An Introduction to the Open Archives Initiative Object Reuse and Exchange (OAI-ORE)

Jenn Riley
Metadata Librarian
Digital Library Program
This is all pretty new!

- OAI-ORE v1.0 specs released October 17, 2008
- Content, especially diagrams, in this presentation, adapted from http://www.openarchives.org/ore/1.0/toc.html
- Not going to explain all the details, just the ones that look like they’ll be useful to production digital libraries
Purposes of OAI-ORE

• Identify “aggregations” of content
• Describe constituents/boundaries of aggregations

That’s it.

• Does not prescribe a protocol for transferring content between repositories
• Just about identifying in a machine-readable way what’s there, rather than providing tools for doing anything with that information
Design principles

• **Built on web architecture**
  ▫ leverage the integrated nature of the web
  ▫ use existing infrastructure to build semantics

• **Uses RDF principles**
  ▫ think “subject,” “predicate,” object
  ▫ but not only encoded in RDF
  ▫ extends into Linked Data and Cool URIs
The problem

1. [Image of a computer screen showing a web page with a URL and a search bar]
2. [Red box indicating links to download formats: PostScript, PDF, Other formats]
3. [Title of the paper: Parametrization of K-essence and Its Kinetic Term]
4. [Authors: Hui Li, Zong-Kuan Guo, Yuan-Zhong Zhang]
5. [Submission history: Submitted on 31 Dec 2005 (v1), last revised 18 Jan 2006 (this version, v2)]
6. [DOI: 10.1142/S0217732306019475]
7. [Submission history:
   [v1] Sat, 31 Dec 2005 04:01:23 GMT (20kb)
   [v2] Wed, 18 Jan 2006 06:16:15 GMT (20kb)]
8. [Current browse context: astro-ph]
9. [References & Citations: SLAC-SPRRES HEP, NASA ADS, CiteBase]
10. [Bookmark (what is this?)]
Definitions

• Objects of interest are *resources*
• Resources have *URIs* that identify them
• Aggregations:
  ▫ stand for a set or collection of resources
  ▫ an aggregation is itself a resource
• A *resource map* is a resource that describes the aggregation
• A *representation* is a datastream obtained after dereferencing a URI (e.g., for a resource map)
An example
More detail
Requirements for Resource Maps

- **ore:describes**
  - referring to the aggregation resource

- **dcterms:creator**
  - **MUST** be a reference to a Resource of type http://purl.org/dc/terms/Agent
  - and be a human (???)

- **dcterms:modified**
  - referring to when the RM was last updated
Some potential features for Aggregations

- **ore:aggregates**
  - referring to resources that make up the aggregation

- **rdf:type**
  - no defined vocabulary
  - expected to use vocabularies other (reputable?) bodies develop (e.g., DCMI Type)
So what’s the point of all of this again?

• A fancy way to say things belong together
  ▫ machine-readable
  ▫ machine-understandable?

• Fundamentals that could enable many higher-level services
  ▫ presumably including “re-use” and “exchange”
  ▫ but don’t define those services here
Another possible feature of Resource Maps

• MAY include additional properties about the Aggregation and Aggregated Resources, such as:
  ▫ relationships among the Aggregated Resources,
  ▫ relationships from the Aggregated Resources to other Resources,
  ▫ and other properties

• RMs are probably not all that useful to DLs unless this feature is employed
Some potential relationships between Aggregated Resources

- dcterms:isVersionOf
- dcterms:replaces
- dcterms:references
Serializations

- Atom
- RDF/XML
- RDFa
- METS serialization tentatively planned
Accessing Resource Maps over HTTP

- RECOMMENDED: 303 redirection and content negotiation
- Simpler use of 303 redirection for a single Resource Map
- Limited but simple strategy using hash URIs
- RFDa (or microformats) either alone or in addition to other formats
- HTTP Proxy URIs and ORE Proxy URI resolver at http://oreproxy.org/r
Possible ReM for digitized book

Diagram by Tim Cole, UIUC
Possible ReM for annotation of a text

Diagram by Tim Cole, UIUC
Possible ReM for data and published paper based on it

Diagram by Tim DiLauro, Johns Hopkins
How the DLP could use OAI-ORE

- As shared data representation for scenarios like those we just saw
- ReMs in RDFa behind individual item HTML displays to describe multiple versions
- Treat “collections” as aggregations and expose ReMs from DLP home page
- Connect online secondary sources to primary sources we deliver
- ???
The bottom line

- OAI-ORE *adds* a tool to our ever-growing cabinet
- Won’t solve all of our problems
- But looks promising as one strategy for putting our collections *in the flow.*
Thank you!

• For more information:
  ▫ jenlrile@indiana.edu
  ▫ These presentation slides: <http://www.dlib.indiana.edu/~jenlrile/presentations/bbfallo8/ore/oaiore.ppt>
  ▫ OAI-ORE Specifications and User Guides: <http://www.openarchives.org/ore/1.0/toc.html>