SUNIWE Project Plan

Version 1.1

Overview of Project

1. Background

1.1 The Partners

The project is cross regional with three distinctive regional partners:

1.1.1 West Midlands: The SURF Consortium:

Staffordshire University Regional Federation [http://www.surf.ac.uk] is a "HEFCE Recognised Funding Consortia" comprising Staffordshire University and nine Staffordshire and two Shropshire FE Institutions. SURF is one of four such Consortia established during 2000/1. [http://www.hefce.ac.uk/learning/fefund/trends/fetrends.doc]

The SURF Partners are: Cannock Chase Technical College, Burton College, Rodbaston College, Leek College of Further Education and School of Art, Newcastle-under-Lyme College, Walford & North Shropshire College, Stoke-on-Trent College, Stafford College, Shrewsbury College of Arts and Technology, Tamworth and Lichfield College, Staffordshire University **(lead institution)**, City of Stoke-on-Trent Sixth Form College.

For the work proposed in this bid the consortium seeks funding for work to be carried out by Stoke-on-Trent College, Shrewsbury College of Arts and Technology, and Staffordshire University **(lead institution)**.

A Consortium based model of quality assurance has been introduced for all SURF colleges from September 2001. The SURF Quality Assurance Handbook has been approved by all partner Academic Boards. **Provision** - HND/HNC provision has been expanded; a range of Foundation Degrees has/is being developed in conjunction with employers who have contributed to the writing of material. The first, in Project Management, gained an intake of 80+ students in September 2001. The Federation now has 9 Foundation Degrees running across it partners, with a further 16 planned or under development.

SURF uses the COSE VLE – for delivery of eLearning components of current SURF Foundation Degrees in Project Management and Applied Technology. The Individual SURF FE partners use other VLEs internally, in particular Granada Learnwise/Olympus. There are early plans to extend the use of COSE to provide support for Work-Based Learners across SURF Foundation Degrees.

The proposed work takes **advantage of the strength of the SURF consortium**, the experience of the University with implementing courses using VLEs, the considerable experience of working with interoperability standards within SURF, the VLE development expertise built up by the University's Learning Development Centre technical team and the notable expertise in pedagogy for VLEs available within the consortium. The University has made **enormous strides in embedding eLearning**[1], with quality assurance and enhancement embedding from academic planning through to delivery and monitoring and recently "gone beyond strategy" with the approval of an overarching eLearning Policy for the University. The two SURF FE partners in this bid have each made great progress in embedding as a result of the JISC SURF X4L project, and the outputs on content reuse and repurposing are now being disseminated across the SURF consortium.

1.1.2 Northern Ireland: NIIMLE

Consortium spanning the whole region - The NIIMLE project began as a consortium consisting of Belfast Institute of Further and Higher Education (lead), North West Institute of Further and Higher Education, North Down and Ards Institute of Further and Higher Education, Queen's University and

[1] See: Stiles, M.J., "Embedding eLearning in a Higher Education Institution", Keynote Paper for: "At the Interface - 2nd Global Conference on Virtual Learning and Higher Education", 12th - 13th September 2003, Mansfield College, Oxford. http://www.staffs.ac.uk/COSE/cosenew/ati2stilesrev.pdf

University of Ulster. At the end of 2003 the NIIMLE team undertook a series of visits to the other 13 FE institutions in Northern Ireland all of whom have since formally signed up to the project.

MLE implemented with uPortal - The NIIMLE has been implemented using uPortal. A channel has been developed to display core data including enrolment information to students. A pathways channel is being built to present information on courses available in all Northern Ireland FE and HE institutions.

IMS Enterprise Web Services (ESWS) specification implemented - IMS published the Enterprise web services specification in early 2004. It specifies a set of services and operations for exchanging Person, Group and Membership data. The NIIMLE implementation provides the basic operations that allow this data to be read by the core data channel in the portal to provide personal and enrolment information to students. The service requires that the user be authenticated by the institution's own directory service, and can connect directly to the institution's student records system. In most cases, a data warehouse has been created in the institutions to isolate the SRS from direct 'hits'.

Servers installed in institutions - NIIMLE has installed a server in each institution to host the ESWS implementation. It connects to the institution's MIS and directory systems via the local LAN. Firewall and access controls restrict external access to the NIIMLE portal server only.

Core Data Trials - Following server installation a series of core data trials were carried out to ensure the service was functional and had reasonable performance.

Legal Aspects - DPA arrangements for the consortium were agreed and distributed. Each institution acts as a data controller, and undertakes to handle its student data correctly as defined by the Data Protection Act 1998. In addition, each institution has an agreement with QUB which hosts the NIIMLE portal and therefore acts as a Data Processor for the project.

Implementation of COSE - COSE has been chosen as the VLE to provide academics with access to portable courses from the NIIMLE. A number of resources have now been successfully imported into COSE, including some NLN materials on hospitality and catering, locally authored courses on multimedia, SPAT materials (from the Student Progression and Transfer project) and a Careers package from Staffordshire University.

1.1.3 Wales: WETN

The three regional e-Training Networks in Wales – together include all FE and HE institutions in the country and are collaborating in the development of on-line training solutions for SMEs. The Networks are also developing and testing regional and national systems of collaboration, sharing of e-learning content and common access to e-learning resources. In total there are 21 FE and 11 HE institutions involved in the development.

The focus of development – currently is the creation of an on-line Foundation Degree in e-Commerce. Thirty modules are being developed, each validated at NVQ level 4 and attracting 10 HE credits. All modules are being packaged to IMS and SCORM standards and tested to ensure that they are deliverable on all the different VLE systems in use by the different institutions. All of the modules are being piloted with SMEs and the evaluation of the pilots used to refine and improve the learning design and delivery infrastructure.

The Networks – are developing software for content authoring, delivery and administration, and are using open source software such as RELOAD for packaging. The work builds on previous collaborative e-learning projects involving large scale e-learning content development and the testing of development and delivery systems.

Projects – have included evaluating technical support systems for on-line learners, developing systems for the authentication of on-line assessment, testing content interoperability across multiple delivery platforms and testing methods of making on-line materials accessible to the disabled. Underpinning all of the developments has been research and evaluation into the effectiveness of the learning design models used to support on-line distance learners.

