

IESR: the JISC Information Environment Service Registry

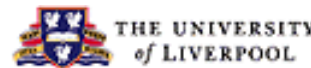
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JISC

Outline



- Purpose of IESR
- IESR content description
- IESR services
- Using IESR
- IESR Implementation
- IESR and eLearning resources / services
- The future

Why IESR?



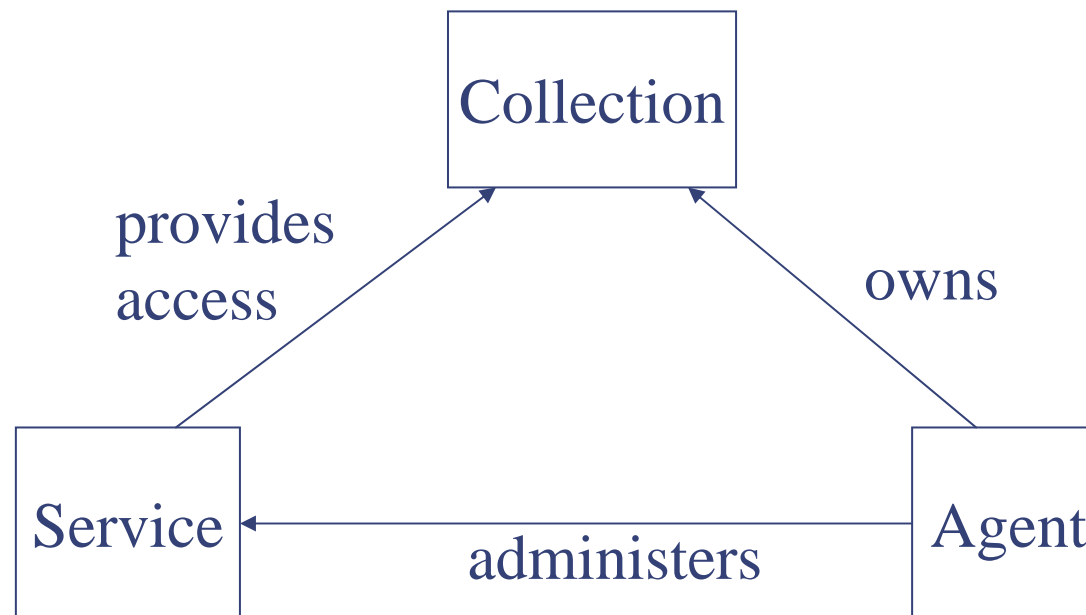
- JISC Information Environment:
 - Collections of resources for researchers, learners, teachers in UK
- Single central registry – m2m access
 - Improve awareness and access
- Funded by JISC:
 - MIMAS, UKOLN, University of Liverpool
 - Registry developed and hosted by MIMAS

IESR Content



- Descriptions of:
 - Collections of resources
 - Informational Services that provide access
 - Agents: Owners / Administrators
 - Transactional Services
- Supplied by resource providers
- Check by IESR content manager

IESR Entities



IESR Entity Description



- Entities identified with URI
- Described by metadata
- Based on open standards
- IESR terms defined in IESR namespace
- Metadata defined by Application Profile
 - Semantics; Occurrence; Searchable
- AP for human reading
 - more specific than XML schema

IESR Collection Metadata



- Based on RSLP Collection Description
- Simplification for electronic resources
- Consistent with standards development:
 - DCMI Collection Description Application Profile
 - NISO Metasearch Initiative Collection Description

Vocabulary Encoding Schemes



- Defined in Application Profile
- Single backbone subject scheme
 - Dewey Decimal Classification System
- Other common vocabularies supported
- `iesr:usesControlledList`
 - IESR defined list (extensible)
 - terminology service; item level search

