The interoperability challenge

Towards a European ecology
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Outline

- A network of services
- The challenge of implementation
- The challenge of service creation
- Describing specific practice

A network of services

- The repositories domain is well served by technical specifications, standards, protocols, and architectural models (WSDL, http, SRU/W, OAI-PMH, IMS CP, DC, IEEE LOM, MARC, JISC IE, CORDRA)
- They are generally stable, well defined, and understood
- There are various initiatives to move the community towards service-oriented approaches for software development (SOA, and soa) and selection.
- There are high level programming tools that allow the assembly of custom combinations of services and content (DELOS dlms)
- Objects and metadata can be transported around such systems with relative ease
- But…

The challenge of implementation

- Implementers of repositories can have difficulty in planning and managing their particular service in relation to the rest of the information environment, when trying to:
  - Establish service connections – the required awareness of how an external service has actually used a specification
  - Express complex dependencies – the need to communicate why a low-profile service is vital
  - Identify opportunities – pinpoint what is missing and needed in a service network and take advantage of the gap
  - Manage ongoing development –understand and communicate how the technical and non-technical dimensions interact
- "Planning and articulating these interactions requires a way of thinking that can capture and address the ***untidy complexity of specific interactions*** found in the real world"

The challenge of service creation

- A need to express and understand the impact of local decisions and culture on interoperability with particular communities, populations, or ecosystems
  - Content issues include: different access restrictions: Intellectual Property Rights, non-digital objects; formats.
  - Metadata issues include: standards, element selection/ application profile, vocabulary choices, assumed knowledge (Scottish resources/ English language codes)
  - Local attitudes: commitment to Open Access, concern about plagiarism, ability to find materials, preservation state of original
- These factors present a barriers to participation but a clear articulation of such interoperability boundaries is necessary to address them (e.g. by adjusting metadata at creation, export, or by use of third party service).

Describing specific practice

- We have suggested that we need a way to capture and articulate local practice in its relationship with external services
- Established methods strive for:
  - Less suited to presenting general conditions (e.g. university policy, or the impact of funding bodies on networks)
  - unitary granularity
  - abstract representations of technical interactions
  - Implicitly static representations of practice
- Something else is required...
  - One potion is an ecologically influenced approach

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