

E-Learning Proposal Cover Sheet

Cover Sheet for Proposals (All sections must be completed)	JISC Capital Programme
--	-------------------------------

Name of Capital Programme: e-Learning					
Bid for Call: (Please tick ONE BOX ONLY, as appropriate)					
Supporting lifelong learning					
<input type="checkbox"/>	Call I – HE in FE				
Technical developments to support learning and teaching					
	Call II – Assessment <input type="checkbox"/> a) Item Authoring Tool <input type="checkbox"/> b) Item Bank Software <input type="checkbox"/> c) Assessment Delivery Tool		Call IV – Admissions demonstrators <input type="checkbox"/> a) structured personal profiles, course entry profiles and pre-assessment; <input type="checkbox"/> b) improving applicant feedback; <input type="checkbox"/> c) accreditation of prior experiential learning; <input type="checkbox"/> d) e-portfolio based admissions.	<input type="checkbox"/>	Call VI – Course validation
<input type="checkbox"/>	Call III – Technology supported learning environments	✓	Call V – Course description and discovery	<input type="checkbox"/>	Call VII – Domain maps
Name of Lead Institution: Staffordshire University					
Name of Proposed Project: StaffsXCRi					
Name(s) of Project Partner(s): None other than the planned XCRi support project					
Full Contact Details for Primary Contact:					
Name: Bernard Shaw Position: Head of Corporate Information Email: b.shaw@staffsa.c.uk Address: Information Services Staffordshire University, College Road, Stoke-on-Trent ST4 2XS					
Tel: 01782 294301 Fax: 01782 295730					
Length of Project: 6 months					
Project Start Date: March 07			Project End Date: Sept 07		
Total Funding Requested from JISC: £10,000					
Funding Broken Down over Financial Years (April – March):					
Apr06 – Mar07		Apr07 – Mar08		Apr08 – Mar09	
£1667		£8333		Nil	

Total Institutional Contributions: £12747		
Percentage Contributions over the Life of the Project:	JISC 44%	PARTNERS 56%
Outline Project Description		
<p>A mini-project to produce an extension to an in-house system to map and output, via a web service, proprietary learning structures (awards, modules, learning outcomes, etc) to an XCRI schema conformant catalogue. The catalogue will then be exposed for consumption of an aggregator to be produced by the XCRi support project. The project will examine the suitability of the XCRi specification and examine the availability of data from University business systems to populate it. All software produced will be made available as open source and a report cover the business, organisational and technical issues arising from the work produced along with recommendations. The service used will be documented as a specification expression to the e-Frame work. The project builds on work done related to course descriptions as part of the COVARM project and liaison with the XCRi project.</p> <p>The projects outputs will also be used to enhance the work of JISC Capital Round 1 Project SURF WBL-Way by enabling the development of a service to deposit course descriptions in a repository.</p>		
I have looked at the example FOI form at Appendix A and included an FOI form in the attached bid (Tick Box)	YES ✓	NO
I have read the Circular and associated Terms and Conditions of Grant at Appendix B (Tick Box)	YES ✓	NO

STAFFS XCRi – Course Description and Discovery

1 Introduction

1.1 Main Contact is:

Bernard Shaw

Head of Corporate Information,
Information Services,
Staffordshire University,
College Road, Stoke-on-Trent ST4 2XS
Tel: 01782 294301 FAX: 01782 295730
Email: b.shaw@staffs.ac.uk

1.2 Length of Project - 6 Months commencing in March 2007

1.3 Outline of Proposed Work

This proposal is for a mini-project to produce an extension to an in-house system to map and output, via a web service, proprietary learning structures (awards, modules, learning outcomes, etc) to an XCRi schema conformant catalogue. The catalogue will then be exposed for consumption of an aggregator to be produced by the XCRi support project. The project will examine the suitability of the XCRi specification and examine the availability of data from University business systems to populate it. All software produced will be made available as open source and a report cover the business, organisational and technical issues arising from the work produced along with recommendations. The service used will be documented as a specification expression to the e-Frame work.