Title: JORUM+
Alternative Title: JORUM
Collection Id: <http://purl.org/doi/iesr.ac.uk/1077197191-4364>
Coll Description: JORUM is a provisional collecting repository for learning objects, created as part of a scoping study into the requirements for a long-term JISC learning materials repository.
Item Type: InteractiveResource
Language: en
Coll hasService: <http://purl.org/doi/iesr.ac.uk/1077197257-4893>
Coll Copyright: Copyright on data in the provisional JORUM+ repository is as specified on individual items
Coll Access: Available to 5/99 and X4L project team members. Account required.
Collection Logo: <http://www.jorum.ac.uk/graphics/logo.gif>
Subject (UNESCO): Arts; Computer literacy; History; Geography; Languages; Literature; Philosophy; Psychology; Religion; Science; Social sciences; Technology
Temporal: 2000/
Uses Ctrlid List: DDC; JACS
Education Level: UK Educational Level 4; UK Educational Level 5; UK Educational Level 6; UK Educational Level 7; UK Educational Level 8; UK Educational Level 9; UK Educational Level 10; UK Educational Level 11; UK Educational Level 12
Coll Owner: <http://purl.org/doi/iesr.ac.uk/1077197306-5288>
hasPublication: <http://www.jorum.ac.uk/>

About: <http://purl.org/doi/iesr.ac.uk/1077197191-4364>
Supplier: EDINA: <http://edina.ac.uk>
Publisher: JISC Information Environment Service Registry (IESR): <http://iesr.ac.uk>
Metadata Date: 2005-09-14
Rights: <http://creativecommons.org/licenses/by-nc-sa/2.0/uk/>

IESR Service Metadata



- More than RSLP CD 'locator'
- Bespoke IESR scheme to support discovery and registry application
- Single access method:
 - Z39.50, SOAP, OAI-PMH, Web/CGI
- Location URL
- Interface property for some service types using appropriate schema

Service: 6
Service Title: Zetoc SOAP service
Service Id: <http://purl.org/doi/iesr.ac.uk/1089623026-11462>
Svc Description: Authentication to use Zetoc via the SOAP interface is controlled by DNS domain or IP check, as for the zetoc Web interface, but Athens authentication is not supported. *Note* that the usual zetoc Terms and Conditions (<http://zetoc.mimas.ac.uk/conditions.html>) apply, meaning that any portal providing access to zetoc for its end users via this SOAP interface *must* first establish that they are entitled to use zetoc.
Service Location: <http://zetoc.mimas.ac.uk/bin/soap/zetocsoap>
Service Interface: <http://zetoc.mimas.ac.uk/soap/zetocsoap.wsdl>
Access Method: soap
Access Control: ip
Svc More Info: <http://zetoc.mimas.ac.uk/soap/zetocsoap.html>
Svc Administrator: <http://purl.org/doi/iesr.ac.uk/1084445246-9103>
Serves: <http://purl.org/doi/iesr.ac.uk/1084445955-14535>

About: <http://purl.org/doi/iesr.ac.uk/1089623026-11462>
Supplier: MIMAS: <http://www.mimas.ac.uk>
Publisher: JISC Information Environment Service Registry (IESR): <http://iesr.ac.uk>
Metadata Date: 2005-09-14
Rights: <http://creativecommons.org/licenses/by-nc-sa/2.0/uk/>
Rights: This IESR administrative metadata must always be retained with its associated entity description.

Agent: 1

Other Service types



- Z39.50 / SRW:
 - Locator: Z39.50 service URL
 - Interface: ZeeRex
- OAI-PMH:
 - Locator: BaseURL
 - Interrogate service (Identify) for details
- OpenURL: Locator: BaseURL
- Web CGI: Interface: arguments
- Web page: Locator: URL

IESR Agent and Administrative Metadata



- Agent: contact details
- Administrative:
 - Included with every entity
- IESR includes:
 - creating organisation, publisher: IESR
 - latest modification date
 - rights to reuse descriptions:
Creative Commons

IESR Services



- Z39.50
 - Search via Bib-1 attributes
 - Results: text (SUTRS); XML
- OAI-PMH for harvesting
- OpenURL Link-To Resolver
 - Referent identifier
 - Dublin Core metadata format, e.g. type Collection
 - Implements IESR identifier resolution
- Web Search and Browse

Future Services



- Web Services SOAP / SRW (planned)
- Web Services REST
 - SRU (MXG: Metasearch XML Gateway)
 - OpenURL Link-To Resolver
- RSS
- UDDI (under investigation)
- Data ingest

- Composite Collection record via Z39.50:
 - Collection
 - All services that provide access
 - All agents:
 - Owners of collection
 - Administrators of services
- Single entity record via OAI-PMH
- Simple Dublin Core for Interoperability

Portal in JISC IE



- JISC defines a portal:

A network service that brings together content from diverse distributed resources using technologies such as cross searching, harvesting, and alerting, and collates this into an amalgamated form for presentation to an end user.

