The SCOPE System
Scientific Compound Object
Publishing and Editing

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Scientific Publishing

Researchers are under increasing pressure to:

- publish raw and derivative data
- document precise provenance
- share data, methodology + analytical & modelling services
- enable review, re-use, repeatability and validation
- maintain competitiveness and protect IP

DCC, Dec 12-13, 2007
eScience Workflows

Kepler, Taverna, CombeChem, eLab notebooks
BPEL4WS – workflow based on web services
Agents/Actors can be people, instruments or software e.g., web services

Need to record events in both digital and physical world
Ideal - Scientific Publication Packages

Each component has software, OS, hardware dependencies + interdependencies

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Average LE = \(1/T \exp (- (A - B/T))\)

derived_from

Slattery, O., Lu, R., Zheng, J., Byers, F., Tang, X.

derived_from

graph_of

text:

External Database

refers_to

refers_to
Objective

• Simple easy-to-use streamlined tool for authoring compound objects (OAI-ORE compliant)
• Interactive GUI to specify and link components retrieved from:
  • Web – institutional repositories
  • Visualized Provenance/Workflows - LIMS
• Label/infer relationships – with type
• Assign URI, attach metadata, license and publish
• RSS notification
Architecture

Knowledge Bases
- OWL
- SWRL

Protégé OWL

Inference Engine
- Algernon

Authoring and Publishing Platform

Provenance View

Publishing Interface

Metadata

Web Browser

NG4J
Java's ROME
JGraph2FOXML

RDF/XML
TriX
TriG
Provenance Explorer

Provenance View

Coarse-grain View

Provenance View

Fined-grain View
Publishing Process

1. Assign URI, and update/enhance Metadata for Compound Object
2. Attach Creative Common License
3. Publish as:
   - RDF/XML
   - TriX, TriG, N-Triple, N3
   - Atom
   - FOXML
4. Ingest to Fedora
Export Named Graph in TriX

Publishing Interface

Named Graphs in TriX

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Output as Atom
Output as FOXML

Publishing Interface

Fedora Digital Object

Fedora Digital Object
Default Disseminator - Item Index View

Object Identifier (PID): demo:OAI_ORE_SciObject
Version Date: current

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Compound Object Display
For Further Information

http://www.openarchives.org/ore/
http://www.itee.uq.edu.au/~eresearch

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kwokc@itee.uq.edu.au

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