**Cover Sheet for Proposals**  
*(All sections must be completed)*

<table>
<thead>
<tr>
<th>Name of Call Area Bidding For (tick <strong>ONE</strong> only):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call I: Transforming Curriculum Delivery Through Technology (JISC funded)</td>
</tr>
<tr>
<td>Call I: Transforming Curriculum Delivery Through Technology (Becta funded)</td>
</tr>
<tr>
<td>Call II: Assessment demonstrators</td>
</tr>
<tr>
<td>Call III: Course description and discovery</td>
</tr>
</tbody>
</table>

| Name of Lead Institution: | Newcastle University  
|--------------------------|------------------------  
| Name of Proposed Project: | Dynamic Learning Maps  

<table>
<thead>
<tr>
<th>Name(s) of Project Partner(s):</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Full Contact Details for Primary Contact:</th>
</tr>
</thead>
</table>
| Name: | Mr Simon Cotterill  
| Position: | Senior Research Associate  
| Email: | S.J.Cotterill@ncl.ac.uk  
| Address: | School of Medical Sciences Education Development  
| Tel: | (0191) 222 5020  
| Fax: | (0191) 222 5016  

| Length of Project: | 2 years  
|--------------------|----------------  
| Project Start Date: | 1st October 2008  
| Project End Date: | 30th September 2010  

| Total Funding Requested from JISC: | £198,791  
|------------------------------------|------------------------  
| Funding Broken Down over Financial Years (April - March): |  
| April 08 – March 09 | April 09 – March 10 | April 10 – March 11 | £51,186 | £98,403 | £49,202 |  

| Total Institutional Contributions: | £76,979  

**Outline Project Description**

Navigable **Dynamic Learning Maps** will be developed and evaluated to assist students and staff in actively mapping learning by drawing on formal curricular and personalised learning records, supported by easy-to-use facilities to add and rate resources, and tools to support discussion and reflection. These maps will fuse both ‘semantic web’ and ‘Web 2.0’ approaches, building on established technologies and standards to provide ‘mash-ups’ of resources and curriculum information (managed learning environments) and personal learning records (ePortfolios/blogs). The project will meet a number of JISC Programme objectives and will be of value to the wider HE/FE community. The approach will be a participative Work Package/Case Study model, working closely with students, staff, employers and other stakeholders to develop and implement a scalable, manageable and sustainable system to support the use of **Dynamic Learning Maps** to meet diverse educational requirements, ranging from Personal Development Planning to assessment.

<table>
<thead>
<tr>
<th>I have looked at the example FOI form at Appendix B and included an FOI form in the attached bid (Tick Box)</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have read the Circular and associated Terms and Conditions of Grant at Appendix D (Tick Box)</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
Overview

This project will develop and evaluate dynamic learning maps, which are “sticky” and “living” documents, through which students and staff can actively develop and map their learning, adding and rating resources, along with facilities to support discussion and reflection. These maps will fuse both ‘semantic web’ (connected nodes) and ‘Web 2.0’ (write as well as read) approaches. These will provide a navigable map of both formal (planned) curricula and personalised learning records. The maps will build on established technologies to provide a ‘mash-up’ of resources and curriculum information drawn from managed learning environments (MLEs) and personal learning records, drawn from and written to ePortfolios/blogs. The project will provide a flexible and participative approach which will support a diverse range of educational requirements, ranging from PDP to assessment.

The concept is illustrated in Appendix 1.

Dynamic Learning Maps will provide different views - of the formal planned curriculum, of public shared maps, of personal information – as well as views combining such elements. This will add to the flexibility of the tool to meet different curriculum and learner requirements. The information will be displayed in both graphical and simple text interfaces in recognition of diverse user preferences and the requirements for mobility and accessibility.

The project team has strong experience in the field of MLEs\(^1\)\(^2\) and an international reputation in ePortfolios\(^3\)\(^4\) and portfolio interoperability\(^5\)\(^6\) on which this project will build. The project will initially focus on Learning Maps for undergraduate Medicine using a small pilot. In light of the pilot evaluation the tool will be refined and applied to larger year-long pilots in Medicine, Education and other subject areas. The team has close working relationships with programme leaders across the University which, along with student and staff involvement, will ensure project deliverables match learning requirements as closely as possible.

Fit to programme objectives and overall value to wider community

This proposal aligns with the vision outlined in the programme call and briefing paper in a number of ways:

Learning and Teaching Practice.

