


JISC Grant Funding 03/10

A) Cover Sheet for Proposals			
Name of JISC Initiative:		Distributed VLE B: Institutional pilots	
Name of Lead Institution:		University of Reading	
Name of Proposed Project:		DEVELOP (Developing and Enhancing Virtual learning environments and E Learning OPTions)	
Name(s) of Project Partners(s) (except commercial sector – see below)		n/a	
This project involves one or more commercial sector partners YES / NO (delete as appropriate)		Name(s) of any commercial partner company (ies) n/a	
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Length of Project:		18 months	
Project Start Date:		1 July 2010	
Project End Date:		31 December 2011	
Total Funding Requested from JISC:		£99,275	
Funding requested from JISC broken down across Financial Years (Aug-July)			
Aug09 – July10		Aug10 – July11	
£4,944		£60,138	
Aug11 – Dec11		£34,193	
Total Institutional Contributions:		£110,040	
Outline Project Description This project will build on existing VLE development work and good practice at Reading, and elsewhere, to meet the following identified current and projected needs: a. Expand the pedagogic models VLEs are able to support, to allow much more student-centred learning than the traditional hierarchical folder-structure offered by VLEs. b. Improve the portfolio functionality of VLEs so that they can be used for teaching and assessment purposes not just individual use. Explore the relationship between these kinds of portfolio and the Higher Education Achievement Record (HEAR) and the portability of portfolios beyond graduation. c. Simplify content distribution and share across platforms to allow resources and data held and generated outside the VLE to be used within the VLE in a seamless-looking way.			
I have looked at the example FOI form at Appendix A and included an FOI form in this bid		YES / NO (delete as appropriate)	
I have read the Funding Call and associated Terms and Conditions of Grant at Appendix B		YES / NO (delete as appropriate)	

DEVELOP (Developing & Enhancing Virtual learning environments and E Learning Options)

Overview

1. This project will build on existing VLE development work and good practice at Reading, and elsewhere, to meet the following identified current and projected needs:
 - a. Expand the pedagogic models VLEs are able to support, to allow much more student-centred learning than the traditional hierarchical folder-structure offered by VLEs.
 - b. Improve the portfolio functionality of VLEs so that they can be used for teaching and assessment purposes not just individual use. Explore the relationship between these kinds of portfolio and the Higher Education Achievement Record (HEAR) and the portability of portfolios beyond graduation.
 - c. Simplify content distribution and share across platforms to allow resources and data held and generated outside the VLE to be used within the VLE in a seamless-looking way.

Fit to programme objectives and overall value to the JISC community

2. User needs and VLE analysis

We have been able to identify these needs from a range of evidence available to us. The 2006 HEA/JISC e-benchmarking exercise provided us with a clear overview of our institutional engagement with e-learning. We then successfully bid for, and undertook, a Pathfinder-funded project to develop a more strategic approach to the expansion and embedding of e-learning at a programme level using our quality assurance processes. Periodic Review of programmes was revised to include reflection on the student learning experience and an e-learning review. Additionally, Schools have to produce an enhancement plan which demonstrates how they will address identified areas of weakness and build on examples of good practice. Implemented four years ago, this process provides us with a rich evidence base of current and future use and needs across the institution.

3. Over the same period, we have carried out institutional reviews examining the effect of modularising provision in 2000, Personal Development Planning and the Personal Tutorial system, assessment and feedback and employability. In addition, we have also regularly surveyed our students to find out how they study and develop online. The evidence from all this work, coupled with the outcomes of the following developments in particular have enabled us to identify the strengths and weakness within our institutional learning environment and provide us with a detailed picture of our users' needs.
4. One of Reading's HEFCE-funded CETLs, the Centre for Career Management Skills (CCMS), has developed highly successful online learning resources, most notably a career learning web site Destinations® with over 50 registered HEI users in the UK. As well as Student Stories - offering students access to audio narrative accounts of student and university life; and Beyond the PhD – tailored specifically for arts and humanities PhD researchers. Destinations® is used at Reading in every degree programme to support a compulsory Career Management Skills module, as well as widely in many other HEIs. Currently, its use as a wider teaching resource is restricted as Destinations® content can only be linked to very basically from within the VLE.
5. An innovative, interactive Web 2.0 resource, 'ASSET', to encourage staff to experiment with the use of video media to provide feed forward and feedback to students. Funded by JISC, ASSET has proven to be an effective tool at Reading and the wider sector has shown much interest in it. The project team has recently been successful in securing additional Benefits Realisation funding which will be used to host a number of workshops across the UK. The project team have been able to develop a basic way to link to and play video held in ASSET within the VLE, but further work is required for the level of integration users would like to see.
6. As an institution we are increasingly moving more of the assessment process online, both teaching and administration. To facilitate this, and to support further uptake, we recently 'integrated' Turnitin with our VLE using the Blackboard building block, allowing Turnitin to be used within our VLE. We have further extended the functionality of our VLE in response to user needs through the addition of a number of other building blocks to our VLE to offer integrated tools such as Blogs and Wikis, video and audio to learners and teachers. While these

