



## The Centre for Digital Library Research and the Common Information Environment

Gordon Dunsire  
Depute Director, CDLR

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## Overview

This presentation will cover some of the current research and service development projects being carried out by the Centre for Digital Library Research (CDLR), with particular reference to shared services which bring together archives, libraries and museums in a Common Information Environment.

## Centre for Digital Library Research

The CDLR was created in 1999 at the University of Strathclyde based in Glasgow, Scotland. The CDLR was given a Level 4 rating in the last research assessment exercise (RAE) conducted in the United Kingdom in 2001. The Centre receives funding from the RAE, from the University, and as a result of carrying out research and development work for external funding bodies such as the Joint Information Systems Committee (JISC)<sup>i</sup> and the Scottish Library and Information Council (SLIC)<sup>ii</sup>.

The CDLR seeks “to combine theory with practice in innovative ways” with the aim of “being a centre of excellence on digital library issues”<sup>iii</sup>. One of the significant methods we employ to achieve this is to prefer a holistic approach when analysing requirements and proposing developments to meet them. This involves identifying and implementing connections between apparently different aspects of the management of digital content, and not restricting investigations to specific library sectors or information domains. We encourage the re-use and re-purposing of existing digital content and services wherever possible. For example, the idea of the Scottish Distributed Digital Library<sup>iv</sup> utilises descriptions of digital collections offered by the Scottish Collections Network (SCONE)<sup>v</sup> to access metadata for digital resources dispersed between the Scottish cultural portal (Scotland’s Culture)<sup>vi</sup>, BUBL<sup>vii</sup>, and the SLAINTE catalogue<sup>viii</sup> of materials for supporting continual professional development in Scottish library and information professionals.

## Current activities

The CDLR has recently completed work for two large projects to develop aspects of wide-scale information environments with a national or regional focus.

CC-interop (COPAC/Clumps Continuing Technical Cooperation Project) was completed in June 2004. The project investigated a range of issues concerning the interoperability of physical and distributed union catalogues, to inform the development of the JISC information environment. The CDLR carried out research in the use of collection-level description to simplify access to information retrieval networks involving both types of union catalogue, and developed the SCONE service to act as a “landscaping” facility using collection descriptions to select subsets of catalogues recorded in the CAIRNS clump for item-level retrieval. CAIRNS<sup>ix</sup>, the Co-operative Information Retrieval Network for Scotland, is a Z39.50-based distributed union catalogue of most of the university libraries, national library, and many public libraries located in Scotland. CC-interop also looked at the potential development of local cataloguing guidelines to improve interoperability in union catalogues.

In the SPEIR (Scottish Portals for Education, Information and Research) project<sup>x</sup>, completed in August 2004, the CDLR investigated distributed information infrastructure requirements for the Scottish cultural portal, and the interoperability of the portal with the Scottish common information environment. A specific aspect of SPEIR was to integrate public library catalogues into SCONE and CAIRNS. Twelve such catalogues have been added to CAIRNS by February 2005, with a further 10 awaiting the opening of firewalls or other local requirements; in total this represents some 70 percent of all Scottish public library services.

The CDLR is currently engaged in two other long-term projects connected with common information environments.

The HaIRST (Harvesting Institutional Resources in Scotland Testbed) project<sup>xi</sup> is due for completion in June 2005. It is investigating issues for union catalogues created by gathering metadata from local sources using the Open Archives Initiative protocol for metadata harvesting (OAI-PMH). One expected outcome from the project is to incorporate a harvested union catalogue into the CAIRNS distributed union catalogue.

The HILT (High Level Thesaurus) project<sup>xii</sup> continues to analyse requirements for the interoperability of subject retrieval in distributed digital information environments. A demonstrator service has been built which utilises collection-level descriptions from SCONE and similar services.

### **Sharing services**

Scotland has no statutory or official body looking after the combined interests of the archives, libraries and museums communities. In order to encourage the take-up and sharing of the embryonic services developed by the CDLR as part of project work, the Centre works closely with the Confederation of Scottish Mini Cooperatives (CoSMiC)<sup>xiii</sup>. This is a non-funded, informal umbrella organisation which aims to encourage cooperation between the information communities in Scotland. It has representation from SLIC, the Scottish Museums Council, the Scottish Council on Archives, and many smaller regional cooperatives such as the Ayrshire Libraries Forum.