Coleg Sir Gâr – has been using e-learning to provide access to training for lifelong learners in rural Wales since 1998 and offers a range of on-line courses validated at NVQ levels 2 & 3. It is also a partner with the University of Glamorgan in the delivery of e-College Wales, a major on-line HE development that is now offering on-line graduate and postgraduate qualifications to lifelong learners across the country.

2. Aims and Objectives

The proposed project is designed to exploit the work done by NIIMLE as part of the JISC MLEs for Lifelong Learning Programme, and in particular, the work on developing the use of uPortal and the Enterprise web services. The proposed work forms **part** of the strategic plans of all partners, and as such, must be viewed in that context rather than in isolation. For all partners, the proposed work is something that will be done anyway, but funding is sought to allow progress to be accelerated and to enable the work to be disseminated widely.

2.2.1 At Staffordshire:

Staffordshire University have an existing relationship with the NIIMLE Project via their use of the COSE VLE (an output of JTAP and later interoperability and content programmes). Staffordshire University has an ongoing strategy to develop its students' overall learning experience using a service-oriented approach to systems architectures, and the work of NIIMLE in developing web services utilising the IMS Enterprise specifications to handle group, membership, and personal services offers a great opportunity to take this work forward and expand its benefits into the SURF consortium. Initial work on the using the outputs of NIIMLE with uPortal, the University MIS systems and COSE has already started as part of this strategy.

The proposal is for Staffordshire to utilise the existing work of NIIMLE to build personalised links between uPortal and the MIS system, and seek to extend the use of the services to provide for enrolment services into the COSE VLE and provide personalised access to eResources (within COSE, eLibrary and eBook). SURF also to hope to make use of COSE in a similar way to NIIMLE (as a central tutor's tool for import, reuse and repurposing of content for export to other VLEs) and whilst most of that work does **not form part of this bid** (being part of a wider SURF strategy and building on the JISC SURF X4L project)**,** the work of integrating COSE with uPortal does, and this forms a vital component of overall goals of both SURF and NIIMLE. The work would then be rolled out to Stoke College and Shrewsbury College of Art and Technology to test proof of concept at a Federation level, prior to wider use across SURF. SURF would also seek to exploit Shibboleth to enable access to distributed resources via the portal by working as part of a Shibboleth sub group If successful, all of the technical outputs of this work would be available freely to all as the core software to be used for implementation is free and open source.

The goals of the work can be seen from the following scenarios:

Scenario 1:

I am a student at Staffordshire University who works flexibly as I am a single parent. I connect to the University's Portal over the Internet. When I log in, I can see a list of all the modules I have taken so far and the modules I am currently registered for. By clicking on their entry, I can see more detail about each module. I can also see my personal details, such as address, transcript, etc, as held by the University. I have just changed my phone number so I click on a button and enter the new number. (This is sent to the relevant people at the University who change the entry in the MIS system).

Scenario 2:

I am a part-time student at Stoke College who mixes study with employment. I connect to the SURF Portal over the Internet. When I log in, I can see a list of all the courses I have taken so far at the College and the courses I am currently registered for. By clicking on their entry, I can see more detail about each course. I can also see my personal details, such as address, learner record etc, as held by the College. I have just changed my address so I click on a button and enter the new one. (This is sent to the relevant people at the College who change the entry in the MIS system).

Scenario 3:

I work in a small company and am taking a Staffordshire University foundation degree at SHREWSBURY COLLEGE. I connect to the SURF Portal over the Internet. When I log in, I can see a list of all the degree course modules I have taken so far at the College and the modules I am currently registered for. I can also see the details of a separate Further Education course I am taking at SHREWSBURY COLLEGE and also details of a course I took last year at Burton College. By clicking on an entry, I can see more detail about each course or module. I can also see my personal details, such as address etc, as held by the College. I have just changed my job within the company so I click on a button and enter the new details. (This is sent to the relevant people at the College who change the entry in the MIS system both there and at the University). I can also see which of my modules is using the COSE VLE, and click on one of the entries launch the VLE so that I can do some work for the module. The Portal also shows me electronic resources held by the University which are relevant to the courses I am taking and allows me to access them.

Scenario 4a:

I am a full time undergraduate Accounting and Finance student at Staffordshire University. I access the Staffordshire University portal via my PC at home. From the portal I am able to access useful e-journals for my course, reading lists and subject help. I am also able to see what books I have on loan and what books I have reserved.

Scenario 4b:

I am a part time mature student on the Project Management foundation degree, based at Stoke-on-Trent College. I access the SURF portal from my council office. From the portal I am able to access e-resources useful for my course, together with the items I have on loan and reservations from Staffordshire University. [I can also access useful e-resources held at Stoke-on-Trent College together with their library catalogue and details of items I have on loan and what books I have reserved. Note - at boundary of project scope, possibly outside it]

Scenario 5

I am a student at Stoke College. I enrol on a Staffordshire University Foundation Degree which contains module elements delivered by the COSE VLE. The University enters my enrolment information into the student information system, TheSIS. [TheSIS sends a request to the VLE to add me to the corresponding college subgroup of the module group in the VLE. The VLE makes me a member of the college subgroup. The VLE informs TheSIS of the successful completion of the request.] I can then log into uPortal and see a link to the module which launches the module in COSE.

2.2.2 At WETN:

The project will evaluate the use of the NIMLE uPortal implementation to provide learners with access to personalised information, e-resources and other MLE services across the Wales e-Training Network. The main contribution will be in the integration of distributed resources created as part of the on-line foundation degree development and the management of multi-institutional delivery arrangements.

A key difficulty experienced by managers of flexible on-line course delivery to lifelong learners is the maintenance of accurate student data. Conventional student record systems assume campus-based students in cohorts following the normal academic year. An objective in this project will be to develop a system that dynamically tracks individual student learning plans with multiple start and finish times involving more than one institution.

A further objective will be to achieve single sign-on access for lifelong learners to distributed resources and for that reason the project will also look to trial and evaluate Shibboleth technology. Coleg Sir Gâr will contribute to a Shibboleth sub-group involving all three partners.

The broad aim of the Welsh contribution to this project will be to implement and evaluate the NIMLE student portal infrastructure as a way of managing the delivery of flexible lifelong learning provided by the Wales e-Training Network.