Using IESR



- Portal
 - amalgamated set of resources
- IESR provides:
 - Discovery of resource collections
 - Up-to-date details of access to collections
- Using IESR Portal builder can:
 - Add new collections to portal
 - Provide metasearch

Portal Metasearch Example



- Physics portal discovers collections with e.g. Z39.50 services
- Provides cross-search to end-user using e.g. Z39.50
- Portal builder doesn't need to know about all resources
- Users discover collections unaware of

Harvesting IESR



- OAI-PMH allows replication of IESR
- Portal harvests IESR records
- Caches locally for use by portal software, e.g.:
 - Local service registry
 - Knowledgebase after conversion to appropriate format
 - Conversion into local configuration file

Other Uses



- Portal Links to Web Search
 - General resource discovery
- Reuse collection description
 - Initially created by resource supplier
 - Shared by multiple registries and applications
- RSS Aggregator (news; data alerts)
 - Personal digital library portal

IESR Implementation



- Cheshire II (Open Source):
 - Advanced information retrieval system
 - Data held as XML with indexes
 - Customisable Z39.50 interface
 - Rudimentary Web interface
- Conflict: flat XML / several entities
- IESR data: composite collection records
- Database re-indexed overnight

IESR Meta-Registry



- Records entities and relationships
- Holds 'master' copies of entities
- Controls build of registry
- Provides browse interface
- Provides single entity records

Cheshire 3



- Available via SourceForge
- Supports more interfaces 'out of the box'
- Better performance?
- Currently under investigation by Liverpool partners

UDDI



- Under investigation by UKOLN partners
- Building prototype registry
 - jUDDI / MySQL (JDBC)
 - Not a lot of software available
- Mapping IESR data to UDDI
- Is there a requirement?
- Little evidence in Digital Libraries
- Some use in eScience: Grimoires

Description of eLearning Resources



- Are new metadata properties needed?
- educationLevel / MEG-UKEL
- Learning Object Repositories
 - Complex licence information
 - Sharing of learning resources
- Is description in IESR viable?

Description of Web Services



- IESR can describe Web Services
 - Transactional and Informational
- SOAP services proprietary
- Is dynamic use by portals feasible?
 - Need human intervention
 - WSDL describes syntax not semantics
- Need to capture semantics of request / response metadata

Web Services Metadata



- SRW (Search – Retrieve – Web)
 - Standard request language (CQL)
 - Standard response / result formats
 - ZeeRex for semantics
- NISO Web Services and Practices Working Group (was VIEWS)
- IESR could include as 'interface'

Distributed Service Registries



- Scope of IESR
 - JISC, UK, international?
 - Data ownership
 - Scalability and maintenance
- Distributed model
 - Each node describes own resources
- IESR collaboration with OCKHAM in US
 - Searching is local
 - Replication by OAI-PMH harvest / DNS-like

Federated Service Registries



- Federated model
 - Each node describes own resources
 - Each node maintains own registry
- How to search federated registry?
 - Metasearch
 - UDDI
 - Aggregate by OAI-PMH harvest

Standard Metadata Schema



- Sharing collection descriptions
 - Need common metadata schema
 - Or a derivable schema
- NISO Metasearch Initiative Collection Description
 - Provides a common core
 - Basis of IESR and OCKHAM descriptions
- IESR a practical example application
 - Feedback to NISO MI and DCMI CD

IESR Future



- Current phase until July 2006
- More and updated content
- New IESR services
- Demonstrating viable IESR use
- Maintenance of metadata schema
 - eLearning resources and services
- Persistence of content

IESR Details



Specifications: <http://iesr.ac.uk/metadata/>
Application Profile: <http://iesr.ac.uk/profile/>
XML Schema: <http://iesr.ac.uk/schemas/iesr.xsd>
Web Search IESR: <http://iesr.ac.uk/registry/>
Z39.50 service: <http://iesr.ac.uk/use/z3950/>
OAI-PMH service: <http://iesr.ac.uk/use/oaipmh/>
IESR Helpline service: iesr@mimas.ac.uk

Ann Apps: ann.apps@manchester.ac.uk