

## PROJECT PLAN

### Project

<b>Project Acronym</b>	Horus	<b>Project ID</b>	
<b>Project Title</b>	An Open-Source, Reusable Toolkit to Quality-Manage Learner-Centred, Work-based Education		
<b>Start Date</b>	1 <sup>st</sup> September 2004	<b>End Date</b>	31 <sup>st</sup> March 2005
<b>Lead Institution</b>	UMIST		
<b>Project Director</b>	Dr Martin Brown		
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<b>Partner Institutions</b>	University of Manchester, Salford Royal Hospital Trust		
<b>Project Web URL</b>	<a href="http://www.csc.umist.ac.uk/horus">http://www.csc.umist.ac.uk/horus</a>		
<b>Programme Name (and number)</b>	Distributed e-Learning		
<b>Programme Manager</b>	Richard McKenna		

### Document

<b>Document Title</b>	Project Plan		
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### Document History

Version	Date	Comments
1.0	26 <sup>th</sup> August 2004	First version, sections 1-14, at start of project.



## JISC Project Plan Template

### *Overview of Project*

#### **1. Background**

iSUS is an e-learning technology (intelligent Sign-Up System) that has been developed by the applicants and was first fully implemented in October 2003 to support learner-centred, problem-based learning (PBL). Since then, it has quality-managed some 8,000 workplace learning events by 140 students in Manchester's innovative, problem-based medical curriculum. It has helped each of those students learn reflectively, assemble a personal development record, be automatically directed to relevant learning events and provide quality assured functionality for teachers and assessors.

During this work, it became apparent that the learning processes and technology are generalisable as iSUS is now being 'rolled out' through the whole Manchester medical curriculum, and we have been asked to customise it for other medical schools, and other curricula (nursing, clinical psychology and postgraduate medicine). In fact, the processes are generic outside the medical domain and this will become increasingly important as PBL methods are adopted by other disciplines. There are currently no commercial educational software tools that support and manage these generic processes in placement/problem-based learning for both learners and teachers, and this project is aimed at filling this gap.

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

The broad aim of the project is to develop a configurable set of open-source services and to demonstrate their use for learner-centred, problem-based learning.

The specific objectives are:

1. Develop and make available reusable, open-source, application services that:
  - Make learners and teachers more aware of curriculum goals.
  - Gather, analyse and disseminate feedback relating to work based placements and other learner-centred activities.
2. Develop standard service interfaces for these innovative application services.
3. Integrate the developed services in the JISC technical framework.
4. Develop a set of use cases in learner centred education, to help prospective users apply the services.
5. Demonstrate how these services support two e-learning scenarios.
6. Disseminate the product through the Learning and Teaching Skills Network (LTSN) and by expanding the existing community of developers and users.

#### **3. Overall Approach**

The project plan, its work package structure and its separation into three major themes (development, demonstrators and project management) clearly identify the necessary deliverables and their interrelationship. Responsibility for the development primarily lies with Martin Brown, responsibility for demonstrators primarily lies with Jim Petch, and for the project leader has sole responsibility for the project management. Appropriate project and software development management methodologies (sections 8, 9 and 12) will be used to monitor the progress. The demonstrator theme will be used to identify relevant educational processes that the toolkit can support and also to implement two key scenarios to validate the toolkit. The development theme is responsible for actually developing the toolkit and demonstrating that it can be integrated with the JISC technical architecture.

The first key issue that will affect the toolkit's development process are generalizing the educational concepts contained in iSUS, so that they can be configured to support a wide range of placement/PBL processes. The second key issue is to demonstrate that the toolkit can be integrated with, and can be used by, other key services in the JISC technical architecture.

The project will assume that key services dealing with personnel and timetable management, authorization and authentication can be integrated with the Horus toolkit. This is both to demonstrate that developed services can be integrated with the JISC technical architecture, and also to ensure that the development boundaries are well-defined. Internal data required by Horus (learner and teacher information, scheduling of learning events, password protection etc) will be synchronized with these data repositories. The toolkit is aimed at learning events for which registration, feedback, reflective learning, directed resource discovery and quality assurance are all key elements.

The most critical success factor (which can be objectively assessed during the project) is to demonstrate that the toolkit can be cost effectively deployed for the e-learning scenarios developed on the project. These scenarios should be sufficiently different educational requirements to demonstrate the flexibility of the toolkit and their architecture requirements should be representative of typical FE/HE institutions. Secondary success factors include demonstrating that independent FE/HE institutions can integrate their software toolkit in their e-learning environments, although this information may only be obtained at the end of the project or after it has finished.

