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SI 640 DIGITAL LIBRARIES AND ARCHIVES

2010 Week 10: OAI, ORE and Federation (Resource Sharing and Aggregation)

WHERE ARE WE IN THE COURSE?

- 9 November Metadata: OAI, ORE and Federation
- 16 November User Experience: Evaluation
 - Deadline: METS analysis submitted
 - Panel Discussion: Metadata
- 23 November User Experience: Trust and Collaboration
- 30 November User Experience: Tools Grab Bag
- 7 December Summation: Sustainability
 - Deadline: Essay reflection submitted
 - Panel Discussion: User Experience
- 14 December [one week after final class session]
 - Deadline: MediaWiki entries complete

THEMES FOR THIS WEEK

- OAIS (metadata) and collaboration
- Open Archives Initiative
- Object Reuse and Exchange
- Challenge of interoperability
- Setting the stage for "user experience"

)PEN ARCHIVES INITIATIVE

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

One solution to the "deep-web" problem.
Santa Fe Convention (1999)

 <u>http://www.dlib.org/dlib/february00/vandesompel-oai/</u> 02vandesompel-oai.html

• Takes advantage of Dublin Core

- <u>http://dublincore.org/</u>
- ISO Standard 15836:2009
- Tutorials: <u>http://dublincore.org/resources/training/</u>
- Works within Internet exchange protocols and standards [quite stable]
 - HTTP and XML
 - Semantic web
 - Resource Description Framework (property/ value pairs)

OAI for Beginners. http://www.oaforum.org/tutorial/index.php

)AI – STRUCTURAL MODEL



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OAL for Beginners . http://www.oaforum.org/tutorial/index.php SERVICE PROVIDER



PD-INEL University of North Carolina School of Information and Library Science (Both Images)

)AI EXAMPLES

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

• OAI registered Service Providers:

- <u>http://www.openarchives.org/service/</u> <u>listproviders.html</u>
- OAI Data Provider Registry:
 - <u>http://gita.grainger.uiuc.edu/registry/</u>
 - Search "Michigan"
- OAIster
 - <u>http://oaister.worldcat.org/</u>
- Sheet Music Consortium
 - <u>http://digital.library.ucla.edu/sheetmusic/</u>

)BJECT REUSE AND EXCHANGE ORE)

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

• Most information objects are aggregations (collections, often structured, likely distributed on Web)

- Resources may be documents or aggregations both need addresses on the Web.
- Resource Description Framework (RDF) is the foundation of this "semantic web"
 - Triples: subject-predicate-object statements

Van De Sompel [2009] Object Reuse and Exchange (ORE): A Quick Overview [10 min. video].

YouTube http://www.youtube.com/watch?v=6KUgCN2HLL8

ORE- DEALING WITH RESOURCE

1. Collaboration

- 2. OAI
- **3. ORE**
- 4. Interoperability
- 5. Users

1.The URI of the human start page.

2. The formats in which the document is available.

3. The title of the arXiv document.

4. The authors of the arXiv document.

5.The creation and last modification.

6.Identifiers of entities that are in some manner comparable to this arXiv document.

7.The versions of this document.
8.Links to other arXiv documents in the same collection (i.e., astro-ph).
9.Citations made by this arXiv document, and citations it received from other documents.

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6)-	(Submitted on 31 Dec 2005 (v1), last revised 18 Jan 2006 (this version, v2))	Current browse context:	
	We construct the non-canonical kinetic term of a k-essence field directly from the effective equation of state function Sw_k(z)S, which describes the properties of the dark energy. Adopting the usual parametrizations of equation of state we numerically reproduce the shape of the non-canonical kinetic term and discuss some features of the constructed form of	astro-ph < prev next > new recent 0601	8
	k-essence. Comments: 8 pages, 1 figure; accepted by Mod. Phys. Lett. A; minor changes to references	SLAC-SPIRES HEP (refers to] cited by) NASA ADS CiteBase	9
6-	Subjects: Astrophysics (astro-ph) Journal reference: Mod.Phys.Lett. A21 (2006) 1683-1690 DOI: 10.1142/S0217732306019475 Cite as: arXiv:astro-ph/0601007v2	Bookmark (what is this?)	
7 -	Submission history From: Hui Li [view email] [v1] Sat, 31 Dec 2005 04:01:23 GMT (20kb) [v2] Wed, 18 Jan 2006 06:16:15 GMT (20kb)		
	Which authors of this paper are endorsers?		
	Link back to: arXiv, form interface, contact.		
n Y-NC-S/	RE User Guide: <u>http://www.openarchives.org/or</u>	e/1.0/primer.html	

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ORE Primer. <u>http://www.openarchives.org/ore/1.0/primer</u> (2008).

TITLE

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users





Subject	Predicate	Object
R1	hasChapter	R2
R1	hasChapter	R3
R3	follows	R2
R1	createdBy	"John Doe"

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ORE Primer. <u>http://www.openarchives.org/ore/1.0/primer</u> (2008).

DRE IN A NUTSHELL

Figure 3: The Aggregation A-1 aggregates three Resources and is described by Resource Map ReM-1



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• McDonough, "Structural Metadata," Basilage (2009).

MCDONOUGH'S CRITIQUE OF METS

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

Challenge of interoperability in two ways
Abstract elements provide flexibility

Structural depth, labeling, arrangement

Standards independence

Need for each standard to be whole on its own

- DC, MODS, PREMIS, MIX all contain coding conventions for structure
- Flexibility empowers the local and works against interoperability.
- "It is, in essence, promoting the development of regional dialects at the expense of mutual intelligibility." (p. 13)
- Calls for equal attention to schema development AND translation between schemas

THE USER EXPERIENCE

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

• Who are the users of digital libraries and archives?

- Producers, administrators, consumers
- Who are the consumers of the content of DL/DA?
 - Producers as consumers (give example)
 - Administrators as consumers (example)
 - Consumers: designated community
- Consumers and End-users
 - Recall: purpose-built v. general purpose

Campbell. Scholars Portal. ARL 211 (2000).

ACADEMIC PLATFORM

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

• Functions (Library View)

- Discovery: Scholars Portal discovery tool
- Capture: harvesting and delivery tools
- Manipulation: text-processing and citationmanagement tools
- Distribution: contribution and publication tools
- Consultation: access to virtual reference services and electronic scholarly communities

ACADEMIC PLATFORM

- 1. Collaboration
- 2. OAI
- 3. ORE
- 4. Interoperability
- 5. Users

• Functions (User View)

- Discover relevant information anyplace
- Deliver to the desktop (or place)
- Customize references and organize content
- Manipulate found content (text and image)
- Distribute remotely or publish to Web/paper
- Consult experts or engage scholarly communities

Thank you!

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Additional Source Information

for more information see: http://open.umich.edu/wiki/CitationPolicy

Slide 7: JISC CETIS, http://wiki.cetis.ac.uk/What_is_the_OAI_Protocol_for_Metadata_Harvesting; GISpunkt HSR - das Wiki,

http://www.gis.hsr.ch/wiki/OAI-PMH

Slide 8: University of North Carolina School of Information and Library Science,

http://www.ils.unc.edu/~gerogers/papers/rogers_digital_archival_repositories.htm (Both Images)

Slide 11: Open Archives Initiative, http://www.openarchives.org/ore/1.0/primer.html

Slide 12: Open Archives Initiative, http://www.openarchives.org/ore/1.0/primer.html

Slide 13: Open Archives Initiative, http://www.openarchives.org/ore/1.0/primer.html