developments have improved the functionality of our VLE, we have not yet been able to overcome the limitations on learning/teaching approach the rigid folder structure imposes on content delivery. For content-rich courses, this can make navigation to and between particular resources cumbersome and is also becoming a significant issue as more staff adopt an enquiry-based learning approach.

7. To support PDP at Reading we have developed a VLE-based e-portfolio tool, iLearn. Students are encouraged to complete an Individual Learner Profile (ILP) at the start of each year and to review progress against set goals at the end of each year with their Personal Tutor. Academic Schools are encouraged to populate their bespoke iLearn area with useful and timely information such as placement opportunities or forthcoming events. Students are able to create portfolios and share these with Personal Tutors, Careers Advisors and Study Advisors. iLearn has been rolled out to all undergraduate students and extensively evaluated.
8. In addition, Reading has made significant efforts to develop the functionality of the VLE e-portfolio tool in order to enhance its learning and teaching potential, including:
 - a. Better integration of portfolio tool into the structure of courses
 - b. Step-by-step guidance to set-up of a portfolio, alongside (and embedded within) the tool
 - c. Integration of new features: eg. "Preview" button and "Print" button for individual pages
 - d. Digitisation of a confidence-rating questionnaire (Individual Learner Profile) that was then integrated into the tool
9. Despite successful work to improve the appearance and configuration of the VLE portfolio tool, issues remain:

'Make it more interactive because presently it feels like I'm typing a word doc. which no else will ever read and so it feels pointless'.(student)

'The existing templates provided make it very difficult to edit information'. (student)

'iLearn has no provision for staff-led and controlled generation of coursework feedback: this is essential for students' reflection, and indeed a key source for the reflective work we ask our students to write. At the moment we have no way of integrating coursework feedback'(staff)

Issues to be addressed and technical approaches

10. Using the above we are able to identify the following areas of development and the technical approaches which this project will address:

Functionality of our VLE:

11. The development of tagging facility for content items within the VLE. This would enable different paths of navigation through course content, alongside or bypassing the currently inflexible and hierarchical folder structure available. This in turn would enable different learning models within the VLE, allowing for students to discover learning content in new ways. Related items would be linked via labels they have been tagged with, and a "cloud-like" tag map would finally take VLE content beyond the arbitrary limitations imposed by the view of data as something that still needs to be organised according to physical dimensions (eg. the filing cabinet) and allow students to approach course content from various angles.
12. While the tagging facility has been identified as a need by teachers, there is also the potential to develop this further to allow students to tag what they find. Opening up the possibility for 'private' or 'social' tagging, as well as 'folksonomic' labelling whereby students decide how to label, to 'taxonomic' where the teacher pre-determines a list of central labels.
13. Exploration of VLE usage data to see if the paths users take through items can be displayed alongside the tag information. This might include a "users who looked at this item also viewed the following..." 'recommender' feature or it could allow for ranking items by viewing popularity.

