



cetis



Repository Issues

....from a Teaching and Learning perspective

by Lorna M. Campbell, CETIS, February 2005.

This summary represents a condensed synthesis of a wide range of key issues identified by participants during a series of national and international events, which took place in 2004 focusing on the themes of interoperability and repositories.

These events included:

- ALT/SURF Spring Conference: Living and Learning - E-Portfolios and Digital Repositories, Edinburgh, April 2004, http://www.alt.ac.uk/docs/ALT-SURFseminar_April_2004.pdf
- alt-i-lab 2004: Advancing Learning Technology Interoperability, Redwood City, July 2004, <http://www.imsglobal.org/altilab/altilab2004/Altilab04-repositoires.pdf>
- ECDL 2004: Research and Advanced Technology for Digital Libraries, Bath, September 2004, <http://www.ecdl2004.org/presentations/mclean/>
- JISC / CETIS Conference: E-Learning Tools, Standards and Systems, Oxford, November 2004, http://cetis.ac.uk:8080/elearningprogram/news_folder/oxford_conf/document_vie_w

Participants included representatives of JISC, DEST, Industry Canada, Carnegie Mellon's Learning Systems Architecture Laboratory and the CETIS SIGs among others.

In addition, this short paper also identifies a range of key issues that domain experts have prioritised as requiring action. Some of these issues are very general others more specific, all should be considered for inclusion in the future JISC programmes.



This work is licensed under the Creative Commons Attribution License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/2.0/>

Semantics and Services

Given the wide utility of the concept, there is still a great deal of confusion regarding the semantics of the term “repository”. While information management, research and e-science and teaching and learning communities may have a relatively clear concept of what constitutes a repository in their own particular domains we have yet to find a common language to communicate these models across domains. In addition there is persistent misunderstanding regarding the distinction between internal repository management functions, native interfaces and machine level services which a repository may expose and consume.

Two initiatives which are helping to articulate the repositories problem space within the teaching and learning domain are the development of the JISC E-Learning Framework¹ and discussions centred around McLean and Blinco’s “Repository Ecology”² schematic presented during a keynote to ECDL2004.

On a technical level, the service oriented approach adopted by the JISC E-Learning Framework provides an opportunity to start identify common cross domain repository services. However a great deal of work is still required to distinguish both the minimum core subset of functionality which generic repositories, regardless of their domain, should facilitate and the wider superset of services required to meet the diverse specific requirements of various different educational domains.

On a more functional level Maclean and Blinco’s “Repository Ecology” diagram represents a useful tool to help facilitate the identification of key functional characteristics and how these may be configured to create different instantiations or “types” of repositories. More work is required to identify and distinguish the relevant functional characteristics and to gather usecases to test whether these characteristics can be configured to meet the requirements of the usecases.

From a conceptual perspective both these initiatives may be regarded as a positive step towards facilitating a common understanding of repository semantics.

Key issues to be addressed

- Identification of common repository services.

¹ <http://cetis.ac.uk:8080/frameworks>

² The Ecology of repository Services: A Cosmic View
<http://www.ecdl2004.org/presentations/mclean/>





- Articulation of functional characteristics of repositories.
- Gathering repository usecases from information management, research, e-science and teaching, learning and assessment domains.
- Configuring common repository services and functional characteristics to meet the requirements of these usecases.
- Interoperable integration of different repository instantiations with different tools, systems and applications.

Workflows and Business Processes – the Lifecycle of Stuff

While there are still many issues to be resolved in relation to the technical implementation and integration of repository systems and applications, there are equally important issues relating to culture, policy and practice that also need to be addressed. Institutions currently face a significant challenge in managing the business processes associated with coordinating the ownership, management and dissemination of their information resources; including scholarly publications, research data, the outputs of teaching, learning and assessment and other types of raw and processed “stuff”. Institutions are increasingly aware that they require a comprehensive overview of their information resources and a coherent information strategy that can accommodate the management requirements of these resources throughout their lifecycles. In addition to identifying the full range of information resources that institutions generate it is essential to distinguish the various institutional stakeholders associated with these resources at each stage of their lifecycle from origin to archive and to identify these stakeholders’ requirements. Coherent workflow strategies encompassing information management, dissemination, stewardship and archiving need to be articulated and integrated with the lifecycles of the full range of information resources.

Key issues to be addressed

- Identify full range of institutional resources including scholarly publications, collections, data sets and the outputs of teaching, learning and assessment.
- Identify the lifecycles of different categories of resources.
- Examine how repositories can accommodate the workflows and business processes associated with the use of these resources throughout their lifecycles.
- Identify the requirements of the institutional stakeholders using and managing these resources.
- This should include an assessment of information management and literacy skills and staff development requirements.
- Consider the implications of resource lifecycle for quality assurance and rights management policies.



This work is licensed under the Creative Commons Attribution License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/2.0/>



- Evaluate metadata creation and management strategies for different categories of resources at each stage of their lifecycle.

Informal Repositories

Historically, institutional resources have existed within an owner centred culture with professional authorities (e.g. libraries, data banks, archives, etc.) or individuals (e.g. librarians, archivists, etc.) administering the key tasks of ownership, acquisition, management and access control. However digital resources are situated within a more user centred culture where ownership, management and access control may be distributed across institutional roles (e.g. librarians, learning technologists, authors, teachers, researchers, learners, etc.) and communities of practice. Researchers, teachers and students are increasingly developing their own personal information management strategies, assuming control over who they choose to share their resources with and adopting a wide range of informal tools and applications to support their communities of practice. Advocates of decentralised informal information management systems argue that they are better suited to facilitating a user centred approach to resource management and it is noticeable that discussions surrounding user controlled, decentralised environments (e.g., peer-to-peer, wikis, ePortfolios) and centralised authority controlled systems (e.g., institutional repositories, digital libraries) are becoming increasingly polarised. In reality, resources are likely to pass through a variety of repositories, which are controlled and managed by a range of individuals and agencies, throughout their lifecycles. In order to understand the full implications of the decentralisation of resource management considerable research is required to identify how informal and personal repositories and research environments are being used and how they may be effectively integrated with institutional resources management strategies and systems.

Key issues to be addressed

- Identify different types of informal repositories including personal repositories, peer to peer repositories, item banks, collaborative research environments, shared workspaces. wikis, blogs, etc.
- Evaluate how stakeholders are developing personal resource management strategies.
- Examine how personal resource management strategies can be integrated with institutional resource management strategies.
- Assess the policy and preservation implications of the decentralisation of information management.
- Explore the relationship between personal repositories and e-portfolios.
- Examine the resource management strategies and search techniques of the “Google generation”.



This work is licensed under the Creative Commons Attribution License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/2.0/>