The projects outputs will also be used to enhance the work of JISC Capital Round 1 Project SURF WBL-Way by enabling the development of a service to deposit course descriptions in a repository.

As requested in Call V, the project will:

- Document the range and depth of this available information, including UCAS entry profiles, and distinguish between catalogue level information and further detail.
- Identify the sources of data and map available data held in corporate systems to the XCRi schema
- Develop a service to export this data and expose it for consumption by an aggregator
- Report on tests carried out with the aggregator
- Produce a report

1.4 Relationship to Programme, Previous and Current JISC Work

1.4.1 XCRi, COVARM and SUNIWE

The JISC DeL Regional Pilot, **SUNIWE**, was led by Professor Stiles and Staffordshire University's Learning Development and Innovation Team (part of Information Services). The project, which finishes at the end of December 2006, has worked on the development of web services to expose learner-oriented information held in University and partner College corporate systems to Foundation Degree students via uPortal. This has included the exposure of module descriptors and learner transcripts. As a result of this work, which used the IMS Enterprise specifications, Staffordshire University's LDI team have developed considerable expertise in the development and deployment of web services based on J2EE architectures. The proposed work will build on this expertise and contribute further to the development of the e-Framework.

The staff in the Corporate Information team have liaised closely with the staff involved in the SUNIWE project, particularly in the context of identifying available data and mapping it to specifications. http://www.jisc.ac.uk/whatwedo/programmes/programme_edistributed/suniwe.aspx. A presentation was given to a joint meeting of the CETIS Enterprise and Portfolio SIGs describing the work in detail. <http://www.cetis.ac.uk/members/members/enterprise/meetings/meetingfourteen>. As a result of this, and other JISC work carried out at Staffordshire, the Information Services teams have good experience and understanding of the overall JISC e-Framework and what is required in contributing to its development.

Staffordshire were a partner in the **COVARM** project along with Mark Stubbs and MMU (who have led the work on XCRi). SUNIWE, COVARM and XCRi held joint meetings to share expertise and understanding. As part of the work on COVARM, Professor Stiles carried out a lengthy series of interviews to examine how Validation

processes related to other University business processes. The staff involved in this proposal took part in this process. The work carried out by Professor Stiles revealed serious business process issues concerning the handling and coordination of course information. This work was made available to the XCRi project, who found the work of considerable value. The work is available as the COVARM Report "Validation Domain Perspective Results" - <http://covarm.tvu.ac.uk/covarm/download/paper/ValidationDomainPerspective.pdf>. The proposed work will build further on this work for the benefit of the wider community and will contribute to the improvement of Staffordshire University business processes in line with its current business plans.

1.4.2 Other Work

Professor Stiles and Alison Philips (Systems Development Manager in the Corporate Information Team) took part in the consultation exercise on common data definitions for course information undertaken by Oakleigh Consulting as part of the Government's MIAP initiative. <http://www.miap.gov.uk/commondatadefinitions.htm>

1.4.3 SURF WBL-Way

The Staffordshire University SURF WBL-Way Project, funded under JISC Capital Projects Round 1, draws on the conclusions of the X4L Phase 2 SURF WBL project, which showed that there was a need to give access to support for work based learning, including employers and mentors, and in particular to address problems with employer engagement. The project also aims to support the development of Foundation Degrees and learners progression. In doing this, the project builds on the work of SUNIWE, SURF WBL and XCRi, and will be producing web services to expose course information held in the Harvest Road repository to employers, mentors and learners via the uPortal system. The work of the proposed StaffsXCRi mini project will be further exploited by SURF WBL-Way by producing services to allow course information exposed by corporate systems to be deposited in XCRi format within the repository for targeted exposure and recovery

The work described forms part of the overall strategy of Staffordshire University to address shortcomings in the business processes associated with the provision and maintenance of course related information, and in particular to make this type of information available to learners and partners in a targeted way using portal technologies. By allowing the University to test out its systems against the XCRi specification both this work and the wider HE community will benefit from the lessons learned.

2 Description of Proposed Work

Note: Prior to the preparation of this work, Mark Stubbs of the XCRi project visited Staffordshire and discussions were held to confirm the suitability and feasibility of the work proposed. Also, Scott Wilson of CETIS was consulted regarding the needs of the aggregator effort.