Enhancing employability and PDP

14. The development of a plug-in tool to allow development of our VLE modules using Destinations® content, and Student Stories content. This would bring together existing projects for staff and students at Reading and for other Destinations® users in the sector.
15. Exchange of data between Tribal's SITS (student record system), portfolios and the student transcript/HEAR. This would make it easier to move verifiable information to uploaded to the

HEAR from different sources with more subjective and reflective work being developed and stored into a students' PDP/portfolio. Clear and simple demarcation and storage of relevant information for the HEAR and PDP will be extremely useful to students and staff. Students will need to engage with the HEAR as a formative document, rather than simply just taking it away when they graduate. As HEAR is a national initiative this would be attractive across the sector. A simple mechanism for exchanging information will aid this process and highlight the mutually beneficial relationship between the HEAR and portfolios/PDP.

e-Portfolio developments

16. Further development of the existing portfolio tool as a tool for institutional teaching/learning and assessment use. Currently it is designed for students to assemble their own work/content to show to others, if they authorise this. The new version of the portfolio tool could then be used to aid integration of assignment and gradebook functions with portfolios to allow collation and reflection of marks and feedback (this will complement other work in the area of assessment and feedback – see below).
17. Creation of portfolio 'shell' and re-usable templates e.g. year aboard, work placements, RED Award (Reading's new institutional award being launched October 2010). We have begun work on re-usable templates for the iLearn tool which have been favourably received both at Reading at national conferences¹. However, there are issues which still need to be resolved with the creation of reliable re-usable portfolio templates.
18. Improve sharing and feedback functionality, so that 'external' viewers of portfolios can view and post comments on individual elements of portfolio as well as portfolio as a whole.
19. Portability of portfolios. There is some existing limited portability of portfolios but without an edit function. The project will investigate the needs of users and the options for meeting these needs.

Integrating current systems to better support assessment and feedback practices

20. The JISC-funded project ASSET showed that there is vast potential in utilising videos for feedback. ASSET has created a simple solution to allow uploading of videos by staff and then subsequent replay through the VLE. This project will further enhance this by creating a more complete integration where the VLE will be harnessing the functionalities normally found in Web2.0 tools, thus allowing the students to learn using techniques they are already familiar with outside the University setting. This will enable much wider use of ASSET.
21. Exporting marks from VLE gradebook into SITS which will enable easier storing and tracking of marks, and allow work marked in the VLE to be automatically added to other module marks providing a complete mark record in one place. Ability to import feedback comments into iLearn portfolios, enabling greater student reflection.

Workplan

22. Current user scenario 1: supporting enquiry-based learning (EBL)
Jim wishes to teach using an EBL approach. He has developed the overarching framework for the enquiry and already has some subject material prepared and will also be creating some new resources. In addition, there is material he wishes to use in Destinations®, Student Stories, as well as within the institutional VLE (Blackboard). While the framework for the module is well-structured to ensure that students cover the subject material, Jim wants his students to discover knowledge for themselves. He is at a loss how to present this information.
23. **Future user scenario 1:** Firstly, Jim uses the '**Destinations®**' **widget** to upload content from this resource and Student Stories into the VLE. Then he uses the **tagging widget**; this allows him to tag his resources and present them in a way which lets his students navigate material in a learner-defined way, rather than a lecturer-defined way. He selects the **recommender widget**: "users who looked at these also looked at", so the class can benefit from collaborative

¹ Centre for Recording Achievement Annual Conference 2008, Blackboard Users Conference 2008 and 2009

working. Finally, Jim adds the whole class video feedback he gave last year using the **ASSET widget** as feed-forward.

24. Current user scenario 2: student Personal Development and Planning (PDP)

Kris, a student, is developing a number of portfolios within Blackboard and she is very confused about what to put into which, she is finding herself duplicating materials and she has a nagging doubt that she will not be able to use any of this material after she graduates.

25. **Future user scenario 2:** Kris has set up three inter-related portfolios using the **Portfolio Template widget**: a work-related portfolio, one for her personal development and one for her academic progress. She is confident that the material that she is linking to will remain available, whether it is work that she submitted using the assignment feature, comments that her tutor made on her work, or class feedback via the **ASSET widget**. She knows that when she has graduated she will be able to use the **export widget** to extract copies of all her portfolios and keep them up to date. In her work-related portfolio are a variety of materials. She is now preparing for her placement year, so she has developed a CV which she shared with a Careers Advisor, who added his comments on how she could improve it using the **Portfolio Feedback widget**. She has already downloaded the placement templates into her portfolio (**Portfolio Template widget**) which she will need to complete while she is working. There are a similar set for her employer. Since then, she has added some materials she developed during her career management skills module, and some resources she found really useful in the Destinations® site (**'Destinations®' widget**). She has recently signed up to the RED (Reading Experience and Development) Award and is participating in a number of accredited activities for that. She plans to undertake the assessment, so all of this is recorded in her personal development portfolio and is shared with the Award assessors (**Portfolio Feedback widget**). Also in her personal development portfolio are the records of her meetings with her Personal Tutor, her completed Individual Learning Profile reflections and the resultant action plans she has drawn up, some of this material has also been shared with her Tutor and includes her feedback.

