Digital Repositories, Interoperability and Services

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Overview

• Digital Repositories are used as Institutional publishing tools

• Encourage self archiving
Today’s OARs

OARs are used for:

- collecting, archiving, and disseminating research outputs, for instance
  - research articles, conference proceedings, dissertations, data sets, working papers and reports
Classification of OARs

- Discipline based
  - Arxive.org
  - PubMed Central
  - LDL

- Resource type specific
  - ETDs
Issues
Individual vs Collaborative

Each individual repository is of value

- only to the extent of its own collection and purview
Limits of individual repositories

Open Access aim,

• Should not only be to collect and disseminate open content

• The real value lies in the possibility of connecting and networking repositories
Interoperability

• Establishing communication between repositories
• Interoperability opens up possibilities for unprecedented collaboration in terms of enhancing resources, collaborative research, data mining, aggregation among several other benefits
• Basic need: a common mode of communication
Features of Information Objects

- **Content**: What it is about
- **Context**: who, what, why, where, how aspects of the object.
- **Structure**: formal set of associations within or among individual information objects.
Interoperability: Levels

In order to achieve seamless access to content irrespective of its location, interoperability has to be achieved at various levels

- Technical
  - Syntactic
- Semantic
- Administrative and organizational
Technical

Metadata and agreed upon universal syntactic structure for exchange of data

Minimize overheads of normalization, crosswalks
Protocols for interoperability

- Metadata harvesting
  OAI-PMH, SRU/SRW
- Sharing content
  OAI-ORE
- Multiple repository deposit
  SWORD
- OpenUrl
Semantics

• shared connotations
• Semantic interoperability ensures that ‘meaning’ as ‘shared common understanding’ of exchanged information
Semantics

Ontologies support to repositories through domain modeling creating a shared conceptual understanding

Further
Relationships mapping for intra as well as cross domain applications
Faceted Ontologies

ISI partnered EU FET project ‘Living Knowledge’ deploying Faceted ontologies for representation of diversity along domain(Topic), temporal, spatial dimensions that helps in opinions and bias detection. Application built for Media Content Analysis
FAO and Dspace

• Agris Dspace (ARD Prasad at ISI - Bangalore, India)

• Agris AP integration:
  o Adapted submission module
  o Agris AP export - OAI-PMH

• Thesaurus plug in (Kasetsart University - Bangkok, Thailand)
  o Web services: use local or remote version of AGROVOC thesaurus/SKOS
Taking forward the work interoperability in agricultural repositories to build infrastructure that makes building collections, services and access seamless for all types resources including data
Exemplary work in OARs and interoperability through OpenAIRE, OpenAIRE plus and COAR
DRTC, ISI and COAR

COAR workshop at the ICTK2012
Thank you!

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