The key objectives will be:

- To implement uPortal as part of an integrated MLE involving three e-Training Network institutions
- To evaluate the effectiveness of the implementation in the sharing of content and the management of delivery across institutional boundaries
- To trial Shibboleth technologies as part of the evaluation in order to achieve single sign-on capability
- To evaluate the ability of the system to dynamically maintain accurate student records
- To test scalability by extrapolating to an all-Wales scenario

The goals of the work can be seen from the following scenarios:

Scenario 1:

I am sales manager at Spencer Davies Engineering in Burry Port, South Wales. I have responsibility for the company web site and, more recently, for the development of our ability to carry out supplier and customer transactions on-line. To develop my skills in this area I am enrolled as a graduate student at Coleg Sir Gâr on an on-line Foundation Degree in e-Commerce validated by the University of Glamorgan. When I log on, I connect to the Virtualcollege Portal which gives me access to the modules I am currently studying, as well as a range of other resources and information including my Learner Record and ePortfolio. This information is important to the company as it confirms progress against my Personal Development Plan and, along with those for other employees, contributes to the company's IIP status. As I understand it, the modules for this course were developed across Wales by a network of all the colleges in the country and I am supported by the tutors at those colleges as I progress through those modules.

Scenario 2:

I am a working mother and I have a brain-damaged child. Both I and the carers that help me are grateful to Cerebra, the national charity that supports us with both physical resources and training to make Lisa's life a little more comfortable and worthwhile. Over the last year they have introduced a training programme that I can receive at home using my computer. This is an absolute godsend as it means I can combine caring and learning how to care. I log-on to the Virtualcollege Portal which gives me access to a number of modules covering basics like anatomy and physiology, as well as specific instruction in the care of the condition that Lisa has to bear. The on-line delivery comes from Coleg Sir Gâr in Llanelli, South Wales, but the modules have been developed by specialists across the UK, organised by Cerebra, and are supported by those specialists acting as tutors. The portal is a one-stop-shop for me and the fact that the tutors are geographically dispersed is not important.

Scenario 3:

I live in Havefordwest in South West Wales and my first language is Welsh. I have recently enrolled on the on-line Foundation Degree in e-Commerce offered by Pembrokeshire College and am pleased that I can select English or Welsh materials as I wish. My preference is to study through the medium of Welsh but complete assessment in English (I worry about the quality of my written Welsh). I am supported by bilingual tutors at the college and I am able to communicate in Welsh by phone & occasional f2f meetings on campus. I previously studied an on-line ICT Skills for Business course at Coleg Llandrillo which was also available in Welsh. When I log on to the College Portal, I can see my whole ePortfolio, including the results of this previous course. I am able to update my personal details and gain access to a whole load of resources that support me in my studies. Not only can I switch from Welsh to English at the click of a button, I also have available an on-line Welsh/English dictionary, thesaurus and grammar developed by University of Wales, Lampeter.

Scenario 4:

I am an e-Moderator for the Foundation Degree in e-Commerce being delivered by the Wales e-Training Consortium to learners across Wales. I live in Yorkshire. When I log on through the Staff Portal I have access to the progress files of all the learners in my current caseload. I also have access to the VLE delivering the materials and hosting the communications toolset. The portal gives me access to the administration area and I can enter learner progression data into the database. As an internal quality verifier, I have access to the assessment materials for learners supported by other e-moderators and can record my observations in the appropriate area of the database.

2.2.3 At NIIMLE:

NIIMLE's role will be that of a "providing" partner in terms of supporting the other two partners in their use and further development of the NIIMLE outputs (in particular the uPortal and Enterprise Web Services), and as a "consuming partner" in utilising the outputs of the other two partners work in pursuit of NIIMLE's goals. NIIMLE will also be part of the "Shibboleth sub-group" of the project.

The Potential Benefits to NIIMLE are seen as:

Enhancement of the Enterprise Web Services implementation - The current implementation would be enhanced by the development of more of the operations specified by IMS. Also, additional application profiles developed would be useful in the provision of future NIIMLE services

Better integration of COSE with uPortal - Single sign-on between COSE and uPortal. In addition, it is hoped that user preferences in uPortal, for example colours and styles, could be made to extend to the COSE channel.

And also, partly from this proposal, but also as other ongoing work: Enhanced import/export of materials to/from COSE

The following scenarios illustrate what NIIMLE hope to have achieved as a result adding the work of this proposal and other work (unfunded) going on with Staffordshire University to core NIIMLE activity:

Scenario 1 (student)

I'm in the final year of my FE course and want to go to university. I log onto the NIIMLE portal using my current username and password from my college and select the pathways service. From here I can view details of courses I can progress to in HE institutions. Each course is supported by an online mentoring service where I can link directly to an academic in a discussion forum. I can also drill down to the FAQs section relating to the course for answers to the most common queries.

Scenario 2 (academic)

I am a academic in a university in Northern Ireland and facilitate a discussion forum related to my course. Students can post a query and I will respond. The queries remain for other students to view and they can also comment to student as well as my posts.

Scenario 3 (student/academic)

I log onto the NIIMLE portal but cannot view the information displayed clearly. By selecting the preferences tab I can change the background colour and enlarge the fonts. These preferences will be saved and displayed each time I enter the portal.

Scenario 4 (student)

I log onto the NIIMLE portal and view details of my current course. Access to information on other courses in all FE and HE institutions within Northern Ireland is also available to me. From the course level, I can drill down further to get details on the individual modules that make up the course.

Scenario 5 (academic)

I teach on a multi media course in an FE institution. I log onto the NIIMLE portal and download a portable course from the COSE VLE. I can then upload the course on my institutional VLE for use by my students.

2.3 Shibboleth

The development of a Shibboleth authentication service would enable institutions or other record holders to grant access to a learner's record based on assertions made about that learner by trusted partners. This will be an important capability in systems that target true lifelong learners. In this context, the SUNIWE proposal is interested in exploiting the ongoing work of the JISC "Core Middleware" programme. In particular our project will support two of the key aims of that programme, namely:

1. To ensure join-up across JISC Development, in relation to middleware.
2. To support take-up and use of Shibboleth within UK HE and FE community

While we recognise that the work on Shibboleth is at an early stage, we feel that our project would benefit significantly from the incorporation of some of the outcomes of the Core Middleware projects. It may be possible to offer an early test bed for such outcomes in line with another of the objectives of the Core Middleware programme.