We will develop tools which aim to enhance curriculum delivery by providing a very flexible approach for learners to explore their curriculum, record and reflect on their learning and evidence their skills/learning outcomes. Typically, a learner’s map will come pre-populated with topic ‘nodes’ and resources related to their curriculum (modules/units etc.), learning outcomes and specialist topics according to their particular programme. However, learners can also add their own nodes and resources (topics / sub-topics). The

---

\(^1\) Support VLEs for Medicine initially developed as part of a collaborative TLTP project on Network Learning Environments (http://nle.ncl.ac.uk). The current system (http://mbbs.ncl.ac.uk) is continually developed in line with complex and changing curriculum requirements, and is heavily used (10 million hits and 277GB traffic during May 2008).


\(^3\) See: http://www.eportfolios.ac.uk The team developed the ePET portfolio in projects funded by HEFCE/JISC which are currently used by over 6,000 users at Newcastle and 6,000 users in other institutions.


\(^5\) Includes JISC funded interoperability projects (ePET, EPICS and PIOP), contributions to JISC-CETIS portfolio SIG and engagement in 4 successive plugfests at EiFEL ePortfolios conferences.

interface with ePortfolio will enable learners to link files, blog entries, reflections, action plans against topics in the map. Where the topic is a skill or learning outcome, learners' records will be automatically cross-referenced as evidence in the appropriate parts of the ePortfolio.

From an educational perspective, constructing maps and portfolio building may potentially promote the synthesis of ideas, reflection on achievements, self-awareness and forward planning. Lecturers will also be able to visualise their teaching in the context of the broader curriculum, which is particularly useful in contexts such as Medicine where a large number of staff contribute to teaching a single programme.

Learning Maps will also have the capacity to be highly participative, with learners being able to add topics to shared maps, make connections between topics, engage in dialogue and add comments in any particular topic. Learners and facilitators will also share uploads or links to external learning resources which both learners and facilitators can rank, review and discuss. This is in recognition of the fact that the requirements and expectations of learners continue to change, particularly with the widespread adoption of ‘Web 2.0’. This is an area where the project team’s experience marrying unstructured ‘Web 2.0’ approaches7,8 with well defined curricula / outcomes will be highly beneficial. However, we recognise that change in learning cultures may be gradual and that given the diversity of learners, some will benefit by using the Maps and ePortfolio in a more individual and private way. Likewise, tutors and other curriculum staff have varying levels of engagement in participation and dialogue, though the Maps will provide an additional channel for peer support and group learning. In addition, the Maps will provide a simple semi-automated way of tagging and adding metadata (e.g. adding a resource in a Map node will automatically tag it with standardised topic labels and provide intelligent suggestions for related topics) – this will address the common problem that learner and staff engagement with tagging and providing metadata is typically low and often inconsistent.

Technology and standards
This proposal will include working with technical standards and specifications (see WP2 and WP4 below) which will fit well with the programme call and the general principles of the JISC/DEST e-Framework for Education and Research9. The benefit to learners will include an ability to draw in curriculum information and learning resources into relevant parts of the map, drawing on management information systems (MIS) data and MLEs10. We will also build on experience from using standards to aggregate education/training opportunities from multiple sources being developed in EPICS-2 (funded by JISC up to February 2009) to display workshops and other learning opportunities available outside the formal curriculum. On a more general level, the approach of integrating ePortfolios will mean that we can build on existing interoperability work when learners need to export or transfer their information sets.

Strategy and Policy
Learning Maps will provide a flexible and interactive tool which will align with the Teaching and Learning Strategy and support a diverse range of requirements for specific programmes. It will also help address sector-wide drivers for greater personalisation and student involvement in the curriculum11. Our novel integration of learning maps and ePortfolios will also provide additional support for personal development planning (PDP) and explicitly support transferable skills and employability, which are also high on the

9 http://www.e-framework.org/
10 Existing data feeds may be further enhanced if the ID-MAPS proposal submitted for the JISC 07/08 call is successful
11 The Future of Higher Education, DfES, 2004
The Learning Maps will enable both module/unit and programme level elements to be browsed and cross-referenced. In addition, the tool will enable curricula to be mapped to overarching frameworks – for example Newcastle University has implemented an ‘Undergraduate Skills Framework’ which emphasises transferable skills and life-long learning. This will benefit learners who will be able to view details of available learning and development opportunities outside of their specific programmes. Information on these opportunities will be drawn into the Map (e.g. services from Careers and language courses for international students) and linked with the appropriate skill nodes based on metadata.

