LORE: A Compound Object Authoring and Publishing Tool for Literary Scholars based on the FRBR

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**Open Repositories 2009** 

### Overview

### LORE: Literature Object Reuse and Exchange

- Background
- Objectives
- Implementation and Demo
- Relationship Ontology
- Applications
- Future Work

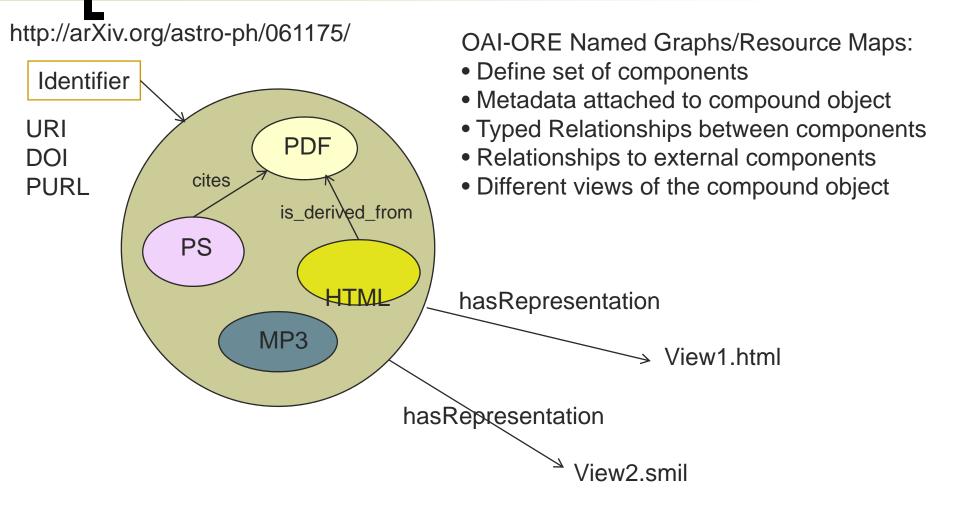
### Background

- Open Archives Initiative Object Reuse and Exchange (OAI-ORE)
- International Federation of Library Associations and Institutions (IFLA) Functional Requirements for Bibliographic Records (FRBR)

## OAI-ORE

- Collaborative initiative focused on developing standardized, interoperable, machine-readable mechanisms to express compound objects on the web
- Resource maps
  - express a set of resources that are aggregated by a compound object
  - express metadata and relationships between aggregated resources
  - may be published as RDF Named Graphs
- http://openarchives.org/ore/

# **ORE Compound Object**

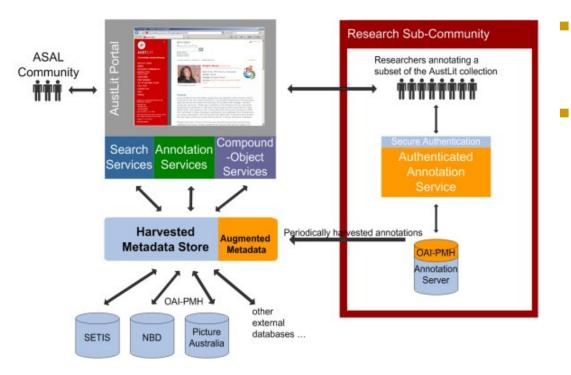


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### IFLA FRBR

- Reflects the conceptual structure of information resources
- FRBR Entities:
  - Products of intellectual or artistic endeavour (Publications)
    - Work
    - Expression
    - Manifestation
    - o Item
  - Responsible Persons and Organisations
  - Subjects (concepts, objects, events, places)

### Aus-e-Lit



- LORE was developed as part of the Aus-e-Lit project
  - Funded by DEST through the National eResearch Architecture Taskforce (NCRIS 5.16 NeAT)
  - Collaborators:
    - The University of Queensland, ITEE eResearch
    - o AustLit
    - Association for the Study of Australian Literature (ASAL)
    - Australian National Data Service (ANDS)
    - Australian Research Collaboration Service (ARCS)



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### AustLit

- Partnership between the National Library of Australia and twelve universities
- **Research** activities focused around research communities
- Data model based on **IFLA FRBR** 
  - + events (ABC Harmony)  $\bigcirc$
  - + specialized fields for 0 research communities