The intention is to produce an extension to an in-house system to map and output proprietary learning structures (awards, modules, learning outcomes, etc) to an XCRi schema conformant catalogue.

The in-house system to be extended is a Java based object model which acts as an object oriented API to the Staffordshire University student records system, TheSIS Plus. TheSIS Plus is used by the institution to manage many of the essential data items required by the XCRi schema (e.g. awards, modules, learning outcomes, award structures, etc). The TheSIS Plus system is an Oracle-based system, which was developed, and is supported and maintained, at Staffordshire. This gives the work considerable flexibility when working with the systems, as there are no vendor issues to overcome.

The extension to the model will allow the automatic creation, and validation, of an XCRi catalogue. Once produced the catalogue could easily be exposed via a HTTP web server, web service or other appropriate transport mechanism for consumption by any interested party (e.g. an XCRi aggregator).

Although further in-depth investigation and analysis is required prior to implementation the initial idea is to extend the Java object model and, using an open-source Java/XML tool (e.g. JDom), represent and output the schema in a programmatic manner which is robust, maintainable and scalable. Maintainability is seen to being a key aspect of this system to facilitate changes to the format of the catalogue as and when the XCRi schema matures and changes.

The outputs of the proposed work would be further exploited by the JISC SURF WBL-Way project and embedded within the University

Deliverables:

All of the work of the project will be fully documented and will include, as requested:

- discussion of the organisational and technical issues encountered during the design and running of the demonstrator
- evaluation of and feedback to the XCRI support project, including an evaluation of the usability of the XCRI specification for work such as this, with identification of any problem areas and suggestions for improvements
- recommendations to JISC on further development activity needed in this area
- a suitably documented XCRI web service specification as a service expression to the e-Framework

2.1 Testing and Evaluation Approach

The outputs of this project, the XCRI course catalogue, will be tested by two primary methods:

- 1) Ensuring that the file conforms to the latest XCRI schema specification. This schema validation will be an essential design factor, which will be considered from the offset in any software development.
- 2) Working in conjunction with other members of the XCRI support project to test compliance of the catalogue with external systems (e.g. an XCRI aggregator)

The project will be evaluated against a number of criteria, these are:

- Was an XCRI compliant XML course catalogue produced?
- Can the catalogue be easily reproduced?
- Can the catalogue be consumed by external parties?
- When produced, does the catalogue contain accurate and up to date data in the correct locations as defined in the specification?
- Have any missing data items be identified and documented?
- If applicable have any recommendations about the general suitability of XCRI been documented and distributed?

2.2 Copyright, IPR and Open Source

Staffordshire University confirms that any software products produced by the project will be made available as open source in accordance with JISC policy.

2.3 Outline Workplan

This is merely an indication of the breakdown of the phases of work across the project. A full project plan would be developed and agreed immediately following the start-up of the project.

Months	3/07	4/07	5/07	6/07	7/07	8/07	9/07
Create Project Plan							
Investigation and further familiarisation with XCRI schemas/outputs							
Mapping of proprietary system(s) data to XCRI schema, reporting of any missing/non-accessible data)							
Analysis and design of software system							
Implementation of software							
Testing of outputs (including liaising with CETIS for testing with aggregator)							
Final report/documentation generation, final release of any project outputs							
Dissemination							
Liaison with XCRI and CETIS							

2.4 Risk Analysis

Project is overambitious – low – project is achievable and team familiar with issues involved

Loss of key personnel – medium to low – all partners have stable teams, and whilst staff turnover might occur, the situation is not seen as a “project killer”

Technical problems – low / medium – technical problems certain, but the project will have good “control” over such problems as the systems are in-house

Insufficient availability of data to populate XCRi schema – low – discussions with Mark Stubbs have indicated there is sufficient data available via TheSIS Plus to meet project requirements.

