

# JISC DEVELOPMENT PROGRAMMES

## Project Document Cover Sheet

### *PROJECT PLAN*

#### Project

<b>Project Acronym</b>	IESR	<b>Project ID</b>	
<b>Project Title</b>	Information Environment Service Registry		
<b>Start Date</b>	1 August 2006	<b>End Date</b>	31 July 2009
<b>Lead Institution</b>	University of Manchester		
<b>Project Manager &amp; contact details</b>	Amanda Hill MIMAS University of Manchester Oxford Road Manchester M13 9PL		
<b>Partner Institution</b>	UKOLN, University of Bath		
<b>Project Web URL</b>	<a href="http://iesr.ac.uk">http://iesr.ac.uk</a>		
<b>Programme Name (and number)</b>	Shared Infrastructure Services		
<b>Programme Manager</b>	Philip Vaughan		

#### Document

<b>Document Title</b>	Project Plan		
<b>Author &amp; project role</b>	Amanda Hill, project manager		
<b>Date</b>	September 2006	<b>Filename</b>	IESR project plan phase IV version 2.0.doc
<b>URL</b>			
<b>Access</b>	<input checked="" type="checkbox"/> Project and JISC internal		<input type="checkbox"/> General dissemination

#### Document History

Version	Date	Comments
1.0	26 Sep 2006	AH and AA
2.0	29 Sep 2006	UKOLN information added





## **Overview of Project**

### **1. Background**

The Information Environment Service Registry is being developed as an integral part of JISC's vision for the Information Environment. Its role is to collect and disseminate information about a wide range of electronic resources so that other applications and services can interact directly with those resources on behalf of their users. It offers efficiency in that services only need to interact with the registry rather than having to find out about a wide range of services and collections.

The IESR has been designed and developed by a small team of principally part-time members of staff from MIMAS, UKOLN and the University of Liverpool. Over the course of the last three years the project team have produced a fully-functioning registry which allows for the creation and editing of descriptions of resources and provides a variety of access methods for the search and retrieval of those descriptions.

### **2. Aims and Objectives**

In the next three years the project team will be building on the work of previous phases by expanding the content of the Registry, encouraging use of the resource and further developing the Registry itself with new services. The aim is to firmly embed the IESR as an important and useful element in the Information Environment and beyond. Specific objectives in this period of funding will be:

1. Improving procedures for contributing and accessing IESR data
2. Continuing to ensure that the IESR's metadata schema meets the needs of users of the Registry
3. Encouraging resource providers to include information about their services within IESR and providing them with the necessary support and assistance to do so
4. Promoting the use of the information within IESR by other services and supporting such use
5. Maintaining IESR's involvement and alignment with related initiatives in the UK and internationally
6. Raising awareness of IESR through the website, workshops, conferences and publications
7. Undertaking a formal review of the impact and effectiveness of IESR, in consultation with the JISC

### **3. Overall Approach**

### *Research*

IESR has become a significant player within international discussions about the future directions of digital library service registries. This is illustrated by IESR's collaboration with the OCKHAM Digital Library Service Registry project and, more recently, the Australian Partnership for Sustainable Repositories and the aDORe repository at the Los Alamos National Laboratory in the US. It is important that this involvement and collaboration in international efforts continues as part of the research strand of IESR.

Requirements for supporting other domains will continue to be investigated. The IESR team have been liaising with other initiatives, such as the GRIMOIRES project in the Grid environment, colleagues working in the e-Framework and institutional repositories arenas and also with the Museum, Library and Archive Council's MICHAEL project. It will be essential to continue to liaise with colleagues working in these related areas and to investigate the potential for sharing content between registries (including, for example, OpenDOAR) and to encourage and investigate potential use of IESR by others within the JISC Information Environment and more broadly, including JISC's partners in the Strategic e-Content Alliance.

Use cases will be developed as part of this research work, to illustrate how IESR might be used in a range of scenarios.

### *Software Development*

Development activity will be focused on improving access to IESR's information and ensuring that the process of contributing data is as straightforward as possible. Some research and mapping of IESR data to UDDI has been undertaken during the lifetime of the IESR. It is planned that a UDDI view of the IESR data will be implemented as part of the forthcoming phase, and a Web Services SOAP interface to IESR will also be implemented, including support for SRW, this SOAP API also being a prerequisite for the provision of a UDDI interface.

RSS alerts will be created to syndicate the addition of new resources to the IESR.

The existing service availability checking will be extended to include IESR-described services other than Z39.50. Further support will be introduced for reminding description owners to keep their records up-to-date.

It is planned to include support for describing, and capturing within the Data Editor, the types of information about users that are required by Shibboleth-enabled services (attribute acceptance policies).