## 4. Project Outputs

### Software

- A services toolkit that contains generic functionality for building feedback-driven e-learning scenarios. Released under the open source GPL.
- Two e-learning demonstrators.
- Project web site for information, software and document dissemination.

### Documents

- Toolkit architecture and service specification documents
- Toolkit installation, integration and user manuals
- Feedback driven e-learning use cases document
- Test (unit and system) document
- Educational validation plan and results documents
- Project management document
- Participation at JISC events

### Knowledge and skills

- Understanding of how learning/skills hierarchies can be used to organise knowledge for reflective learning and quality assurance
- Skills in developing component-based educational services for deploying within the JISC technical architecture

## 5. Project Outcomes

The envisaged outcomes for the project include:

- An increased awareness in FE/HE institutions of how the Horus toolkit can support the process of teaching and e-learning.
- The deployment of the Horus toolkit in UK FE/HE institutions, outside health professions education.
- Stimulation of research in the use of e-learning tools for quality assurance and relevance detection of learning events.

The overall vision for the project outcome is to demonstrate how e-learning software can better support semi-structured, placement/PBL learning processes and the associated dissemination of both the software and concepts.

## 6. Stakeholder Analysis

Stakeholder	Interest / stake	Importance
JISC program manager	Quality assurance for JISC	High
Educational demonstration institutions	Participate in educational requirements, development and validation for Horus	High
JISC technical architects	Collaborate to develop re-	High

	usable services for Horus	
Existing iSUS staff at SRHT	Application of Horus to existing iSUS applications	Medium
Deans of SRHT and vUoM	Support/champion of iSUS. Champion roll-out of Horus.	Medium

## 7. Risk Analysis.

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Unable to appoint/ maintain suitable staff to work on project.	3	4	12	High impact on short-term project, but there is a good pool of software development staff available at Manchester to continue the work.
Unable to obtain a suitable set of requirements.	2	4	8	High impact on software design, but a lot of insight has been gained in developing iSUS, so many requirements are already well-understood.
Unable to achieve full integration with JISC technical framework components.	4	3	12	Determine which common services need to be developed in addition to the core toolkit services. Development plan allows for the production of a simple service in each case.
Software development too difficult within available resource or budget.	3	3	9	Medium impact, as it would affect the number of developed services. Previous experience with iSUS and cyclic development process will be used to manage the risk.
Developed services will not easily transfer to other e-learning scenarios.	2	2	4	Previous experience with PBL/iSUS has allowed the team to identify many generic characteristics associated with feedback assessment. These are common to many e-learning scenarios.
Inadequate dissemination or engagement with the sector.	3	3	9	High impact on medium term objectives to be managed through engagement with LTSN centres and network of medical/health education and links to CETLs.

## 8. Standards

For further information about the technical development/standards, see Section 9. For further information about project management standards, see Section 12.

The Horus toolbox will be available as a set of web services. Web services allow software to be integrated in a platform/language independent manner and so the toolbox's functionality will be available to any FE/HE institution.

## 9. Technical Development

The software development will adopt a lightweight version of the (Rational) Unified Process, in order to adapt it for small teams. The main aspects of developing software iteratively, managing requirements, using component/services-based architecture, visually modelling software, verifying software quality and controlling software changes will all be retained. An initial inception/design will be performed, where key educational requirements are identified, a technical architecture is formulated and initial service interfaces specified. Software development/elaboration cycles of 1 week

duration will then be performed, and a design review/planning/re-planning meeting will be held weekly. Software planning and review meetings will be chaired by the lead developer and will be monitored by the project leader to ensure that priority functionality is included at appropriate times. Test suites will also be jointly developed, to both demonstrate and quality assure the development. This development process is aimed at managing the risks, at many levels, associated with software development.

The development technology will be selected at the start of the project.

## 10. Intellectual Property Rights

The IPR of the current system, iSUS, lies with the project's proposers, and they are keen to see the core components made available to the wider UK FE/HE community. In addition, they fully support the concept of making the generic software toolkit available as open source software, under the GPL, for free use within UK academia.

During the project, the IPR issues associated with the Horus toolkit will be explored and resolved. A suitable agreement for releasing the concepts as part of the Horus software toolkit, under the GPL, will be produced.