2.5 Capability and Experience within the Project Team

The University has over 8 years experience in the implementation of eLearning and associated strategy, policy and processes. Staffordshire University LDI Team have worked with IMS specifications for over 6 years, including Content Packaging and Metadata in COSE/JTAP, and the CO3 Project (with Bangor and Huddersfield). The University has been/are also involved in other work on the IMS specifications, including the Enterprise specifications under the FE Interoperability Trials, CO3 and SUNIWE. The University LDI and Corporate Information teams are working on portals for distance learners and access to local, regional and national information resources. The LDI team are now in the process of completing the SUNIWE project which includes staff from NIIMLE, the Welsh eTraining Network and SURF partners, and which is producing a consortium level uPortal gateway focused on provided individualised access to the learning experience. This work is being further exploited in the new SURF WBL-Way project described earlier.

The Corporate Information team is responsible for the on-going design, implementation, management and evolution of the institutions integrated admissions, student records and accommodation system, TheSIS Plus. This bespoke Oracle based system is a complete solution which manages all aspects of the student lifecycle from automatic interfaces with UCAS, allocation and invoicing of accommodation, management of award and module enrolment, assessment, invoicing, etc. This system interfaces with a wide variety of other systems (e.g. finance and VLE systems) and also provides ‘one click’ access to a number of critical statistical returns (e.g. HESA returns). The team provides a complete business intelligence solution through the use of the Business Objects reporting tool. This tool provides a simple to use interface to users, which empowers them to query and manipulate the complex data structures of the TheSIS Plus system. The team have been involved in a collaboration with the CampusEAI consortium to produce a web portal for use by both staff and students of the institution and have carried out a number of developments for this project including the production of open standards based portlet applications. One example of this is the provision of student self-service functionality for e-enrolment.

2.6 Management & Staffing of Project

The project will be managed in line with JISC project management guidelines. The project manager will coordinate and act as a first point of contact for the development staff. The project manager will be responsible for ensuring that development staff are confident with their tasks and hold regular sessions to ensure that deliverables are produced in accordance to the agreed time scales and that problems/queries are dealt with quickly and efficiently to prevent impact on the overall project schedule. The project manager will report regularly to both the Systems Development Manager and the Head of Corporate Information to ensure a coherent overview of the project is maintained by all members of the project team. The Head of Corporate Information will report to the Senior Management Team of Information Services.

Staff roles:

Bernard Shaw – Head of Corporate Information – Project Director

Peter Moss - Senior Corporate Systems Developer – Project Manager

Nicola Randles- Senior Applications Developer (MIS) – Project Developer

In addition, Professor Mark Stiles, Head of Learning Development and Innovation, and Sam Rowley, Learning Development Manager (Systems and Interoperability) will contribute consultancy to the project to allow it to draw effectively from previous work and to contribute to the work of the SURF WBL-Way project

2.7 Continuation and Dissemination

2.7.1 Continuation and Sustainability

As stated earlier, the addressing of issues around the business processes associated with the provision and maintenance of course information form part of core strategy at Staffordshire University. The work of this project would become embedded in the work of improving the University's information systems. It would also contribute to the work of the JISC SURF WBL-Way project led by Professor Stiles, and the work of the Corporate Information team in their work on the institutional portal provision. The LDI team work closely with colleagues in the JISC community across the country, including various CETIS SIGs and would ensure that the outputs of the project were well promoted and taken up by others where appropriate.

2.7.2 Arrangements for dissemination

The project would disseminate as widely and publicly as possible. Activities would include:

- A project website linked to the JISC, CETIS, and other national initiative websites
- A WIKI or equivalent tool providing access to the formative outputs of the project for comment and feedback by the community
- Publications and conference presentations
- Regular meetings with relevant groups (e.g. CETIS SIGs and other JISC Projects) and workshops
- Distribution and dissemination of outputs within the University.
- Progress meetings with associated organisations

The University has an outstanding record of dissemination. Professor Stiles and the LDI team, and the Corporate Information team, have contributed to JISC, ALT, UCISA and other conferences, and published many articles and papers in the field of eLearning. The University believes in active participation, evidenced by membership of CETIS Groups, and attendance at events.

