# THE JISC INFORMATION ENVIRONMENT SERVICE REGISTRY

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## Introduction

The Information Environment Service Registry (IESR) contains information about collections of resources that the JISC (Joint Information Systems Committee) makes available to researchers, learners and teachers within UK Higher and Further Education. In addition, IESR contains details of technical services, both those that make the collections available, and other significant 'stand-alone', broker services, for example OpenURL resolvers. The collections cover all disciplines, but include many relevant to Social Scientists.

The aim of IESR is to assist other applications, such as portals or virtual learning environments, in the discovery and subsequent use of materials that are relevant to their users' interests. It is a middleware, shared service, primarily intended for machine-to-machine access. But ultimately it should benefit end-users by facilitating more awareness of, and easier access to, relevant resources, maybe through the single point of search that a portal provides.

## IESR Data Description

Collections and services are described within IESR by metadata that is based on open standards where possible.

### Collection Description

The collection metadata is based on the RSLP and Dublin Core Collection Description schemas. It includes properties to enable resource discovery such as a collection's title, description and subject terms. To provide quality results from subject searching, terms are limited to a small set of controlled vocabularies, but including those used widely within UK academia, such as HASSET for Social Science. To further enhance coherent, consistent searching over all collections, IESR requires at least one term from a single, common scheme, this 'backbone' vocabulary being the Dewey Classification system. A further metadata property captures the controlled vocabularies used by a collection to describe its items, many being domain specific. This could assist a portal to provide an item level search within a discovered collection.

### Service Description

Services are described using a bespoke IESR scheme, Dublin Core based, to provide a simple set of metadata for discovery. Each service has a location address, and describes a single technical method to access a collection or provide a service, all major methods being covered including a simple web page. An 'interface' property, pointing to further technical connection details is available for more complex service types. Service descriptions inform a portal how to search or access a discovered collection. Some collections provide several services, allowing a portal to select the method suitable for its users and environment.

## IESR Services

IESR supplies its metadata via several services, based on standard interfaces, and further services are planned. Although of secondary purpose, IESR has a Web search interface. Thus discovery of IESR descriptions is available to humans, maybe builders of portals looking for relevant material, data suppliers checking their records, or anyone for general resource discovery.

The first two machine-to-machine services provided by IESR reflect its development within a digital library environment. A Z39.50 service, a standard machine protocol for information retrieval, is available for dynamic searching. An Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) interface will be available soon, which will allow harvesting of records from IESR. Both these interfaces supply IESR metadata in XML format.

## IESR Use by Portals

IESR envisages portals as being some of its significant users. A portal brings together content from a diverse range of resources, which it collates into an amalgamated form for

presentation to an end-user. A portal could simply provide a link to the IESR Web Search service for general resource discovery. But it is hoped that portals will use IESR in more dynamic ways.

In a possible use scenario based on Z39.50 capability, a portal would search IESR to discover Social Science collections with Z39.50 services, over which it would provide a 'metasearch' on behalf of a user. If a portal were to use IESR dynamically the portal builder would not need to know about all available resources. Potentially users would discover resources of interest of which they were unaware. Alternatively a portal may wish to harvest IESR records regularly to use for its own functionality. Possibly it would cache the data into a local service registry, or ingest it into a 'knowledgebase' after conversion into an appropriate format.

Resources are described in IESR as collections, rather than at item level. The intention is to provide discovery of collections of datasets covering a topic matching a user's interests, rather than the more specific discovery of an individual dataset. However a Social Science portal with the capability of detailed dataset discovery could then provide more specific searching over items from a discovered collection.

One of the simplest uses of IESR metadata is reuse of a collection's description, regarding IESR as holding the definitive description for a JISC resource collection. This implies a scenario where a single description of a collection, created initially by the resource provider, will be shared between multiple registries and applications. Resource providers are beginning to link to their collection descriptions within the IESR Web interface.

**IESR Now and in the Future**
The initial content of the IESR comprises resources hosted by the main JISC data centres and providers. This includes Social Science collections such as: ESDS International Macro data and UK Census Datasets at MIMAS; Digimap and UKBORDERS at EDINA; and Survey Datasets from the UK Data Archive. It is expected that the content of the IESR will be expanded to cover a wider landscape.

Demonstrating viable use of IESR is still in the early stages. There has been some initial interest in testing IESR use by JISC projects investigating portal development. There is also interest from some library systems vendors.

The IESR development project is entering its third funding phase lasting until April 2006. Its continuation on a longer-term basis is expected, to ensure persistence of its content. In parallel it is hoped that technical development and research will continue. There is international interest in service registries in which IESR is well placed to take part.

IESR is funded by JISC as part of its 'shared services' programme, with project staff at the Universities of Manchester (MIMAS), Bath (UKOLN) and Liverpool, the registry being hosted at MIMAS.

**References**
The IESR Web Site. *http://www.iesr.ac.uk*

RSLP (Research Support Libraries Programme) Collection Description Schema. *http://www.ukoln.ac.uk/metadata/rslp/schema/*

Dublin Core Metadata Initiative Collection Description Working Group. *http://www.dublincore.org/groups/collections/*

Z39.50. *http://www.loc.gov/z3950/agency/*

OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting). *http://www.openarchives.org/OAI/openarchivesprotocol.html*