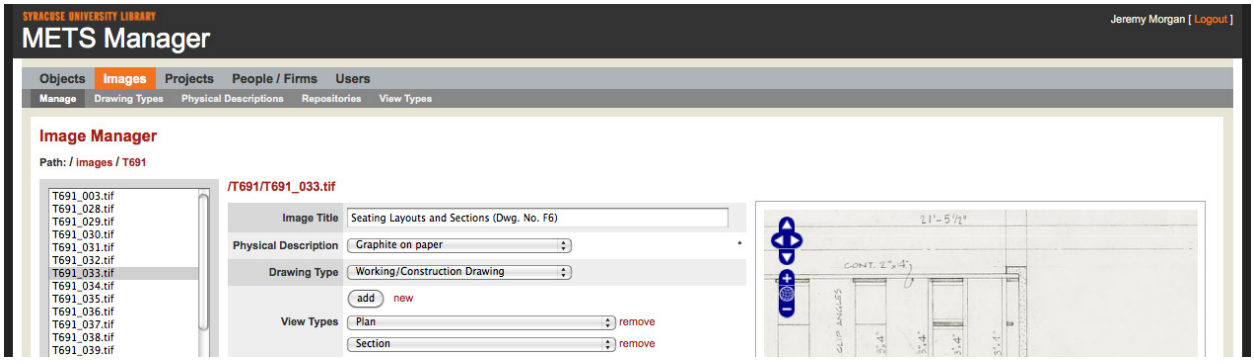
- assessing the research needs of architectural historians, designers and other potential users
- selecting content for the site, and
- identifying and developing appropriate technologies for presenting images and collecting and accessing the associated metadata.

No existing digital resource accomplished exactly what Syracuse intended for the *Marcel Breuer Digital Archive*—in particular, the inclusion of zoomable reproductions of large, finely detailed original drawings and the collection of rich metadata to enable refined searching—and so the Library decided to build the necessary technological infrastructure. To this end, Syracuse has created a custom PHP/MySQL-based database application that consolidates metadata and JPEG2000 images from SU's collections and those of partner institutions.

This web application generates METS (Metadata Encoding and Transmission Standard) XML objects for use in a web portal, drawing upon the California Digital Library's open source eXtensible Text Framework (XTF). While SU is capturing rich, item-level metadata specific to architectural objects for this project, both the specifications and the technical infrastructure can be modified easily for use with other types of materials and by other repositories.

Technical Background

This digital humanities project is broken down into three separate technical systems: METS Database Application, XTF Index and Frontend, and the Djatoka Image Server.

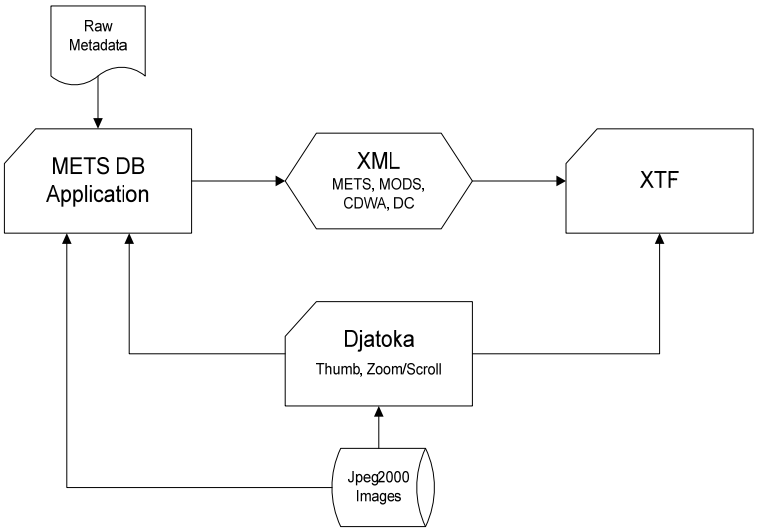


METS Database Application: Custom built on PHP/MySQL and running on Apache, the METS Database Application serves as the central repository of all non-indexed metadata. Raw image and object metadata is initially imported into the database from tab delimited spreadsheets through scripts. All authority metadata and images are linked during the import process. The application's interface has been tweaked gradually to improve post-import workflow. Image previews are provided by the Djatoka image server. The application also facilitates the bulk output of XTF indexer friendly XML and provides XML preview of objects.

Creating a Digital Scholarly Edition in the Humanities: Syracuse University's *Marcel Breuer Digital Archive*

Djatoka Image Server: Java based and running alongside Tomcat, Djatoka supports the dynamic generation of small, lower resolution JPEG images from large high resolution JPEG2000 files. Combined with the Open Layers open url image plugin, a zoomable and scrollable dynamic grid interface is possible.

eXtensible Text Framework: Also Java based and running on Tomcat, XTF is able to index and disseminate numerous types of flat file data formats. With little modification, XTF was able to index METS/DC XML that was output from the METS Application DB, although further work will need to be done to get both the facets and interface in line with the projects requirements. XTF will use the same Djatoka image server as the METS Application to provide both thumbnails and scroll/zoom interfaces.



For more information:
METS:http://www.loc.gov/standards/mets/
XTF: http://xtf.cdlib.org/
Djatoka: http://tinyurl.com/4578wo4
Open Layers: http://tinyurl.com/4obvw3b

Teresa Harris
tmharr01@syr.edu

Jeremy Morgan
jdmorgan@syr.edu

CNI Spring 2011