Methods of ingesting XML descriptions into IESR from other registries and applications will be investigated and appropriate interfaces developed. This will support collaboration and data sharing with other relevant registries within the JISC arena, and batch upload of data descriptions by contributors.

It is expected that the Registry software will be released as open source under an appropriate licence towards the end of the proposed funding period. The assessment and upgrading of the software for open source suitability will include analysis of the existing software for the database underlying the registry and possible upgrading to an alternative or newer version.

### *Metadata*

The project team will continue to develop the metadata schema used by the Registry to meet the needs of the IESR's stakeholders and to keep the schema in line with international standards such as the Dublin Core Metadata Initiative's Collection Description Application Profile and the NISO Metasearch Initiative Collection Description Specification.

#### *Dissemination*

The project team will continue to disseminate information about IESR, through conference and workshop presentations, conference papers, articles and the IESR website. A plan for communication and dissemination over the period of the project will be developed, aiming to reach a variety of different stakeholder domains.

#### *Demonstrating use*

The IESR team have been collaborating as much as possible with colleagues on related JISC-funded projects in order to demonstrate use of the IESR. These include the Subject Portals Project, HILT and PerX. Practical demonstrations of interactions with the IESR will help to promote the idea of service registries in general and encourage both potential users and contributors to engage with the registry, and it is planned that activities of this nature should form a significant area of work in the service-in-development phase of IESR. Some examples of use cases are currently being developed, and this work will be ongoing throughout the next phase. The project team will work with the forthcoming JISC Information Environment Test Bed project.

#### *Increasing contributions*

The usefulness of the registry will be directly related to the number of collections and services which are described within it. It will also be influenced by the perception of persistence of the IESR, an issue which will be addressed by the success of this phase of the project. An important area of activity for the project in this phase will be to encourage owners of electronic resources to include information about those resources within the registry. This will cover a wider scope than the current IESR content, including for example descriptions of institutional resources such as repositories, catalogues and resolvers. Policies will be developed for the inclusion of such collections within IESR, in consultation with the JISC. The description of repositories will become increasingly important as more and more institutions create these resources and will want to make sure that their existence is advertised and their contents used within the Information Environment.

#### *Quality Assurance*

The recent evaluation of the IESR by CERLIM confirmed the importance of the role of the IESR's Content Manager. As the number of resources included in the registry grows, this role will be increasingly vital to ensure the currency and accuracy of the descriptions, and to liaise with contributors. Automated checking procedures for the availability of services will be extended in this phase, while the currency of existing data will also be addressed by the introduction of periodic manual checking by contributors.

#### *Review*

A formal review of the project will be undertaken in the third year of this service-in-development phase.

## 4. Project Outputs

Biannual project progress reports  
 Use cases  
 New interfaces and services for I*ESR*  
 New content for the I*ESR*  
 Demonstrations of use of the Registry  
 Up-to-date guidelines for content creators  
 Talks, papers and workshops promoting the I*ESR*  
 Open source version of the Registry software  
 Formal review of the I*ESR*

## 5. Project Outcomes

A Service Registry with frequently-updated, wide-ranging information about available resources should make it easier for researchers, teachers and learners to find information and applications that are relevant to them. For providers of portals, the I*ESR* will supply reliable information about electronic resources, saving the developers time in finding out the best way of connecting their applications to the various services that are available. The resource providers may find that the use of their services increases, as information about them is made accessible through the I*ESR*'s interfaces.

As use of the I*ESR* becomes more widely demonstrated, it may be hoped that resource providers will see the advantages of using the machine-accessible interfaces that are promoted by the JISC Information Environment. This might encourage more providers to consider building such interfaces on to their resources, further encouraging use by researchers, learners and teachers.

## 6. Stakeholder Analysis

Stakeholder	Interest / stake	Importance
Resource providers	Creating content	High
Portal/application developers	Demonstrating use	High
Related projects within UK	Sharing content/metadata	High
Related projects internationally	Sharing content/metadata	Medium/High
JISC	Funding body	High

## 7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staff members leaving	3	3	9	
Illness of staff members	1	3	3	
Technical problems with registry software	2	4	8	
Lack of contributions from service providers	3	5	15	Actively promote IESR to potential contributors
Lack of demonstrable use	3	5	15	Work with JISC and other partners to develop demonstrator applications

## 8. Standards

Name of standard or specification	Version	Notes
<i>Interoperability standards</i>		
Dublin Core		IESR metadata uses many Dublin Core properties and conforms to the Dublin Core Abstract Model
OAI-PMH	2.0	IESR entity records may be output in simple Dublin Core or IESR XML.
OpenURL	1.0	IESR entity records in IESR XML are retrieved by identifier
XML	1.0	The IESR is disseminated in XML format
Z39.50		IESR supports searching by Bib-1 attributes (defined in its Application Profile) Records are available in SUTRS, GRS-1, Dublin Core XML and IESR XML.
<i>Metadata standards</i>		
DCMI Collection Description Application Profile		IESR collection descriptions use a subset of the elements in the DCMI CD
<i>Web standards</i>		