NOTE: Plans for the Shibboleth component of SUNIWE are being developed following the JISC Programme meeting in April. Project staff are in contact with MATU Support and two members of the project team will attend the early adopters workshop to be held on the 17th May 2005. Shibboleth work is now included in the scoping work of the project and this plan will shortly be further updated to reflect this.

3. Overall Approach

Initially work is focussing on using scenarios to ensure the project is addressing stakeholder needs appropriately. These will be expanded and broken down to reveal organisational and technical aspects to be addressed. Formal Use Cases are being developed to drive technical work. As SURF and WETN develop use cases care will be taken to ensure these are joined up where appropriate to avoid duplicated effort.

The actors that will engage with the proposed solutions are:

SURF	WETN
Learners	Learners
COSE	eTutors
College VLE	CSG VLE
TheSIS	CSG SRS
College MIS	College VLE
uPortal	uPortal
eResource Systems	eResource Systems
	College SRS

Each of the actors requires certain services from the implementation of the uPortal, web service and Shibboleth technologies and these will be specified through Use Case analysis. The full analysis will be provided, with use case diagrams, as an appendix to the project plan as they are developed.

Example use cases for LEARNERS thus far identified are:

WETN	SURF
Enrol and receive induction	Login To University Portal
Log in and access current learner information	View Taken University Modules
Access learning resources	View Registered University Modules
Access tutor support	View University Module Details
Access learner support	View Personal Details held by University
	View University Learner Record
	Request change to Personal Details held by University
	Login To SURF Portal
	View Taken College Courses
	View Registered College Courses
	View College Course Details
	View Previous Institution College Courses
	View VLE Modules or Courses
	Access VLE Module or Course

	View Relevant e-Resources from College or University
	Access Relevant e-Resource
	Enrol Onto VLE Module

Each use case is being/will be discussed and analysed with the project partners to determine to what extent the services can already be provided by the current NIIMLE outputs and what needs to be developed. Similarly, discussions will be held between the partners to identify common services and agree shared development and implementation responsibilities.

The key issues to be addressed by are:

- Single sign-on access to local and distributed data using a Shibboleth enabled authentication service where appropriate
- Implementation of services and operations for student data exchange between institutional MIS/SRS and the portal server
- Integration of uPortal with the partners' institutional VLEs for data exchange, communications and access to learning resources
- uPortal access to network digital resources for repurposing, reuse and import into institutional VLEs (WETN only)
- Access to digital resources targeted at the learner

The main objectives for the project will be to achieve the functionality and services specified in the use cases. Many of the services will be similar to those needed by the other actors and use cases, but the implementation and testing of these will be outside the scope of the project.

The critical success features for the project will be:

- Successful data exchange between the portal server and institutional student record systems, together with the presentation of combined data to the uPortal user
- Successful integration of uPortal with the institutional VLEs
- Successful trial of Shibboleth technology
- The implementation of single sign-on authentication with multiple systems
- Successful access to distributed eResources
- Successful automatic enrolment from MIS/SRS to VLE

4. Project Outputs

Overall deliverables will be:

- Refined and extended Enterprise Web Services tested in use with uPortal, VLEs, MIS systems and eResource systems
- Further testing of Shibboleth solutions
- Proof of concept implementations of MLE elements using the above at WETN, SURF and NIIMLE
- Reports on all key outcomes:
  - The effectiveness of the Web Services Implementations
  - The effectiveness of the uPortal implementations
  - The effectiveness of the Shibboleth implementations
  - The effectiveness of multi-institutional, distributed resources delivery
  - The effectiveness of dynamic student record management

In SURF the main distinctive deliverables will be a set of web services, tested with COSE, for open-source release under the COSE brand, and evaluative reports on the implementation of uPortal and Enterprise Web Services in the delivery of personalise support for learners within Staffordshire University and for SURF students at Stoke and Shrewsbury Colleges.

In Wales the main deliverables will be evaluative reports on the implementation of uPortal and Enterprise Web Services in the delivery of on-line foundation degree modules to learners in SMEs. The reports will cover the implementation and testing at three of the WETN partner institutions: Coleg Sir Gâr, Swansea College and Pembrokeshire College.

Across the project, the various institutions use a number of different student record systems and VLE packages. The reports will include descriptions of the technical implementations involving each of these packages and uPortal and the level of success in delivering the desired functionality.

5. Project Outcomes

The main outcome for SURF will be proof of concept information regarding the applicability of NIIMLE web service and Shibboleth technologies in the provision of personalised services to students at Staffordshire University and SURF partners. The work in SURF will have particular impact on issues regarding the collaborative provision of HE in FE and in particular Foundation Degrees, and will inform both University and SURF strategies. SURF have close links with Foundation Degree direct and will use these to inform national strategy for Foundation Degree provision and support.

The main outcome for WETN will be proof of concept information regarding the applicability of NIIMLE and Shibboleth technologies in the collaborative development and delivery of e-training solutions in Wales. The work in Wales will have particular impact on discussions about the national e-learning strategy and the subsequent policies for e-learning.

It is expected that the project as a whole will not only add considerably to understanding of the viability of sector-wide collaboration in the development and delivery of e-learning, but it will test the technologies that need to be in place to support such collaboration. The implementation and evaluation carried out within the diverse institutions involved will allow conclusions to be drawn about its likely effectiveness and utility if applied sector-wide. The project outcomes should be of value to other collaborative developments in the e-learning community of practice and will, hopefully, inform strategy and policy discussions elsewhere in the UK.

6. Stakeholder Analysis

List key stakeholder groups and individuals that will be interested in your project outcomes, will be affected by them, or whose support/approval is essential, both within your institution and in the community, and assess their importance (low/medium/high).