26. **Deliverables**

a. Enhanced flexibility of VLE

Across the University-sector many technical solutions are developed to enhance learning and teaching, some of these can be easily integrated together, others are difficult to bring together. In some cases it is so awkward to use different functionality teachers and/or learners veer away from the technology. Within this project we will look to ways in which easy integration can be achieved. We will use the technology we use in our day-to-day teaching as a proof of concept, but the technical model we develop will be platform agnostic (where possible), and developer guidelines will be produced that will allow our solutions to be applied with different technologies.

b. Widgets, plug-ins and other tools

As part of this project we will develop a number of tools, some we envisage as widgets, that can stand alone on the desktop, others will be plug-ins that can be integrated into existing software (e.g. a VLE). The choice of exactly how to instantiate a tool and whether it should and could be instantiated in different formats will be part of the work of the project to determine. Here we describe the deliverables as widgets:

- **Tagging widget** will allow for the alternative mapping of course content by enabling tutors to label course items with associative keywords that link up with one another and provide students different ways of viewing the course
- **Recommender Widget** allows access to the underlying usage figures and user profiles to allow recommendations based on history and tags.
- **ASSET Widget** allows users to access their own ASSET material and link it to other content in other environments.
- **'Destinations®' widget** provides tutors with an item-browser within the VLE which they can use to select choice segments from the Destinations resource for importing into their course, without having to link out and away from the course, thus enabling greater integration.

- **Portfolio Template widget** provides students with a clear framework within which to work in their portfolios by automatically creating the pages and templates required when selecting a Portfolio option. The structure of these frameworks would be pre-determined by tutors or others.
- **Portfolio Feedback widget** allows tutors or others to comment on specific elements within a student's portfolio, providing more useful feedback.
- **Export Widget** allows access to portfolios and conversion onto a number of different formats.

c. Models and guidance

Each Widget will be developed using a rapid prototyping approach (such as the JISC developed UIDM) that takes account of stakeholders need. Design and development will be fully documented, with a view to the development been reproducible beyond Reading and the systems we have in place. We will also produce implementation guidance and models.

d. WIKI/Blog: the project will have a blog and record and comment on its activity, this will be available to the wider community.

27. Timetable

Activities	Date	Deliverables
Full understanding and description of issues	Months 1-3	<ul style="list-style-type: none"> • Narrative account of functions and activities within institution • Description of technical model • Architecture model
Identification of technical and process changes	Months 1-3	
Development of model(s) to enhance VLE capability	Month 4	
Steering Group meetings	Month 4 Month 10 Month 16	
Interim reports	Month 6 Month 12 Month 18	<ul style="list-style-type: none"> • Report
Building and development	Month 5 - 15	<ul style="list-style-type: none"> • Widgets • Documentation • ASSET widget
Pilots Portfolio pilots – 6 (internal and external) Learning models pilots – 2 to 3 Destinations widget – 6 (internal and external) Data exchange - 3 ASSET widget – 4 (internal and external)	Month 7-18	<ul style="list-style-type: none"> • Implementation models • Guidance documentation • Case studies
Evaluation Formative evaluation Summative evaluation	Month 5-9 Month 8-18	<ul style="list-style-type: none"> • Case studies
Engagement with community Establish Reading User Group (staff and student group) Ongoing virtual and physical interaction of RUG Establish informal network with other strand B funded projects Work with existing communities	Month 1-18 Month 1 Month 1-18	
Dissemination Sector wide:	Month 4 -18	<ul style="list-style-type: none"> • Papers

JISC events /joint project event(s) Centre for Recording Achievement events Blackboard User Group Blackboard Conferences ALT-C Reading hosted event Employability/PDP/Careers events Institution-wide: Articles, newsletters, web news Seminars and internal events Staff development workshops		<ul style="list-style-type: none"> • Workshops • Case studies
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28. Sustainability

