Linked Open Data Tools and Users

American Art Collaborative
Linked Open Data Meeting

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“Linked Open Data, end-users, and applications” by Lec Maj @ AAC LOD 2013
Q: Did I “use Linked Data” today?

Q: Did I “check the weather” today?
A: YES, above weather info comes from linked data. SIRI, Google Android, & Glass also provide the answer from linked data sources.
Who and what are we working on?

- Began with access to online collections via website [2010]
- Extended XML data provider, [2011] in use by:
  
  - Yale
  - Art Project
  - DPLA
  - ARTstor
  - Your Paintings
  - s[edition]
  - ART SY Finder

- In 2012 began creating unified LOD based on CIDOC-CRM and other (SKOS, RDFS, etc.) ontologies with:
  
  - Yale Center for British Art
  - The British Museum
  - V&A

- 2013/14 interconnecting various data points:

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Architecture and Process

Yale Center for British Art (YCBA)

- Gallery Systems TMS
- LIDO XML Data Files
- RDF XML Data Files
- OWLIM SE Triple Store

British Museum (BM)

- System Simulation LTD Index+
- Index+ XML Data Files
- RDF XML Data Files
- OWLIM SE Triple Store

- COBOAT – CogApp application sponsored by Online Computer Library Center (OCLC)
- Batch Scripts – Tools specific to British Museum export of data from Index+ to XML data files.
- LIDO – Lightweight Information Describing Object standard
- RDF – Resource Description Framework XML files utilizing various ontologies (CRM, SKOS, etc.)

“Cross organization data harmonization and access, linked data decentralized approach” Maj, Mahmud, Delmas-Glass – CIDOC 2012
Proposed Data Exchange Architecture

Device Layer

Possible Partner Application Layer

Federated Virtualization Layer (TBD)

Linked Data Repositories with End-Points

SPARQL

Yale / YCBA

British Museum

OCLC

WorldCat

Google Books

Library of Congress

Open PHACTS

Federation Network Latency Manager

Availability Manager

“Cross organization data harmonization and access, linked data decentralized approach” Maj, Mahmud, Delmas-Glass – CIDOC 2012
Federated YCBA and Rembrandt Data

Rembrandt Federated Search Results (Sofia - OWLIM)

Rembrandt Database:
Saskia von Uylenburgh in arcadian costume
http://www.rembrandtdatabase.org/obj/22373

Rembrandt Database:
Man in Oriental Costume
http://www.rembrandtdatabase.org/obj/58650

Yale Federated Search Results (New Haven - OWLIM)

Yale Database:
Costume Design
http://collection.britishart.yale.edu/id/object/10831

Yale Database:
The Countess of Coningsby in the Costume of the Charlton Hunt
http://collection.britishart.yale.edu/id/object/1084

Yale Database:
Costume Study for a Portrait of a Man
http://collection.britishart.yale.edu/id/object/12662

Yale Database:
Costume Study for the Portrait of a Lady
http://collection.britishart.yale.edu/id/object/14141

Yale Database:
Study of a Gentleman in 17th Century Costume
http://collection.britishart.yale.edu/id/object/15103

Yale Database:
Figures in Torexic Costume and Torso Pole, Number 149
http://collection.britishart.yale.edu/id/object/20571

Courtesy: Dominic Oldman @ British Museum, Research Space
YCBA Linked Data

- Internal (Paintings to Frames, Objects to Objects) – Ms Prue + Frame = Aggregate Object
- Museums (YCBA, BM, and V&A) – Sample of Hadleigh Castle from BM, V&A, and YCBA
- Within Yale (To Museums, Music School, Professional Schools, Yale Website (Drupal and WordPress)
- Getty Vocabularies (TGN, AAT) – Awaiting LOD (as of 4/2013)
- OCLC, VIAF
- Google Books and YouTube (limited basis)
- LOC Authority for Name
- SameAs.org
Is our Linked Open Data truly open?

What is CORS about?

CORS is a specification that enables truly open access across domain boundaries. 
http://www.w3.org/wiki/CORS_Enabled
Simply put, anyone can write any apps to get at our data (inc. JavaScript, JQuery, JSON, etc.)
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App: Ecard
programmed by Iyob G.

Welcome to the YCBA e-card app!

Search

Uses OWLIM FTS for full text search
**App: Exhibit Objects**

programmed by Daniel A.

Yale Center for British Art

Search Exhibitions

Search: Connections, 2011

Connections, 2011

The Hypostyle Hall of the G... Landscape with a Lake Landscape with a Castle Windham Quin of Adare, C... Mineral Objects

Inter... Design for a Temporary Arc... A Bedouin Encampment; or,... The Ramesseum at Thebes Sheik Hussein of Gebel Tor ...

A Frank Encampment in the... A Bedouin Man in Egyptian Dress Five Classical Heads St. Paul before Agrippa

Uses CRM:P12i_was_present_at for events

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App: Subject Maps
programmed by Daniel A.

Uses RDF:WGS84_pos for GIS for mapping

“Linked Open Data, end-users, and applications” by Lec Maj @ AAC LOD 2013
App: Relationship Builder
programmed by Daniel A.

Build relationships between different objects

Uses CRM:P16i_was_used_for aggregate

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Collections: Related Objects

Yale Center for British Art

Collections

Search Details

Creator: John Constable, 1776-1837, British
Title: Hadleigh Castle, The Mouth of the Thames—Morning after a Stormy Night
Alternate Titles: Hadleigh Castle
Date: 1829
Medium: Oil on canvas
Dimensions: 48 x 64 3/4 inches (121.9 x 164.5 cm)
Credit Line: Yale Center for British Art, Paul Mellon Collection
Accession Number: B1977.14.42
Collection: Paintings and Sculpture

Link to This Record: http://collections.yaleart.yale.edu/vufind/Record/1669233

Subject: cows | dog (animal) | landscape | path | boats | men | walking
Terms: light | metaphor | ruins | ruins | castle | costume | birds | morning | hills | estuary | river | shepherds | meteorology | science | melancholy | sailboats | storm | death

Place Represented: Thames | England | Hadleigh | Thames Estuary | United Kingdom | Southend-on-Sea | Hadleigh Castle | Essex


Lindsay Rothwell, Paul Mellon’s legacy, an American’s passion for British art, Paul Mellon’s Collection, October 2007

Related Artwork:

BM, V&A, etc.

Art objects

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Needed tools

• Visual drag-and-drop ontology mapping tools similar to Yahoo Pipes
Needed tools

- Data verification from crowd-sourcing efforts as in curators or Mechanical Turk or Facebook
- Replace the traditional Collections Management System with web based interactive tools
- Embrace new tools as Drupal, Wordpress, etc. for cataloging
What are researchers looking for?

• What are all objects across the globe produced in reference to John Constable?
• Who did John Constable inspire?
• What objects were created along what point in time and place on the grand tour?
• What related types of objects are in existence
• What drawings were created and owned by Paul Sandby (analysis of image markings to identify marks on them)
• History map of ownership migration for Sandby’s drawings
• Compare compositions of water colors to other objects to help speculate artistic models (how was the work influenced, how it is treated by various artists)

http://collection.britishart.yale.edu/id/object/178
Is my institution authority for any data?

- Objects in our Collection
- Exhibitions / Events we produce
- Publications
- Conservation
- Multimedia
- etc...

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