## Project Resources

### 11. Project Partners

**UMIST: Dr Martin Brown**

Project leader/manager  
Project management  
Software development lead

**University of Manchester: Dr Jim Petch & Dr Tim Dornan**

Project management  
Educational assessment and validation  
Educational demonstrator development

**Salford Royal Hospital Trust: Dr Stuart Clark**

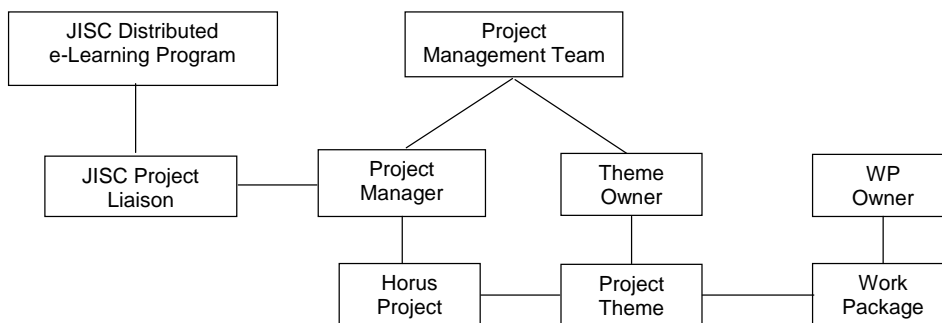
Software development partner

Contact details are given in Section 12.

A consortium agreement will be prepared and signed as soon as possible.

### 12. Project Management

The project management structure is shown below:



The project works to a project plan, this document and a project initiation document that determine roles, responsibilities, work packages, deliverables and the general time frame of work activities and deliverables. The project management team meets once a month and comprises of reports from each of the project's themes (development, demonstrator and project management) about the progress, problems and re-planning. Each of the project's themes has an owner who is responsible for overseeing the progress on each of the work packages, as well as coordinating their outputs. The project will be adopting a common set of documents for recording evidence and publishing them on the project's intranet.

The project manager is undertaking 20% of his time on project management with a heavy front-loading during the inception period.

The project development team members will receive appropriate internal training for designing, developing and managing software where appropriate. No external training is envisaged.

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**13. Programme Support**

Information, documents and/or contacts for specifying and integrating services with the JISC technical architecture.

**14. Budget**

As agreed with the program manager, the requested budget is £118,132, as shown below:

<b>Staff</b>	Work Package Staffing	
	Academic (8 months at £300/day)	£48,000
	Developer (3FTE for 8 months each, RA1A/sp10)	£63,632
	Administrator (10%)	£2,500
<b>Total (Staff)</b>		<b>£114,132</b>
<b>Non-Staff</b>	Travel & subsistence (conferences & meetings)	£1,000
	Consumables	£1,000
	Hardware & Software	£2,000
<b>Total (Non-Staff)</b>		<b>£4,000</b>
<b>Total Project Budget</b>		<b>£118,132</b>

***Detailed Project Planning***

**15. Workpackages**

Use the workpackages template to plan the detailed project work and attach as Appendix B. Clearly indicate project deliverables and reports (in **bold**), when they are due, phasing of workpackages, and

explain any dependencies. You may also attach a Gantt chart, diagram, or flowchart to illustrate phasing.

## 16. Evaluation Plan

Indicate how you will evaluate the quality of the project outputs and the success of the project. List the factors you plan to evaluate, questions the evaluation will answer, methods you will use, and how success will be measured. Expand as appropriate on how you will conduct the evaluation.

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success

## 17. Quality Assurance Plan

Explain the quality assurance procedures you will put in place to ensure that project outputs comply with JISC technical standards and best practice, and what will constitute evidence of compliance.

Timing	Compliance With	QA Method(s)	Evidence of Compliance
	Fitness for purpose		
	Best practice for processes		
	Adherence to specifications		
	Adherence to standards		
	Accessibility legislation		

## 18. Dissemination Plan

Explain how the project will share outcomes and learning with stakeholders and the community. List important dissemination activities planned throughout the project, indicating purpose, target audience, timing, and key message.

Timing	Dissemination Activity	Audience	Purpose	Key Message

## 19. Exit/Sustainability Plan

Explain what will happen to project outputs at the end of the project (including knowledge and learning). Focus on the work needed to ensure they are taken up by the community and any work needed for project closedown, e.g. preservation, maintenance, documentation.

Project Outputs	Action for Take-up & Embedding	Action for Exit

*List any project outputs that may have potential to live on after the project ends, why, how they might be taken forward, and any issues involved in making them sustainable in the long term.*

<b>Project Outputs</b>	<b>Why Sustainable</b>	<b>Scenarios for Taking Forward</b>	<b>Issues to Address</b>

## ***Appendixes***

### **Appendix A. Project Budget**

### **Appendix B. Workpackages**

JISC Project Management Framework  
22 December 2003