Stakeholders SURF and WETN	Interest / stake	Importance (SURF)	Importance (WETN)
Learners	Prime beneficiary of the project outcomes	High	High
e-Moderators/Tutors	Part of the distributed programme support team	Medium	High
Programme Managers	Manage the distributed programme	High	High
Programme Administrators	Manage the distributed information	High	High
Learner Support Staff (LRC, Technical Support, Customer Support)	Support providers. Could be a central provision for the distributed network	Medium	Medium
Resource Support Staff (Portal, VLE & Repository Support, Content Management)	Could be partly distributed and partly central	High	High
Corporate Information and Student	Own current Business	High	

Service Staff	practices		
Learning Development and Innovation	Responsible for implementation and leading change	High	
Senior Institutional Management (WETN)	Need to buy in to the culture change that this development would represent		Medium
Senior Institutional Management (SURF)	Need to support required culture changes, which are in line with existing institutional strategy at the University and buy into it in college partners	High	
HEFCW	Need to buy in to the culture change that this development would represent		Medium
Wales Assembly Government	Need to buy in to the culture change that this development would represent		Medium
HEFCE	Project in line with HEFCE eLearning Strategy	Medium	
UK Government	Project in line with DfES eLearning Strategy	Medium	

7. Risk Analysis

List factors that could pose a risk to the project's success, assess their likelihood and severity, and how you will prevent them from happening (or manage them if they if they occur). Cover the types of risks listed and any others that apply.

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Loss of Key Personnel	2	2	4	all three partners have longstanding and stable teams, and whilst staff turnover might occur, the situation is not seen as a "project killer"
Organisational	1	2	2	all three partner consortia, are longstanding consortia based on existing agreements and have numerous formal agreements covering working practices and legal requirements in place. In addition, Staffordshire University and NIIMLE have been working together for some time, and Profs Stiles and Toole have also worked together successfully in the past.
Technical Problems	5	2	10	overcoming technical problems within the implementation work is "part of the job". There may be problems that will cause change of priorities in certain areas, but the

				core effort is based on existing work and therefore seen as relatively low risk.
External suppliers	2	2	4	In the main, little dependence on external suppliers other than MIS vendors in Colleges. These have a fair degree of commonality and the vendors involved have not been a source of difficulty in past projects. The MIS systems are all managed locally.
Legal	5	3	15	Known problems with DP and IPR. However, none have been identified, following discussion with Andrew Charlesworth as "killers"
Resistance from MIS staff	3	3	9	The project will draw on NIIMLE's experiences, and use solutions which involve export only from MIS systems where this is a major concern. In addition the project can build on the lessons learned from the NIIMLE DPA model.
Existing business processes not amenable to project goals	5	2	10	Certain, but partners committed to change
Project is overambitious	5	2	10	The key priority of building on the NIIMLE Enterprise work to produce an extended and fuller set of services is not seen as a major risk. The range of activities to which the services are applied will need careful prioritisation to ensure best outcomes and outputs are obtained
Problems with success of NIIMLE Continuation Strategy	3	4	12	If NIIMLE continuation failed absolutely, the support partner for SUNIWE could become unavailable. NIIMLE outputs would still be available however. Ensuring full access to these is the only mitigating action available at present.

8. Standards

- IMS Enterprise
- IMS LIP
- WSDL
- Technical Development will be largely Java based and will use AXIS, Tomcat and SAML

9. Technical Development

The Rational Unified Process (RUP) is being used to manage the project. RUP defines 4 Phases of a project:

- Inception
- Elaboration
- Construction
- Transition

Inception is concerned with determining whether the project is viable. Use-cases outline the key system requirements and the business case for the project is made. Business risks are addressed in this phase.

Elaboration is concerned with gathering requirements and modelling the system enough to devise a project plan for the construction phase. Architectural and technical risks are addressed in this phase.

Construction is concerned with the building a beta release of the system incrementally from components which are tested at each stage of development.

Transition is concerned with installing the beta release of the system, correcting any problems and reviewing and refining the operation of the system.

Each phase includes one or more iterations through the RUP workflows:

- Planning
- Requirements
- Analysis
- Design
- Implementation
- Test
- Evaluation

RUP is:

Use-Case driven - Use-Case modelling determines the requirements of the system so that every feature of the system adds value to the user.

Risk-driven - Major business and technical risks are tackled early.

Iterative and incremental - Planning, design, implementation and evaluation happens in steps. This allows major business and technical risks to be tackled early and frequent checkpoints and feedback informs the planning and development of subsequent steps and hence improves quality.

Iterations in the SUNIWE RUP Project Plan have been mapped to the workpackages in the JISC project plan **(See Section 15)**. Most of the iterations deal with the implementation of a key use case.

10. Intellectual Property Rights

The three Consortia have existing CP and IPR agreements, but recognise that there are weaknesses in these that need to be taken account of. However despite these weaknesses, all three consortia have operated successfully on their own projects and the problems to be addresses are more about formalising existing practice than the introduction of new practice. For the purposes of SUNIWE a principle of making all outputs freely available will be adopted. This will be implemented using Creative Commons for documentary outputs and Open Source licencing for software. It is likely that something along the lines of the BSD style of licence will meet the projects needs best. NIIMLE have been discussing this with Andrew Charlesworth. The project have agreed to supply Andrew with

existing agreements so that he can advise on a joint consortium agreement which covers CP and IPR as one of its terms.

Following feedback from Andrew, is has been agreed that, once the revised NIIMLE agreement is finalised, a "joining agreement" , including CP and IPR issues, can be covered by memoranda of understanding as the existing WETN and SURF agreements appear to be sufficiently robust.

Project Resources

11. Project Partners

The project partners are as follows:

Partner	Role	Main Contact	Agreement Date
Staffordshire University	Lead Institution for both SUNIWE & SURF	Prof Mark Stiles	See Note – subject to existing SURF agreement
Stoke College	SURF partner college	Steve Blakemore	See Note – subject to existing SURF agreement
Shrewsbury College	SURF partner college	Richard Booth	See Note – subject to existing SURF agreement
Queens University Belfast	Lead Institution for NIIMLE	Greg McClure	See Note – subject to existing NIIMLE agreement
Coleg Sir Gâr	Lead Institution for WETN	Prof Tony Toole	See Note – subject to existing WETN agreement
Swansea College	WETN partner college	Angelo Conti	See Note – subject to existing WETN agreement
Pembrokeshire College	WETN partner college	Geoff Elliot	See Note – subject to existing WETN agreement
NIIMLE	Supporting Partner	Greg McClure	Subject to existing NIIMLE Agreement

NOTE: Each of the three Consortia having standing existing agreements covering themselves which predate the SUNIWE project. An agreement to link the three together in the context of SUNIWE is being worked on. Andrew Charlesworth is being consulted and a memorandum of. understanding should be sufficient.