<b>A</b>	QUICK SEARCH
AUSTLIT The Australian Literature Resource	GO Guided Search Advanced Search Thesaurus Search
AUSTLIT TODAY AROUT	AUSTRALIAN BOOK HISTOR AND PRINT CULTURE
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SUBSCRIBE FREE BROWSE	AUSTRALIAN LITERATURE BLACK WORDS
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AustLit is a not-for-profit education and information resource	TASMANIA WESTERN AUSTRALIA
Database size: - 614,793 works - 108,719 agents - 26,798 subjects Last amended - 27 Nov 2008	WRITING THE TROPICAL NORTH
Users are advised that AustLit contains names and images of people who have died.	
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AustLit Feedback	

RESEARCH COMMUNITIE

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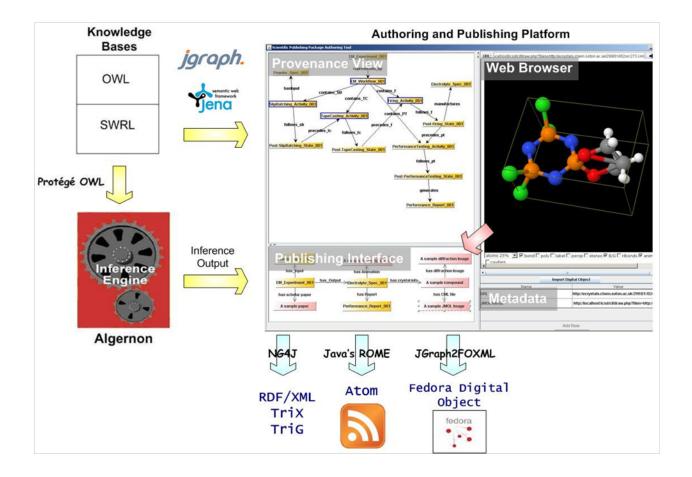
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	Women	Families Fear	
	Dogs Courage & bravery	Bush	
Influence on:	[Untitled] - Crisp, Louis		
Related To:			
Related To.	The Drover's Wife short story satire humour - Moorhouse, Frank (1980)		
	The Drover's Wife SHORT STORY SATIRE - Jefferis, Barbara (1980)		
	The Drover's De Facto SHORT STORY - Gambling, Anne (1986)		
	The Drover's Wife's Dog SHORT STORY SCI-FI - Broderick, Damien (1991)		
		nd the Drover's Wife DRAMA - Lawson, Henry; Morritt, Stewart (2005)	
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	(pp.21-22)		
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		enry (birth name: Larsen, Henry (Lawson) ) (a.k.a. H. L. )	
	Sydney, New Sou (pp.26-39)	i Wales : Louisa Lawson, [1894].	<b>OR</b> 09

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### **Related: SCOPE**



### Objectives

- Development of a light-weight in-browser tool to enable Australian literary scholars to
  - collaboratively author scholarly compound objects using a standardized format;
  - attach metadata to objects to facilitate their discovery;
  - publish objects in open-access repositories to encourage sharing and reuse;
  - document and visualize the lineage of derived intellectual products.

### LORE Implementation

- Mozilla Firefox extension
  - AJAX Web 2.0
  - XUL: XML User Interface Language
- Sesame 2 data store
  - Named graphs
- Export to Fedora objects
- Metadata and relationship terms configured from OWL ontology

### LORE Features

- Add resources to the resource map from within the web browser using context menus or LORE toolbar
- RDF/XML and Graphical Views
- Configurable domain ontology
  - Assert relationships between resources using ObjectProperties from the domain ontology
  - Attach metadata to resource map, aggregation, resource or relationship using *DataType* properties from the domain ontology, or terms from Dublin Core, FOAF, ORE
- Load, edit and save resource maps
- Browse/Search to discover related compound objects
- Interactive resource node previews

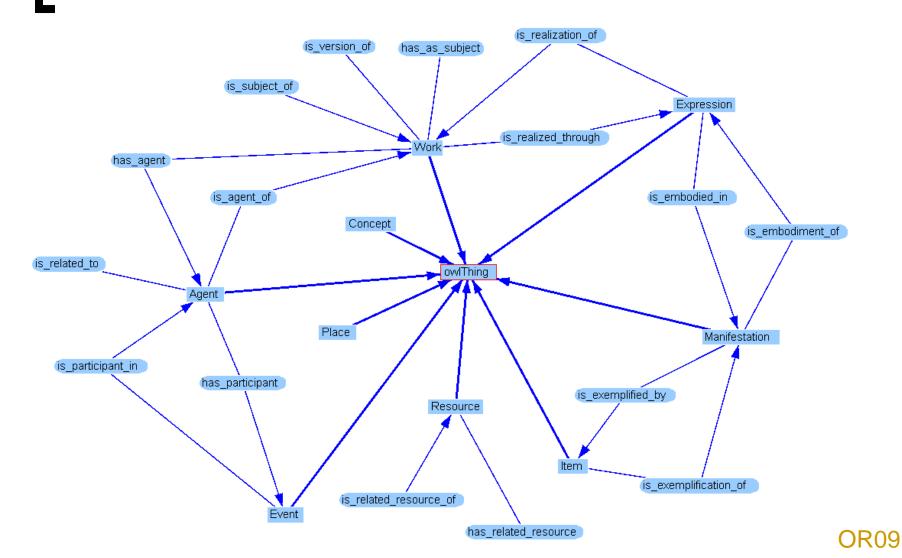
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# Demonstration