2.8 Formative Evaluation of Project

Formative project evaluation will be via the various project related meetings documenting their own discussions and decisions. To ensure that all activity is captured for evaluation, electronic communication between project members will be done via a WIKI or equivalent tool, which will be archived, and reports and other relevant communications will be added to this archive. All project documentation and meeting notes will be circulated using the tool, to ensure a single source of documentary record.

3 Budget Summary – assuming a mid March 07 start and mid Sept 07 finish

Directly Incurred Staff	March 07	April 07– Sept 07	TOTAL £
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Directly Incurred Staff (A)	£1700	£8929	£10629
Non-Staff			
	March 07	April 07– Sept 07	TOTAL £
Travel, expenses and dissemination	£100	£400	£500
Evaluation included in staff costs	£	£	£
Total Directly Incurred Non-Staff (B)	£100	£400	£500

Directly Incurred Total (A+B=C) (C)	£1800	£9329	£11129
Directly Allocated	March 07	April 07– Sept 07	TOTAL £
Estates	£274	£1374	£1648
Directly Allocated Total (D)	£274	£1374	£1648
Indirect Costs (E)	£1662	£8308	£9970
Total Project Cost (C+D+E)	£3736	£19011	£22747
Amount Requested from JISC	£1667	£8333	£10,000
Institutional Contributions	£2069	£10678	£12747
Percentage Contributions over the life of the project	Staffordshire 56%	JISC 44%	Total 100%

4 Profiles of Identified Key Staff

All key Staff, both funded and contributed, are currently employed by the University and will include:

Name:	Bernard Shaw		
Job Title:	Head of Corporate Information	Institution:	Staffordshire University
Expertise	<p>Bernard has worked in the field of application development and support for over twenty years, focusing on public sector ICT applications delivery. He has worked as a developer, team leader, project manager and currently holds a position on the service Senior Management Team. He has a broad knowledge of a wide range of business applications and appreciates the need for integration to provide a modern knowledge and records management service.</p> <p>He has specific interests in:</p> <ul style="list-style-type: none"> Developing an integrated model for corporate systems which has a clear and consistent basis and supports the sharing of data in an effective manner. Pursuing the provision of corporate data in new and innovative application areas where they will add value to the institutional business process and help to maximise the benefit for both business and academic colleagues. <p>Bernard is chartered member of the British Computer Society and has a postgraduate diploma in Management Studies.</p>		

Name:	Peter Moss		
Job Title:	Senior Corporate Systems Developer Systems Development Group, Corporate Information Team	Institution:	Staffordshire University
Expertise, Research and Development	Peter has worked in professional IT for the last 7 years, the last 5 of which have been involved in software development in the higher education environment. He is a highly competent software developer with experience of all aspects of the development process.		

	<p>Peter has recent, extensive hands-on experience of a number of technology platforms including:</p> <ul style="list-style-type: none"> - Oracle and SQL Server Databases - Visual Basic, Java and Oracle Forms RAD Development - Web based development including HTML, ASP, JSP, Servlet and JPS Portal applications - XML development for systems integration and interoperability, including development of JAX-RPC web services <p>Peter also has experience in project management, testing of software systems, documentation, and the training and support of end users.</p> <p>As a senior developer Peter also acts a technical consultant to other members of his team and helps cascade and disseminate technical skills and information to his colleagues.</p> <p>Peter has a sound understanding of the operational workings of modern HE environments including validation/management of awards and modules, assessment processes, admissions processing (including UCAS processes/procedures) and statistical reporting (e.g. HESA reporting).</p>
--	---

Name:	Nicola Randles		
Job Title:	Senior Applications Developer Corporate Information	Institution:	Staffordshire University
Expertise, Research and Development	<p>Nicola has worked in the field of system development for 4 years.</p> <p>Nicola's responsibilities are project based and she has been involved in a number of projects large and small. She has worked on small projects independently and on large projects as part of a team. She has been involved in all stages of the software life cycle process from requirements gathering to testing and implementation.</p> <p>Nicola worked on the development of our current in-house student records system, and was involved in designing the data structures for this system. She has recently worked on displaying Module Descriptor information using Web Services and jsps delivered via the University's Oracle Web Portal.</p> <p>Nicola has a first degree in Humanities and an MSc in Computing Science.</p>		