W3C Web Content Accessibility Guidelines	1.0	Statement on accessibility of the IESR web site is available at <a href="http://iesr.ac.uk/accessibility/">http://iesr.ac.uk/accessibility/</a>
XHTML	1.0 Transitional	IESR website conforms to this standard

## 9. Technical Development

All XML data input to and disseminated from the registry is parsed for correctness against its XML DTD. Currently all data contribution is via the Data Editor, thus ensuring the uploading of valid IESR XML data. Additionally the Data Editor ensures valid values are chosen from controlled vocabularies.

No formal software development process or software verification method is used at any stage (design, coding, testing). But best efforts are made to ensure the software performs to requirements before release. All modifications are tested on a development version of the Registry before their installation in the live version.

All software is written in C++, which is a mainstream object oriented language. One section of the software, currently written in a more obscure language will be migrated to C++ early within this phase of the project.

The project team have an intention to release a version of the registry software as open source during the later stages of the project.

## 10. Intellectual Property Rights

All IESR records are the property of their creators, but in order to allow their re-use, creators agree to the automatic assignment of a Creative Commons licence (Attribution Required; Non-Commercial; Share-Alike) to all metadata which is submitted to the IESR. This enables the records to be re-used in other non-commercial systems, as long as the metadata identifying them as originating from the IESR is maintained with the records.

## *Project Resources*

### 11. Project Partners

MIMAS: Amanda Hill

UKOLN (consultants) Rachel Heery

As UKOLN's role is a consultancy one, it is our understanding that a consortium agreement is not required.

## 12. Project Management

The project team meets once every three months to discuss progress on the project. An email list enables discussion of project issues between meetings. In the current phase, 10% of the project manager's time is dedicated to the project.

### Project Team

Amanda Hill	Project manager	<a href="mailto:amanda.hill@manchester.ac.uk">amanda.hill@manchester.ac.uk</a> 0161 275 6055
Ann Apps	Research and development	<a href="mailto:ann.apps@manchester.ac.uk">ann.apps@manchester.ac.uk</a> 0161 275 6039
Leigh Morris	Content manager	<a href="mailto:leigh.morris@manchester.ac.uk">leigh.morris@manchester.ac.uk</a> 0161 275 7179
Rachel Heery	UKOLN consultancy	<a href="mailto:r.heery@ukoln.ac.uk">r.heery@ukoln.ac.uk</a> 01225 386724
Traugott Koch	UKOLN consultancy	<a href="mailto:t.koch@ukoln.ac.uk">t.koch@ukoln.ac.uk</a> 01225 383218

## 13. Programme Support

As a shared infrastructure service, IESR benefits enormously from internal promotion with the JISC. It may sometimes be easier for colleagues within JISC to promote the Registry to other programmes than it is for members of the project team.

## 14. Budget

*See Appendix A*

The funding profile for staffing at MIMAS has been altered from the original proposal, with one full-time member of staff now assigned to development work, rather than two part-time over the course of the project. The total amount of funding over the three years remains the same and the variation within the individual years will be managed within MIMAS budgets.

## ***Detailed Project Planning***

### **15. Workpackages**

*See Appendix B*

### **16. Evaluation Plan**

IESR was evaluated in 2006 by a team from CERLIM. The next planned evaluation will be in year three of the current phase (i.e. 2008-2009), when a full external evaluation will assess the progress of the IESR over the course of this project phase, in consultation with the JISC.

### **17. Quality Plan**

Quality of data and quality of service will be vital to the success of the IESR. A number of quality-control mechanisms have already been implemented for the data submission process, and further procedures (such as the availability checking service) will be introduced in this phase of the project.

### **18. Dissemination Plan**

Dissemination will continue to be an important part of the IESR's activities, continuing the activities of earlier phases. This will entail involvement in organising workshops for potential users and contributors, presenting papers at conferences and attending events relating to shared infrastructure services.

### **19. Sustainability Plans**

The IESR has been the subject of sustainability studies by the JISC in the past. It has been generally recognised that shared infrastructure services are of benefit to the wider community and that they require central funding from organisations such as the JISC in order to continue to serve that community. The three years of funding now granted by the JISC to the IESR project will be crucial in helping the project team to demonstrate the utility of a Service Registry and to prove its worth to the Information Environment.