12. Project Management

12.1 Implementation and Conduct of Project

Professor Mark Stiles at Staffordshire University will direct the project, and overall project management will also be by a member of Professor Stiles' team.

WETN and NIIMLE will each appoint a local project manager to form the complete management team. This small team will make extensive use of video and phone conferencing to manage the project. Overall the project will report to Staffordshire University's Information Services' Senior Management Team and the SURF Management Board.

At SURF

At Staffordshire University work will be carried out largely by an experienced project worker and technical developer/implementer who is a member of the Learning Development and Innovation Team (led by Professor Stiles) – funding from the bid will be used to buy out their effort, and they will act as main liaison with WETN and NIIMLE. Information Services will contribute other effort, including that from the IT Innovation and development and Learning Support Teams, as the proposed work is part of core strategy.

Staffordshire will lead the work on Shibboleth, and again, project funding will be used to appoint staff who will effectively "buy-out" experienced staff, whilst also contributing to the project.

At the two SURF partners, the work will be led by staff who have considerable experience of working on JISC projects and who will liaise with their colleagues as appropriate.

At WETN

The work will be carried out in parallel with the work of the Wales e-Training Network which completes the on-line foundation degree development at the end of 2005. A significant part of the work will be pilot delivery and evaluation and this project is well positioned to fit in with that.
A skilled technician/programmer will carry out much of the implementation as part of a core project team based at Coleg Sir Gâr and will liaise with colleagues at SURF and NIIMLE.

At NIIMLE

As stated earlier, NIIMLE's role is as "providing" partner in terms of supporting the other two partners in their use and further development of the NIIMLE outputs. The funding will be used to provide dedicated technical support and liaison to SURF and WETN

The project team members are as follows:

Name	Role	Contact Details	Time on Project
Prof Mark Stiles (Main contact)	Project Director (SUNIWE & SURF)	**Professor Mark Stiles**, Head of Learning Development and Innovation Information Services Staffordshire University Beaconside, Stafford ST18 0AD Tel: 01785 353647 FAX: 01785 353645 Email: m.j.stiles@staffs.ac.uk	
Sam Rowley	Project Technical Manager	**Sam Rowley** Learning Development Manager (Software Development & Interoperability) Learning Development and Innovation Staffordshire University Beaconside, Stafford ST18 0AD Tel: 01785 353548 Email: c.s.rowley@staffs.ac.uk	
Ed Clarke	Advisor on interoperability	**Ed Clarke** Senior Learning Development Specialist (Software Development & Interoperability) Learning Development and Innovation Staffordshire University Beaconside, Stafford ST18 0AD Tel: 01785 353548 Email: e.a.clarke@staffs.ac.uk	
Vicki Watkin	Project Manager (SURF and	**Vicki Watkin** Learning Development Manager	

	overall)	Learning Development and Innovation, Staffordshire University College Road, Stoke-on-Trent ST4 2DE Tel: 01782 294957 Email: v.l.watkin@staffs.ac.uk	
Paul Johnson	Contribution to Shibboleth work at Staffordshire	Paul Johnson, Electronic Information Co-ordinator, Information Services, Staffordshire University, College Road, Stoke-on-Trent ST4 2DE p.johnson@staffs.ac.uk	
Mark Hewitt	Contribution to Shibboleth work at Staffordshire	Mark Hewitt, Software Specialist, Information Services, Staffordshire University Beaconside, Stafford ST18 0AD Tel: 01785 353369 Email: m.a.hewitt@staffs.ac.uk	
Steve Blakemore	SURF partner college contact	**Steve Blakemore** Educational Technologist Team Leader Stoke-on-Trent College Burslem Campus Moorland Road, Burslem, Stoke on Trent, ST6 1JJ Tel: (01782) 208208 Email: SBLAK1SC@stokecoll.ac.uk	
Richard Booth	SURF partner college contact	**Richard Booth** ILT Co-ordinator Shrewsbury College of Arts and Technology London Road Shrewsbury Shropshire SY2 6PR Tel: 01743 342342 Email: richardbo@shrewsbury.ac.uk	
Dave Shearan	SURF partner college contact	**Dave Shearan** E learning Project Champion Shrewsbury College of Arts and Technology London Road Shrewsbury Shropshire SY2 6PR Tel: 01743 342342 Email: daves@shrewsbury.ac.uk	
Prof Tony Toole	Project Director (WETN)	**Prof Tony Toole** Director of On-line Services Coleg Sir Gâr Graig Campus Llanelli, Carmarthenshire SA15 4DN Tel: 01554 748347 Fax: 01554 748340 Email: tony.toole@virtualcollege.ac.uk	
Angelo Conti	WETN partner college contact	**Angelo Conti** Director of ILT	

		Swansea College Tycoch Road, Tycoch Swansea, SA2 9EB Tel: 01792 284022 Fax: 01792 284074 Email: a.conti@swancoll.ac.uk	
Geoff Elliot	WETN partner college contact	**Geoff Elliot** ILT Manager Pembrokeshire College Haverfordwest Pembrokeshire SA61 1SZ , UK Tel: 01437 753000 Fax: 01437 753001 Email: g.elliot@pembrokeshire.ac.uk	
Greg McClure	NIIMLE Project Manager	Greg McClure NIIMLE Project 7 College Park East Belfast BT7 1LQ Tel: +44(0)28 9097 3845 Email: g.m.mcclure@niimle.ac.uk	

Training Needs:

The project manager has experience of managing multi-partners projects, but is to attend a JISC project management workshop to ensure full understanding of the JISC's requirements

The WETN and SURF teams will require training on NIIMLE project and uPortal technology to be provided by appropriate staff within the team.

The project would also like to take advantage on any training related to WSDL and web-service implementation, although expertise is available within the project. The project technical manager and interoperability advisor have attended training on UML and WSDL provided as part of the JISC Tools Demonstrator programme.