This project has the potential to facilitate a revolution in Curriculum Management and Quality Assurance. For example, curriculum staff will be able to map and visualise relationships between curriculum, professional standards/benchmarks, employability frameworks and postgraduate (CPD) requirements. This may help identify ‘gaps’ or ‘duplication’, which are a potential problem, particularly for extended programmes such as Medicine, where learners can be distributed across many locations with large numbers of individuals/organisations contributing to the course delivery. In addition, by enabling the viewing of formal curricula structures alongside learner usage, the Maps may give some insight into the actual learning and perceived value of both internal and external learning resources. It is expected that this could assist the process of constructive alignment (convergence of the planned, taught and learned curricula).

Relevance to the wider FE/HE community

The project will be highly relevant to the broader FE/HE community (see above section for applicability to policy and general learning and teaching issues). The Learning Map application developed within this project will be highly flexible and applicable to both modular and non-modular programmes. We will be piloting the design with a range of subject areas and envisage the application will be applicable to most disciplines. As with ePortfolio, the tool will have potential to support a broad range of educational purposes (reflective learning, PDP, assessment, appraisal, group based learning, case-based learning, inter-professional learning etc) and engage learners, teachers, mentors/tutors and assessors.

Work Plan

Project Structure and Outline Timetable

<table>
<thead>
<tr>
<th>Work Packages (WP)</th>
<th>Description</th>
<th>Months</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP1: Project Management and Setup</td>
<td>Establish terms of reference, advisory &amp; reporting structures. Detailed project planning and dissemination strategy. Staff recruitment.</td>
<td>0-3</td>
<td>Advisory Board. Dissemination plan. Detailed project plan. Project Officer recruited.</td>
</tr>
<tr>
<td>WP2: Review of current practice</td>
<td>Investigate existing structures and solutions and define requirements</td>
<td>0-9</td>
<td>4 Short Reports</td>
</tr>
<tr>
<td>WP3: Consultation with stakeholders</td>
<td>Identify criteria suite for mapping curricula, external relationships and personal student experiences</td>
<td>3-7</td>
<td>User needs analysis</td>
</tr>
<tr>
<td>WP4: Developing the Learning Maps</td>
<td>Implement learning maps using pilot degree programme.</td>
<td>0-12</td>
<td>Learning Maps application</td>
</tr>
</tbody>
</table>


13 Leitch Review, HMSO, 2006. [http://www.hm-treasury.gov.uk/independent_reviews/leitch_review/review_leitch_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/leitch_review/review_leitch_index.cfm)

WP5: Pilots | Initial large scale pilot to prove the developed concepts and infrastructure | 4-20 | Pilot Learning Maps in a range of contexts Documented case studies

WP6: Evaluation | Develop, and guided implementation throughout the project, using methodologies to identify and understand attainment of project outcomes | 0-24 | Documented evaluation processes. Evaluation report.

WP7: Refining and implementing sustainability strategy | Plan how the project deliverables can be sustained and built upon. | 12-24 | Sustainability strategy

WP8: Dissemination | Dissemination for engagement and understanding | 0-24 | Website, community blog, 2 national meetings, dissemination at national and regional conferences and local events with stakeholders.

WP9: Project Documentation | Review achievements, collate findings, document and assess outcomes. | 18 | Final report, Completed evaluation

---

**Work Package Details**

**WP1: Project Management and set up**

In line with JISC requirements: establish project management framework and working group,

Advisory Board, detailed project plan, dissemination plan, recruitment of the 100% FTE Project Officer. Project Management will be led by Simon Cotterill and Gordon Skelly, who already work closely, and have respective expertise in ePortfolios and MLEs, together with extensive project management experience.

**WP2: Review of current practice.** This will involve established staff in the broader project team who will undertake:

- Baseline description of how curriculum delivery takes place at Newcastle University, including examples from both modular and non-modular programmes.
- Short investigation of methods and effectiveness in participative approaches at selected institutions (e.g. ranking of resources at the Open University and node-based systems at Edinburgh University) together with a scan of JISC project reports (e.g. CAMEL tangible benefits of e-learning project to which this project team were contributors).
- Short review of tools and functionality in web-based outlines, mind maps and graphical 3D map rendering
- Short review of relevant interoperability standards (e.g. SCORM, VDEX, XCRI, QTI, LEAP2.0, RSS, Atom etc.), taxonomies, and public resource banks (e.g. JORUM) that may be of relevance to the project.

*Deliverables:* 4 short reports for dissemination and to inform future development

**WP3: Consultation with stakeholders**

This will be on-going during the project, but there will be a focussed consultation period prior to development and piloting to establish and document user-requirements. The consultation will involve curriculum leaders (see letters of support, Appendix 3), a group of students from a range of years and programmes, the project team including links with Library, Quality in Learning and Teaching Unit (to reflect institution wide requirements for PDP and an Undergraduate Skills Framework). We will also involve a least 1 employer (NHS Northern Deanery).