CoSMiC has now organised two successful one-day seminars, called Electric connections, in 2004 and 2005. These bring together practitioners from all three communities to participate in short presentations of the innovative work they are doing, and to discuss common issues such as digitisation and collection access. CoSMiC is aware of the AKM seminars, and realises Scotland is only 6 years and 2 days behind Croatia in these activities.

It is increasingly apparent to the CDLR that a digital information object (DIO) has similar qualities irrespective of the “hard-copy” source, whether it be an object from a museum, a document from an archive, or a book from a library. Unlike the source, a DIO is usually easy to duplicate, to access via information retrieval networks, to process and manipulate by the end-user, and to re-use for a wide variety of purposes. The digital “library” thus represents a convergence of the traditional domains, requiring a recognition of common aims amongst practitioners, and improvement in the communication of ideas, transfer of skills, and cross-domain development.

The Electric connections seminars have already demonstrated that skills, techniques and experiences from all the domains are necessary for the evolution of integrated services. Archivists, librarians and museologists all bring important contributions in resolving issues of item identification, the management of preservation, the presentation of information to a diffuse user population, and the interoperability of metadata for resource discovery.

### **Common Information Environment**

The work that the CDLR and others have carried out has resulted in the emergence of the concept of a common information environment. This acknowledges that, for most end-users, the source domain of the information they require is irrelevant, whether archive, library, museum or something else. It also recognises that both physical and

digital formats will be necessary for different purposes for some time to come. The common information environment must therefore encompass resources and services from all domains and for physical and digital formats if it is to appeal to the widest range of users. It is likely to be developed faster for digital formats because of the convergence noted above.

The CDLR recognises that it is neither desirable nor practicable to impose highly-centralised solutions on such an environment. Local autonomy is a significant factor, and the local audience will nearly always be favoured over the wider and larger set of “external” users. It is unlikely that any single approach will be effective; the trick will be to connect components via a large-scale framework which meets the needs of general users while preserving optimised local conditions.

Collection-level description is a key tool for achieving this, as will be demonstrated at the workshop to be held later at AKM8.

If asked to encapsulate all of this in a single sentence, the CDLR’s response is always:

Think globally before acting locally!

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<sup>i</sup> JISC: the Joint Information Systems Committee. Available at: <http://www.jisc.ac.uk/> (viewed 7 Feb 2005).

<sup>ii</sup> SLIC. Available at: <http://www.slainte.org.uk/slic/index.htm> (viewed 7 Feb 2005).

<sup>iii</sup> Centre for Digital Library Research. Available at: <http://cdlr.strath.ac.uk/> (viewed 7 Feb 2005).

<sup>iv</sup> Scottish distributed digital library (SDDL). Available at: <http://cosmic.cdlr.strath.ac.uk/ci/sddl.htm> (viewed 7 Feb 2005).

<sup>v</sup> SCONE: Scottish collections network. Available at: <http://scone.cdlr.strath.ac.uk/service/index.cfm> (viewed 7 Feb 2005).

<sup>vi</sup> Scotland’s culture. Available at: <http://www.scotlandsculture.org/> (viewed 7 Feb 2005).

<sup>vii</sup> BUBL information service. Available at: <http://bubl.ac.uk/> (viewed 7 Feb 2005).

<sup>viii</sup> Slainte catalogue of online resources for LIS CPD. Available at: <http://slic1.cdlr.strath.ac.uk/ipac20/ipac.jsp?profile=slainte> (viewed 7 Feb 2005).

<sup>ix</sup> CAIRNS: Co-operative Information Retrieval Network for Scotland. Available at: <http://cairns.lib.strath.ac.uk/> (viewed 7 Feb 2005).

<sup>x</sup> SPEIR: Scottish portals for education, information and research. Available at: <http://speir.cdlr.strath.ac.uk> (viewed 7 Feb 2005).

<sup>xi</sup> HaIRST: Harvesting institutional resources in Scotland testbed. Available at: <http://hairst.cdlr.strath.ac.uk/> (viewed 7 Feb 2005).

<sup>xii</sup> HILT. Available at: <http://hilt.cdlr.strath.ac.uk/> (viewed 7 Feb 2005).

<sup>xiii</sup> CoSMiC: Confederation of Scottish Mini Cooperatives. Available at: <http://cosmic.cdlr.strath.ac.uk/> (viewed 7 Feb 2005).