External training on Shibboleth technology will also be needed. This is now being progressed via MATU.

13. Programme Support

The project will need support on all issues relating to the Shibboleth components of the project. It is hoped that there will be an SIG set up involving all the projects experimenting with Shibboleth and that there will be planned development events.

The project needs, and is taking advantage of, support on legal issues.

14. Budget

See Appendix A.

Detailed Project Planning

15. Workpackages

The project planning process has, as indicated in the bid, been evolving during the project's inception period.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Planning and Specification															
uPortal Setup & Configuration															
Initial Web Service Setup															
uPortal to MIS interactions															
MIS to COSE Interactions															
uPortal to eResource Interactions															
Shibboleth															
Local Trials															
Trials with project partner Colleges															
Trials with other consortia Colleges															
Dissemination															

The above diagram shows the "big picture" in terms of project activities, presented in the original bid. Those components shaded "light" have been restructured to map onto the RUP approach to cover the scenarios and use cases thus far considered by SURF and WETN. The revised workplan for these is illustrated in the two diagrams on the next page. For WETN, implementation will be timed to follow that by SURF. The rationale being that the same technical and organisational issues will need to be addressed by both networks and an efficient approach will be to trial solutions at SURF before repeating the exercise at WETN. This is reflected in the Work Packages and Workplan given below.

For SURF therefore, current Work Packages are:

WP	Title	Status
1	Planning	Complete
2	Define scope and capture initial requirements	Complete
3	Capture remaining requirements and outline architecture	Ongoing
4	Login to portal from Staffordshire University and Colleges	
5	Display University module list and information	
6	Display personal details and submit personal details change request	
7	Display college course list and information	
8	Display COSE VLE module list and information	
9	Automate enrolment operations between MIS and VLE systems	
10	Beta release installation	
11	Evaluation and refinement	
12	uPortal to eResource Interactions	Being elaborated as part of WP 3
13	Shibboleth	To be elaborated as part of WP3 following Programme meeting

14	Local trials	Inherent part of WPs 4-9
15	Trials with partner colleges	Inherent part of WPs 4-9
16	Dissemination	Ongoing

Work Packages 12 and 13 will be expanded into new, component work packages as the elaboration phase of the project progresses.

For WETN the Work Packages will be:

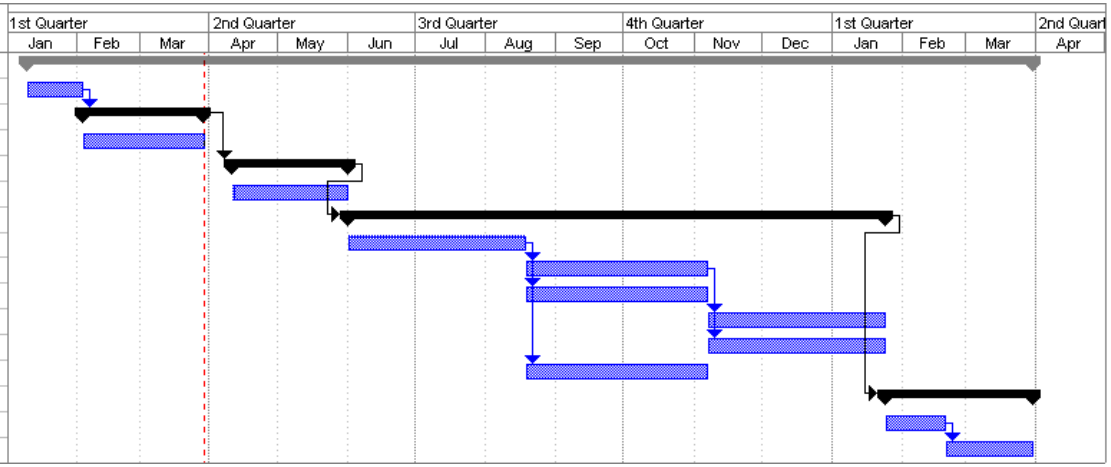
WP	Title	Status
1	Planning	Complete
2	Define scope and capture initial requirements	In Progress
3	Capture remaining requirements and outline architecture	Starting
4	Login to portal from all three Colleges	
5	Display WETN module list and information	
6	Display personal details and submit personal details change request	
7	Display VLE module list and Launch VLE	
8	Automate enrolment operations between MIS and VLE systems	
9	Provide access to distributed learning resources	
10	Beta release installation	
11	Evaluation and refinement	
12	uPortal to eResource Interactions	Being elaborated as part of WP 3
13	Shibboleth	To be elaborated as part of WP3 following Programme meeting
14	Local trials	Inherent part of WPs 4-9
15	Trials with partner colleges	Inherent part of WPs 4-9
16	Dissemination	Ongoing

As stated in Section 9 above, it is important in understand the projects plan to realise that the RUP process involves phases and iterations. Each iteration within the phases includes:

- Planning
- Requirements
- Analysis
- Design
- Implementation
- Test
- Evaluation