## Appendices

### Appendix A. Project Budget

### Appendix B. Workpackages



Project start date: 01-Aug-2006

Project completion date: 31-July-2009

Duration: 36 months

Workpackage and activity	Earliest start date	Latest completion date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
<b>YEAR 1</b>					
<b>WORKPACKAGE 1: Project Management</b>					
<u>Objective:</u> To ensure timely performance of the project activities					
1. Write project plan	1 Aug 2006	29 Sep 2006	<b>Project plan</b>		AH
2. Organise project meetings and monitor project progress against plan	Ongoing				AH

3. Produce biannual progress reports			Progress reports		
<b>WORKPACKAGE 2: Software development</b>					
<u>Objective:</u> Development of IESR software to improve procedures for contributing and accessing IESR data					AA
4. Maintain registry software	Ongoing				
5. Extend Data Editor to support future requirements	Ongoing				
6. Enhance software to support future requirements of stakeholders	Ongoing				
7. Develop interfaces for ingest of XML data and import of data from other applications	1 Oct 2006	Ongoing	Various mechanisms, depending on the source of data		
8. Implement SRU and SRW interfaces	1 Jan 2007	30 Apr 2007	SRU and SRW interfaces		
9. Provide automatic check for availability of services described within IESR	1 Feb 2007	30 Apr 2007	Checking service		
10. Provide RSS alerting service for new data	1 May 2007	31 Aug 2007	RSS feed		
11. Create UDDI view of IESR data	1 May 2007	31 Dec 2007	UDDI interface		
12. Upgrade underlying registry	Year 2		Upgraded registry		
13. Release open source version of Registry software	Year 3		Open source software available		
<b>WORKPACKAGE 3: Metadata maintenance</b>					
<u>Objective:</u> To ensure that the IESR metadata schema meets the needs of its users					AA
14. Updating the metadata to incorporate stakeholder requests, for example to support other domains	Ongoing	Ongoing			
15. Changing the schema to keep it in line with international and standards developments	Ongoing	Ongoing			

<p><b>WORKPACKAGE 4: Ensuring the contribution of data</b></p> <p><u>Objective:</u> To encourage contributions of information to IESR and to provide assistance in the creation of metadata of a consistent quality</p>					
16. Maintaining data creation guidelines and cataloguing policy	Ongoing	Ongoing	Up-to-date data creation guidelines and cataloguing policy		LM
17. Maintaining and developing of quality assurance procedures involving manual and automated checks of data	Ongoing	Ongoing			LM
18. Promoting advantages of inclusion to potential contributors	Ongoing	Ongoing			LM/AH
<p><b>WORKPACKAGE 5: Promoting use of the IESR</b></p> <p><u>Objective:</u> To encourage services to make use of the information provided by the IESR and to support them in so doing</p>					
19. Developing use cases to show possible uses of IESR within the Information Environment	1 Sep 2006	31 Dec 2006 and ongoing	Use cases		AA
20. Helping to develop demonstrator applications, e.g. with JISC's IE Test Bed	Ongoing		Demonstrators		AA
21. Providing technical support for developers wanting to use IESR	Ongoing				LM/AA
22. Providing guidelines for users of the IESR	Ongoing		Guidelines		LM/AA

<b>WORKPACKAGE 6: Research into related initiatives</b>					
<b>Objective:</b> To ensure that IESR development is in line with related initiatives and to maintain IESR's position within international service registry efforts					
23. Defining a service registry in terms of workflow and services, within the context of the e-Framework	1 Jan 2007	31 Jul 2007	Service usage model		UKOLN
24. Exploring the enhancement of subject indexing to allow finer granularity for topical collection description	1 Nov 2006	30 Apr 2006	Report and recommendations		UKOLN
25. Continued collaboration with OCKHAM and other related initiatives, including technical interaction when required	Ongoing				MIMAS/UKOLN
26. Attending events, meetings and workshops related to service registries across different domains and internationally	Ongoing				MIMAS/UKOLN
27. Maintaining a watch on related activities, such as semantic web and e-Science domains, with regular updates	Ongoing				UKOLN
<b>WORKPACKAGE 7: Dissemination</b>					
<b>Objective:</b> To raise awareness of the IESR and to promote the Registry to potential users and contributors					
28. Maintain web site	Ongoing		Current web pages		
29. Publish articles and present conference papers	Ongoing		Articles and papers		
30. Run workshops	Ongoing		Workshops		
31. Present IESR to potential users and contributors	Ongoing				

WORKPACKAGE 8: Formal External Review					
<u>Objective:</u> To assess the impact and effectiveness of the IESR, in consultation with JISC					
32. Appoint external review team	Year 3				AH/JISC
33. Liaise with reviewers	Year 3		Report from external reviewers		All

Members of Project Team:

*AA = Ann Apps*

*AH = Amanda Hill*

*LM = Leigh Morris*