The University is committed via its Learning and Teaching Strategy to providing a supportive and inspiring learning environment, both physically and virtually. It is intended that all the tools, applications and widgets will be integrated into our VLE at Reading, so that they will be available to all staff and students as appropriate. It is envisaged that by the end of the project, and following appropriate dissemination, that the project outcomes will become self-sustaining in relation to staff usage and in embedding within curricula. This will be ensured via staff development workshops and specific support via our centrally funded Centre for the Development of Teaching and Learning which will address both wider pedagogic issues as well as the practical 'how to'. As our intention is to build on open source software we do not envisage major financial sustainability issues over and above the high base level of information technology support that is already provided within the University. As with other educational projects at Reading, we will be proactive in disseminating the results and in encouraging uptake at other HEI's, thus increasing the usage of the outcomes of the project across the sector.

29. Project Management

The project will be overseen by a Project Steering Board chaired by the Pro-Vice Chancellor for Teaching and Learning and will comprise representatives of key stakeholders from within the University and a number of 'critical friends' from across the HE sector, including:
 Dr Mike Roch, Director of IT Services, University of Reading
 Dr Rachel Crabtree, Applications Manager (Student Records System), University of Reading
 Two School e-Learning Co-ordinators, University of Reading
 Mr Tom Gilchrist, Vice President (Education), University of Reading Students' Union
 3 external members representing stakeholders in the Blackboard User Community, ePortfolio developments and VLEs.

30. The project team will consist of the following:

Project role	Name	Institutional role
Project Lead	Dr Martha-Marie Kleinhans	Faculty Director T&L
Project Manager	Ms Maria Papaefthimiou	e-Learning Manager
Technical Advisor	Mr Mike Roch	Director, IT Services
Enhancement Advisor	Dr Julia Phelps	Director, Centre for the Development of Teaching and Learning
e-Learning Advisor	Professor Shirley Williams	NTFS and University Teaching Fellow
Project Officer (Implementation)	Mr Guy Pursey	e-Learning Officer
Project Officer (Development)	Dr Karsten Lundqvist	Research Officer

31. Risks:

Risk	Likelihood	Impact	Mitigation	Retained risk
Lack of engagement within institution to pilot developments	low	high	identify pilots earlier and offer incentives for engagement	low
Losing staff within the project team	low	high	identify alternates who can step in as necessary	low
Lack of engagement of wider HE sector	medium		Active membership of VLE user group Consultation of networks – eg PDP Involvement of externals on Steering Group Encouraging pilots in other institutions	low

32. IPR

While copyright will rest with the University of Reading, all resources developed will be made available to the JISC community via appropriate open source licences

33. Engagement with the community

We have identified the following communities which the project will engage:

34. Internal engagement: To ensure engagement with the project at Reading we will establish a Reading User Group of staff from across the University and from different roles. We will consult regularly with this group during the scoping phase at the beginning of the project to ensure we achieve a full understanding of user issues and to develop a community for the piloting and testing work. In addition we will inform and keep all staff up to date about the project through existing communication networks and events. Later on the project we will run staff events to showcase project outcomes, e.g. case studies and widgets.

35. External engagement: We will engage with the wider HE community in a number of ways. Firstly, through the appointment of three external members to sit on the Project Steering Group to ensure that the wider interests of the sector are represented and to assist in the further dissemination of the project.

36. Members of the project team are already members of established communities with interests in the aims of the project. We will engage with these communities, seeking their input at appropriate stages in the project. In this way, our outcomes will also meet the needs of the wider community and offer the opportunity for pilots to run in other institutions. These communities are: PDP through the Centre for Recording Achievement, the UK VLE Blackboard User Group, Destinations® community established by CCMS, the ASSET community as well as those supported by JISC.

37. We will hold a series of events at appropriate conferences and follow up and further engage with those interested in the project from these events, or from mailings and blog postings. We will establish a public project blog to engage with the wider community. We will actively seek to run pilots of the tools developed in other institutions, evaluating these and producing case studies and other guidance material as a result and encourage these pilots to disseminate. We will also engage with the other JISC-funded institutional pilot projects, identify areas of common interest and seek to hold joint events.