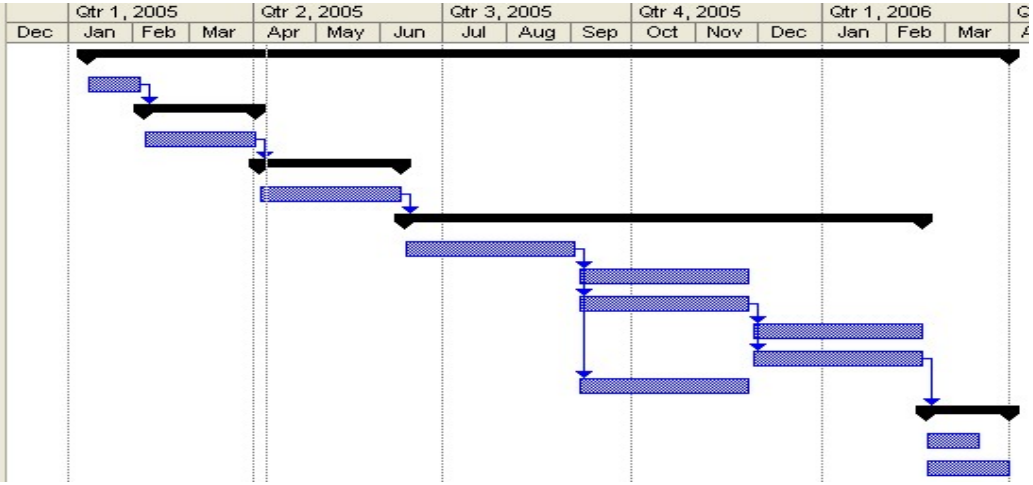
SURF Workplan

ID	Task Name
0	**SUNIWE**
1	Planning
2	**Inception**
3	Iteration 1 - define scope and capture initial requirements
4	**Elaboration**
5	Iteration 1 - capture remaining requirements and outline architecture
6	**Construction**
7	Iteration 1 - login to portal from Staffordshire University and from Colleges
8	Iteration 2 - display university module list and information
9	Iteration 3 - display personal details and submit personal details change request
10	Iteration 4 - display college course list and information
11	Iteration 5 - display COSE VLE module list and launch the VLE
12	Iteration 6 - automate enrolment operations between MIS and VLE systems
13	**Transition**
14	Beta release installation
15	Evaluation and refinement



WETN Workplan

	Task Name
1	**SUNIWE**
2	Planning
3	**Inception**
4	Iteration1 - define scope and capture initial reqirements
5	**Elaboration**
6	Iteration 1 - capture remaining requirements and outline architecture
7	**Construction**
8	Iteration 1 - login to portal from all three colleges
9	Iteration 2 - display WETN module list and information
10	Iteration 3 - display personal details and submit personal details change
11	Iteration 4 - display VLE module list and launch VLE
12	Iteration 5 - Provide access to distributed learning resources
13	Iteration 6 - automate enrolment operations between MIS and VLE syste
14	**Transition**
15	Beta release installation
16	Evaluation & refinement



16. Evaluation Plan

NOTE: Evaluation is an inherent part of the RUP process. Each RUP Phase, and iteration within it, will have linked evaluative and QA components, plus a review at the end of each.

Overall project evaluation will follow the following process:

- Each partner and cooperating college will maintain an ongoing record of all aspects of its involvement
- Partners will feedback and review each others progress at project meetings
- At the end of each project phase, partners write their individual "stories"
- Partners review each others stories and highlight similarities and differences
- End of phase meeting reviews findings
- At end of project all partners write up complete "local" story
- Partners review each other stories and highlight similarities and differences
- Feedback from process used to produce project deliverable reports

Evaluation of technical effort will be as follows:

- Each phase and iteration has formal testing plan covering software quality and interoperability/conformance. This will draw on JISC software quality guidelines.
- User testing and acceptance will be made up of:
    - Demonstration to small target stakeholder group
    - Trial by group
    - Observation of trial
    - Focus group and/or interviews
- Outputs from these will contribute to decisions on further iterations and phase-end reviews
- The outputs will also contribute to the overall project "stories"
- Full evaluative testing of "completed technical outputs" will use the above process with a large group of targeted stakeholders

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
End of each phase	Is phase complete?	Do outputs from phase conform to overall goals?	See above	Components in place to allow progress to next phase of RUP
End of each iteration	Developed at the start of each iteration	Is another iteration needed?	See above	Outputs pass iteration test plan criteria
On-going project evaluation	Overall project status	Is project on track and moving towards stated goals?	See above	Progress against plan Quality of outputs

17. Quality Assurance Plan

QA processes are built into the RUP process and will be strongly linked to evaluation

Timing	Compliance With	QA Method(s)	Evidence of Compliance
End of each phase and iteration	Fitness for purpose	Test plan, review plus user evaluation as above	Positive outcome
End of each	Best practice for processes	Test plan, review plus user evaluation as above using	Positive outcome

phase and iteration		appropriate stakeholders	
As needed according to workplan component	Adherence to specifications Need to conform to IMS Enterprise and probably LIP	Testing across partners plus testing by members of appropriate CETIS SIG	Successful movement of information to other conformant systems
As needed according to workplan component	Adherence to standards	To be decided	
Part of each test plan	Accessibility legislation	Review by LDI accessibility experts	Positive outcome
As needed according to workplan component	Fit to organisational strategies	Review by Senior stakeholders	Agreement on fit

18. Dissemination Plan

Timing	Dissemination Activity	Audience	Purpose	Key Message
Monthly	Monthly Updates	Internal Stakeholders	Maintaining profile of project Ensuring commitment	Progress plus need for business process and/or cultural change
As requested	Project reports	JISC	Satisfying terms of funding	Project being properly and successfully conducted
Ongoing	Email list, Web Site and Wiki	JISC and UK HE/FE Community Interoperability, and other communities	Awareness and contribution by others	Project is relevant to community and seeks its input
At meetings	Reports to CETIS SIGs	Standards community	Disseminating work with community and validating conformance	Projects has produce work with specifications and welcomes critical feedback
Project deliverable reports	Promoted via all means	All Stakeholders	Ensuring widest possible audience for deliverables	Project seeks to disseminate its findings
At meetings	Reports to local SURF committees	SURF Board SURF Quality Committee (and elearning subgroup)	Confirmation that project is being properly conducted and meets local needs	Project is open to local feedback and guidance
As available	Demonstration/presentation at events	RSCs UCISA	Awareness and contribution by	Project is relevant to

		JISC Prgrammes Other conferences	others Ensuring widest possible audience for deliverables	community and seeks its input Project seeks to disseminate its findings
As opportunities present	Conference and Journal Papers	Relevant National and International communities	Seeking scholarly feedback and encourage scholarly engagement by project members	Project welcomes critical feedback

19. Exit/Sustainability Plan

Project Outputs	Action for Take-up & Embedding	Action for Exit
Web Site and Wiki	See dissemination	Preserved at Staffordshire University. Archived by JISC?
Project reports	See dissemination	Made available via JISC and partner web-sites
Project web services	Made available as open source and promoted	Web service collection for use made available via COSE site and Source Forge under COSE "brand"
Business process and cultural change	Disseminated. Embedded in core practices of project partners.	Change implemented in partners during project and built into future plans

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
Web services and other technical outputs	Part of COSE product range Part of wider WETN, SURF and NIIMLE strategies	Will be part of ongoing developments and used across SURF and NIIMLE WETN variations used across Wales	*To be developed*