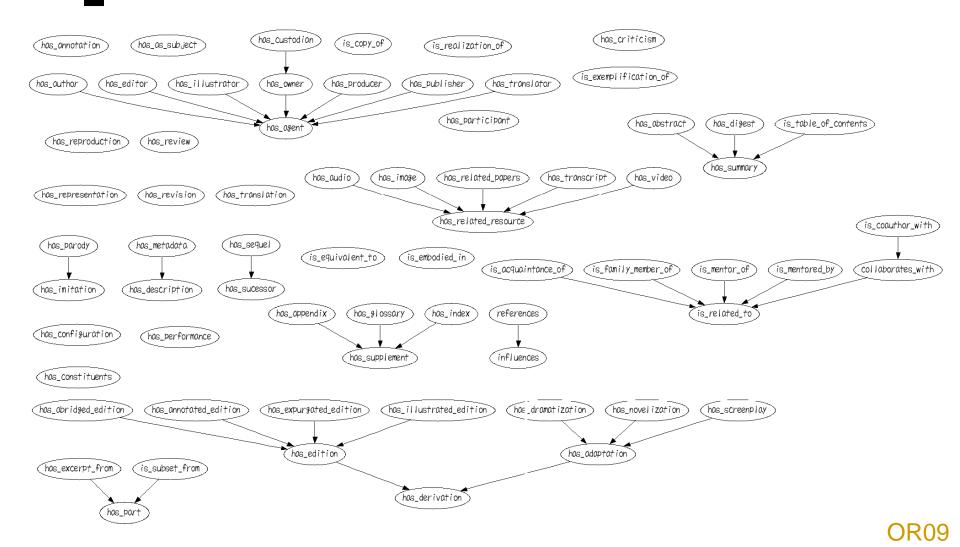
### **Relationship Ontology**

- Created from the AustLit data model
   Based on IFLA FRBR
- Extended to include
  - Relationships between people
    - e.g. collaborates\_with, is\_family\_member\_of
  - Relationships between digital resources
    e.g. has\_image, has\_audio, has\_video
  - Relationships for research and teaching
    - e.g. has\_criticism, has\_summary

### Relationship Ontology (Subset)



### **Relationship Hierarchy**



## Applications

### Research

- Scholarly Editions
  - Compound objects encapsulating different versions of a text, annotations on the text and scholarly commentary
- Research Trails
  - Recording research sources and notes
- Lineage
  - Tracking the lineage of derivative works and ideas
- Teaching
  - Relating disparate resources around a common theme

### **Case Study Considerations**

- Limitations with:
  - Non-information resources
  - Local object identifiers
  - Non-persistent URIs
  - Generic visualisations
- Complexity of ontology
  - Specialized ontologies
  - Semantic hints/checks in the UI

### Current developments

- Customisable graphical views
  - o SMIL
  - o Timeline
  - o maps
- More specific relationship ontologies
- Improving Fedora support

### Future Work

- Rule engine to infer additional relationships
- Ontology discovery through Metadata Schema Registry
- Attachment of Creative Commons and other licenses



#### Aus-e-Lit

Collaborative Integration and Annotation Services for Australian Literature Communities

#### Project Team

Professor Jane Hunter, eResearch Lab, University of Queensland

Kerry Kilner, Executive Manager, AustLit: The Australian Literature Resource

Dr Roger Osborne, Project Manager

Anna Gerber, Senior Programmer

Chris Davoren, Programmer

The Aus-e-Lit project is building on the eResearch infrastructure for Australian literary studies at AustLit: The Australian Literature Resource (<u>www.austlit.edu.au</u>). Aus-e-Lit is funded by the National Collaborative Research Infrastructure Strategy (NCRIS) through the National eResearch Infrastructure Task Force (NeAT), and by the University of Queensland.







# Questions?

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http://itee.uq.edu.au/~eresearch



http://austlit.edu.au