38. Budget (not disclosed)

39. Benefits of the project

- a. **Benefits to staff** are a more flexible VLE, able to support a wider range of teaching models and an improved ability to incorporate resources external to the VLE. A VLE with expanded functionality to support assessment and feedback in a variety of ways.
- b. **Benefits to students** are a VLE which offers them a more stimulating learning experience and which supports their personal development and planning in much more holistic way.
- c. **Benefits to the institution** are a VLE which supports the strategic teaching and learning aims of the institution and enhanced data sharing and exchange between systems.
- d. **Benefits to JISC and the sector** are a set of freely available tools and widgets which address key teaching and learning issues such as assessment and feedback, employability and PDP. A set of freely available resources and widgets to enable the sector to enhance the capability of VLEs to support a wider range of teaching approaches.

40. Previous Experience of the Project Team

Martha-Marie Kleinhans is the Faculty Director of Teaching & Learning (Social Sciences) at Reading and a University Teaching Fellow. As a legal academic, her research work is focussed on issues of identity and legal theory. Her teaching has been recognised by her having twice been shortlisted for the prestigious UK Law Teacher of the Year Award (2009 & 2010). She is widely recognised as an e-learning pioneer in the legal academy and the wider university community. Most recently, she has applied her skills and expertise to bringing real world learning opportunities into the broader curriculum and is, at present, chairing a Thematic Review of Work-Related and Placement Learning for the University.

Maria Papaefthimiou is E-learning Manager working within the University's Centre for the Development of Teaching and Learning. Her main interests are pedagogical aspects of VLE use, and how technology can be best deployed to enhance the teaching and learning experience. Her responsibilities include the management of the University's VLE, staff training and development in e-learning, the management, development and implementation of new e-learning initiatives within the University and the co-ordination of the School e-Learning Co-ordinators. Maria led the HEA/JISC e-benchmarking exercise and the Pathfinder project. She is currently leading the pilot work as a partner member of the JISC-funded project *Supporting new models for Curriculum Design*, lead by the Open University.

Stuart Brown leads the Web and VLE Support Team, part of the Corporate Information Systems and Services group within IT Services. This team support the University's websites and content management system, the Blackboard VLE, video streaming services and web interfaces for corporate systems including the SITS student information system.

Julia Phelps is the Director of the Centre for the Development of Teaching and Learning and has led many internal teaching and learning projects, including e-learning developments. She has worked closely with two of Reading's HEFCE-funded CETL projects.

Shirley Williams is Professor of Learning Technologies and a National Teaching Fellow. She has worked extensively on projects related to technology and learning; she has designed and developed a number of degree courses and related modules in the area of Information Technology. She is currently working with the College of Chiropractors developing an online environment for professional development. Recent projects include the EU-funded: Muvenation (aiming to help teachers understand the potential of Virtual Worlds to encourage pupil motivation), LLL3D (building, connecting and supporting communities using concepts such as virtual worlds to benefit Lifelong Learning), Mobiblog (developing a web-based service on European level for exchange of experiences of individual mobile students); Eduserv funded This Is Me (investigating persona presented across the internet), JISC-funded LinkSphere (linking researcher and data)

Guy Pursey is the e-Learning Development and Support Officer. His responsibilities include staff training and support in use of the VLE, addressing pedagogical needs and technical requirements, and producing help and guidance material for these ends. He developed the existing e-portfolio tool within the University's VLE and implemented this across the University. He has presented at international Blackboard conferences and at many user events and conferences. He is an active member of the Blackboard User Group. His interests encompass the use of Web 2.0 in teaching and learning and its role in students' lives, using new tagging technology to present new ways of

learning, and using audio and video technology as ways of presenting accessible course material and feedback to students.

Karsten Lundqvist is an experienced researcher working in the fields of e-Learning technology, social networking for learning, competencies and Digital Identity. He has participated in numerous national and international research projects, and has been recognised both nationally and internationally for the work he has contributed. He has a firm grounding in computational theories and technologies, and has high standard of expertise in semantic technologies. He has presented his work at conferences such as ePortfolio (2007, 2008, 2009), Online Educa (2009) and AOIR 9.0 (2008). Recent projects include the EU-funded: Trace, Muvenation, LLL3D, Mobiblog and JISC-funded ASSET.