---

We already know from preliminary consultation that programme leaders have diverse concepts of curriculum maps (even in the same programme), and as such this consultation will be a crucial stage in the project to help build up a common understanding of concepts across all stakeholders. The external evaluator has proven invaluable in facilitating such discussions in previous projects.

The use of concept demonstrators (see Appendix 1) has proven useful in the discussions about this proposal and will be built upon, together with demonstrations and discussions of tools and approaches identified in WP2.

As part of this Work Package we will also develop a number of scenarios to address key questions. For example ‘to what degree of granularity should Learning Maps be pre-populated from the curriculum?’.

**Scenario:** in Medicine information skills training is linked to the curriculum at key points, and comes under the Personal and Professional Development strand which cuts across the curriculum, rather than taught discretely as generic information skills. If the Learning Map was sufficiently granular to include specific assignments then the information skills resources could be connected to these to make it easier for learners to access the relevant information at the most crucial time. For example, in Medicine the first assignment in Nutrition, Metabolism and Endocrinology requires students to be aware of how to manipulate relevant databases using suitable controlled vocabularies and search techniques in order to summarise current literature on topics. In the map this assignment would link to various online library tutorials, ‘clinic’ type links which allow students to ask questions of the Medical Library Liaison Team, and access to the relevant databases and software they need to complete the assignment.

**Deliverables:** user-needs analysis, student liaison group

**WP4: Developing the Learning Maps**

Developing the Learning Maps technology and pedagogy will be an iterative action research process, informed by stakeholder consultation (WP3) and pilot studies (WP5). The broader approach to our developments is outlined above (see ‘Fit to programme objectives’) but will vary according to the stakeholder consultation. The technical developments will include:

- Designing a data model to fit a connected nodes approach akin to neural networks. This will allow a given node in the map to be connected to any other node and the strength of that connection to grow each time it is used (relevance).
- The Maps will to some extent be ‘folksonomies’ (categories defined by users in a way which is meaningful to them), but there will also be the facility to add metadata to a node so that formal taxonomies can also be supported (useful for drawing in resources from other systems e.g. SCORM compliant repositories such as JORUM). These nodes will be curriculum owned, public or private.
- Maps will have multiple views: curriculum and core resources only, curriculum and personal learning information. There will also be a choice of graphical and text interfaces to support individual preferences, mobile access and accessibility requirements. There will be a need to support changing curricula, so learners access the curriculum as they studied it, not necessarily the latest version.
- Drawing in information from the MLEs may require additional technical work (Web services and changes to MLE databases and or processes to support greater granularity of curriculum information and authentication/authorisation details).
- There will be interactive features including rating of external resources, comments, reviews and discussion areas. Such approaches have been tried in a few educational contexts but to the best of our knowledge never in this way as part of a Learning Map.
- We will also integrate personal records which will be associated with specific nodes in the learners’ maps these will be drawn from and written to ePortfolios (blog entries, evidence if the node is a skill/outcome, reflective notes, uploaded files, action plans etc).
- There will be management tools; for example a screen to view two curricula/skill sets simultaneously, so that they can be mapped against each other e.g. map a generic skills set to a
professional vocational framework. Administrative tools will also contribute to the quality management engagement lifecycle.

In addition to the technical developments, the curriculum-owned parts of the maps will need defining with input from the programme leaders, drawing on existing information, databases and taxonomies where ever possible. There will be initial curriculum mapping that will involve a range of techniques (some programme leaders have a strong preference for flip charts, string and post-it notes! Others may use mind mapping software and others may use the Learning Map to enter information directly). After this initial capture the information will be maintained through the Learning Maps.

Deliverable: refined Learning Map application

**WP5: Piloting.** This will involve the delivery of a number of Case Studies (CS):

- **CS1** - small-scale pilot in Medicine (Semester 2, 2008/9) with the Learning Maps embedded within the bespoke MLE (including established ePET portfolio). Evaluation from this will help further refine the technologies and pedagogy for larger pilots:

- **Large scale pilots (over the full academic year, 2009/10)**
  - CS2 - Medicine
  - CS3 - Speech & Language Sciences (School of Education, Communication and Language Sciences). Pilot with BSc and MSc students already using the ePET / Blackboard portfolio.
  - CS4 - we will pilot the Learning Maps with at least one modular programme drawing in module information from University MIS systems. This may include Biosciences, Combined-Studies, and PGCE courses which already have established use of the ePET portfolio accessed via Blackboard.