Name:	Sam Rowley		
Job Title:	Learning Development Manager (Software Development & Interoperability)	Institution:	Staffordshire University
Experience & Expertise			
<p>Sam leads the technical development of e-Learning software and interoperability solutions at Staffordshire University. He has nine years experience of e-Learning software development, including leading production of the COSE VLE, and holds a B.Sc. in Physics and M.Sc. in Computing Science. He has experience of software project management and skills covering the full software development lifecycle from business modeling and requirements, through analysis, design, implementation, and testing to deployment on multiple client and server target platforms. His current focus is on lightweight and agile development using third party open source software. Sam is the technical manager for the JISC SUNIWE and SURF WBL-Way projects and has considerable experience with issues of developing web services.</p>			

Name:	Mark Stiles		
Job Title:	Professor of Technology Supported Learning, Head of Learning Development and Innovation	Institution:	Staffordshire University
Career Summary	<p>Mark's current responsibilities include: researching the use of virtual learning environments and other technologies for learning; developing best pedagogic practice in e-learning; leading the University's e-learning strategy; managing the COSE project; and working closely with Faculties of the University to produce tailored support, training and assistance on e-learning. He has published widely on learning technology, M/VLEs and associated pedagogy and policy. Prior to his current role, Mark spent some 10 years as a deputy IT Director in HE with particular focus on the support of learning, preceded by 15 years as a teacher and academic manager in FE. He has been involved with the use of technology in learning and teaching throughout his career</p>		
Project Management & Research Activity	<p>Current and recent consultancy studies, and research and development projects include:</p> <ul style="list-style-type: none"> • Consultant to JISC 1/01 Managed Learning Environments Programme as part of the Support and Evaluation Group (2002 - 2005). • Technical review of the JISC DiVLE programme • The COSE Project - Pedagogic Research and Product Development in Distributed Learning & Virtual Learning Environments. (Originally JISC JTAP, but on-going) • COSE and the IMS Interoperability Standards (JISC funded). • CO3 - Implementation of IMS specifications to achieve interoperability between COSE, Co-Mentor and Colloquia (JISC funded). In partnership with the University of Wales, Bangor and the University of Huddersfield. • The SURF Pilot – Interoperation of COSE with College MIS systems (in association with assorted vendors and colleges in the Staffordshire University Regional Federation). • flip - In-Company Flexible Learning Postgraduate Programme (HEFCE Innovation Project funded). In association with the University of Central England, Bolton Institute and the LTSN Engineering Subject Centre. • SURF X4L - Exchange for Learning (JISC funded) which aims to support FE and HE staff in repurposing content for use within MLEs/VLEs. • Developing Learner Profiles across HE and FE – Centre for Recording Achievement and CETIS LIPSIG Core Group (member of the CRA working group as part of the JISC 1-01 Programme). Coupled with this is work funded by CETIS LIPSIG on the use of the IMS LIP specification. • Editor/contributor for Section 7 – “Embedding MLEs” for the JISC MLE Development Website (being developed by Sarah Holyfield of Bangor University). • Staffordshire ICE (part of the JISC 05/03 call) looking at integrating the searching of e-books and other e-resources into a VLE as reusable Learning Reference Objects). • Summative Evaluation of the DiVLE programme as part of the wider Summative Evaluation of the JISC Learning and Teaching Programme and Associated Programmes being carried out by the Higher Education Consultancy Group • Consultant to the 2005 MLEs Landscape Study • DICE – a JISC eLearning Tools demonstrator project • SUNIWE – personalised access to the learning experience – drawing on the work of the NIIMLE project – a JISC DeL Regional Pilot (Ends Dec 06) • SURF WBL – a JISC X4L Phase 2 project focussing on eResources for WBL (Ends Nov 06) • Member JISC-CETIS Board • SURF WBL-Way – a JISC Capital Round 1 project drawing on SUNIWE and SURF WBL focusing on personalised support for WBL using web services 		