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The JISC Information Environment Service Registry: Providing a Catalogue of Resources for Portals

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Extended Abstract

Overview

The JISC Information Environment Service Registry (IESR) (http://www.mimas.ac.uk/iesr/) contains quality descriptions of collections of resources available to researchers, learners and teachers within UK Higher and Further Education. Alongside the collection descriptions, which enable resource discovery, are technical details of the `informational' services that provide access to them, enabling determination of the best access option to a collection of interest. The IESR also contains descriptions of `transactional' services that are not based on an explicit collection but provide a significant service, for example an institution's OpenURL resolver. Additionally the IESR contains details of the parties (agents) that own the collections and administer the services.

The IESR is primarily a machine-to-machine middleware shared service within the JISC Information Environment (http://www.jisc.ac.uk/index.cfm?name=ie_home). It will provide a single central catalogue of resources and their access details to portals and virtual learning environments, removing the need for multiple copies of this information. A portal will be able to discover a collection of interest to an end-user, for example within a particular subject domain, and then provide to the end-user a link to the collection or a distributed search including it.

The data within the IESR is supplied by collection and service administrators, thus assuring its quality, a further quality check being made by the IESR's content manager. In addition to its machine-to-machine interfaces, the IESR has a Web interface to assist in content checking by data suppliers as well as manual decision making by portal administrators.

The IESR development project is funded as part of the Joint Information Systems Committee of the UK Higher and Further Education Funding Councils (JISC) `Shared Services' programme, with project staff at UKOLN, MIMAS, and the University of Liverpool. The prototype registry is hosted at MIMAS.

IESR Metadata Description

Metadata describing a collection plus its associated services and agents is available as XML specified by the IESR Application Profile, which includes definitions for the metadata properties shown in the

examples below. The IESR data model comprises three types of entity (collection, service and agent) with various relationships between them. The collection metadata is based on the Research Support Libraries Programme (RSLP) Collection Description schema (http://www.ukoln.ac.uk/metadata/rslp/schema/), but with simplification to describe electronic collections. The service and agent metadata properties are based on Dublin Core (http://www.dublincore.org) where possible. The description of all entities includes some IESR-specific properties. Data is supplied to the IESR as separate entities, but data within, and output from, the IESR is composite. A composite collection record includes: the collection metadata; the metadata for all the services that provide access to it; the metadata for its owner agents; and the metadata for the agents that administer its services. IESR metadata is covered by a Creative Commons (http://creativecommons.org) licence: non-commercial, share-alike, attribution required.

Every entity registered in the IESR is assigned a unique global identifier. This is a PURL-based Object Identifier (POI) (http://www.ukoln.ac.uk/distributed-systems/poi/), a convention that provides a simple means of assigning `relatively persistent' global identifiers within the Internet's `http' namespace. These identifiers are used to describe the relationships between entities in the IESR, as well as providing URIs to identify collections externally.

Each service description in the IESR has a single technical access method. All common service access methods are recognised including Z39.50, Web Services SOAP, SRW (Search - Retrieve - Web), OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting) and OpenURL, as well as simple Web page and proprietary Web CGI. For some service types further detail than a single URL is needed to actually connect to the service. This information is held in an `interface' property whose value is appropriate to the particular service type, for example WSDL for Web Services and ZeeRex for Z39.50 services.

IESR Interfaces

To enable machine access to its data the IESR will provide interfaces according to several standard protocols. A Z39.50 interface can supply records as: SUTRS (Simple Unstructured Text); simple Dublin Core; and IESR XML. An OAI-PMH interface is under development that will allow the harvesting of XML data as simple Dublin Core or IESR XML. The IESR project is investigating demonstration uses cases employing these interfaces. A Web Services (SRW) interface will be a later development to further enable the inclusion of the IESR in meta-searching applications.

An Example IESR Collection Description

```
<dcmitype:Collection>
  <dc:title>zetoc</dc:title>
  <dc:identifier xsi:type="dcterms:URI">
      http://purl.org/poi/iesr.ac.uk/1084445955-14535</dc:identifier>
  <dcterms:abstract>zetoc, the British Library's ETOC, contains...</dcterms:abstract>
  <dc:type xsi:type="rslpcd:CLDT">Catalogue.Library.Text</dc:type>
  <dc:rights>Copyright (c) British Library 1993-2004</dc:rights>
  <iesr:useRights>
      All Rights Reserved. http://zetoc.mimas.ac.uk/terms.html</iesr:useRights>
  <dcterms:accessRights>
      Available conditionally free to UK FE and HE, by subscription to...
  </dcterms:accessRights>
  <iesr:hasService xsi:type="dcterms:URI">
      http://purl.org/poi/iesr.ac.uk/1084445578-11684</iesr:hasService>
  <dc:subject xsi:type="dcterms:DDC">050</dc:subject>
  <dc:subject xsi:type="dcterms:LCSH">Medicine</dc:subject>
  <rslpcd:contentsDateRange xsi:type="dcterms:W3CDTF">
      1993/</rslpcd:contentsDateRange>
  <iesr:usesControlledList xsi:type="iesr:CtrldVocabsList">DDC</iesr:usesControlledList>
  <rslpcd:owner xsi:type="dcterms:URI">
      http://purl.org/poi/iesr.ac.uk/1084445214-8867</rslpcd:owner>
  <dcterms:isReferencedBy>http://zetoc.mimas.ac.uk</dcterms:isReferencedBy>
</dcmitype:Collection>
```

An Example IESR Z39.50 Service Description

```
<dcmitype:Service>
  <dc:title>zetoc Z39.50 search</dc:title>
  <dc:identifier xsi:type="dcterms:URI">
      http://purl.org/poi/iesr.ac.uk/1084445578-11684</dc:identifier>
  <rslpcd:locator xsi:type="dcterms:URI">
      z3950s://zetoc.mimas.ac.uk:2121/zetoc</rslpcd:locator>
  <iesr:interface xsi:type="dcterms:URI">
      http://www.mimas.ac.uk/iesr/iesr/intf/zeerex/1084445578-11684-zx.xml
  </iesr:interface>
  <dc:type xsi:type="iesr:AccMthdList">z3950</dc:type>
  <dcterms:accessRights xsi:type="iesr:AuthList">ip</dcterms:accessRights>
  <dcterms:accessRights xsi:type="iesr:AuthList">athens</dcterms:accessRights>
  <rslpcd:seeAlso xsi:type="dcterms:URI">
      http://zetoc.mimas.ac.uk/z3950.html</rslpcd:seeAlso>
  <rslpcd:administrator xsi:type="dcterms:URI">
      http://purl.org/poi/iesr.ac.uk/1084445246-9103</rslpcd:administrator>
</dcmitype:Service>
```

An Example IESR Agent Description

```
<iesr:Agent>
  <dc:title>MIMAS</dc:title>
  <dc:identifier xsi:type="dcterms:URI">
      http://purl.org/poi/iesr.ac.uk/1084445246-9103</dc:identifier>
  <iesr:email>info@mimas.ac.uk</iesr:email>
  <iesr:phone>00441612756109</iesr:phone>
  <dc:relation xsi:type="dcterms:URI">http://www.mimas.ac.uk</dc:relation>
</iesr:Agent>
```

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