Deliverables: case study reports

**WP6: Evaluation**

Our external evaluator will continually work with the project to develop and implement appropriate methodologies both to identify and to analyse the attainment of intended and additional outcomes. We will capture process evaluation (including ‘lessons learned’) in addition to evaluation of the specific case studies. Methodologies will include interviews, questionnaires and focus groups.

Deliverable: final evaluation report.

**WP7: Refining and implementing sustainability strategy**

The project team has a good track record of embedding both pedagogy and technology beyond the lifetime of the project. For example our bespoke MLE developed for Medicine is a matured TLTP3 project and the ePET portfolio developed for Medicine is an extension of an FDTL-4 project; both these are deeply embedded in the curriculum and now used by >10,000 users in other contexts. We recognise the need to develop and implement a continuation strategy and engage with our stakeholders to ensure that the project deliverables can be sustained and built upon. This strategy will include the establishment of quality assurance procedures and workflows to manage the ‘living’ nature of these learning maps. We envisage many ways in which the Learning Maps can be built on (e.g. linking topic nodes to question banks to generate formative assessment and feedback opportunities).

Deliverable: Continuation Strategy

**WP8: Dissemination**

The project will run at least two national workshops (end of year 1 workshop, end of project workshop)

In addition we will disseminate the processes and implementation results of the project through:

- a website and community blog running both during and after the project completion
- national and internal conferences during the projects lifecycle with presentations focusing on how challenging aspects of this project where implemented
- local workshops / training events with stakeholders
- a range of established networks (see ‘Engagement with the community’, below).
WP9: Project Documentation

We will make the Learning Maps application and other project deliverables freely available to the JISC community. This will require supporting documentation (technical and pedagogic) which will be made available on the project Website.

Deliverables: final project report, technical documentation, Learning Maps application

Risk assessment

<table>
<thead>
<tr>
<th>Risk</th>
<th>Probability</th>
<th>Impact</th>
<th>Score</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to gain wider organisational involvement</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>Develop an effective communication strategy. Implement monthly project meetings with institutional representation to plan and coordinate the project.</td>
</tr>
<tr>
<td>Staffing:- Failure to recruit</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>The School is ready to recruit with similar roles already graded and candidates successfully recruited.</td>
</tr>
<tr>
<td>Staffing:- Loss of Project Officers</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>Existing staffing availability already identified. In alignment with institutional policy there is redundant cover of most important aspects of job roles.</td>
</tr>
<tr>
<td>Technical and Legal</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>As the team are familiar with the design of all components of this development, no technical barriers are expected. No legal issues or copyright infringement are anticipated</td>
</tr>
<tr>
<td>Insufficient institutional and community benefits</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>It is clear from support received at development stage that this project aligns with institutional strategies and has buy-in from the institution.</td>
</tr>
<tr>
<td>Scope creep</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>The scope of work outlined is clear and defined. Project meetings will work to constrain scope creep.</td>
</tr>
</tbody>
</table>

Engagement with the community

The project will engage with the JISC community (e.g. online and programme meetings) and will look at relevant output from other JISC funded projects (WP2). We will also track with interest the ongoing work/outputs from: 5/08 ‘Institutional Approaches to Curriculum Design’. There will be scope for dialogue with the 5/08 programme given the potential use of Maps for QA and curriculum design and monitoring.

The project will establish a Website and community blog to share and discuss aspects of the on-going project and publish project deliverables as they arise (WP8). The project will run at least two national workshop and will utilise networks including JISC, HE Academy and CRA. Project team members will also utilise their close relationships with the HEA Subject Centre for Medicine, Dentistry & Veterinary Medicine, and regional networks such as the CETL4HealtlthNE\(^{16}\), EPICS regional forum for PDP and ePortfolios, and JISC RSC Northern. These networks will be invited to contribute to user needs analysis (WP3) and dissemination (WP8).

The Learning Maps application will be made freely available to the JISC community at the end of the project.

\(^{16}\) Centre for Excellence in Healthcare Professional Education (http:// www.cetl4healthne.ac.uk)
## Budget

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Apr 08 - Mar 09</th>
<th>Apr 09 - Mar 10</th>
<th>Apr 10 - Mar 11</th>
<th>Total Cost</th>
<th>Institutional Contribution</th>
<th>Requested from JISC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Director: Dr Stephen Ball (10 days @ £1,118 FEC per day)</td>
<td>£2,795</td>
<td>£5,591</td>
<td>£2,795</td>
<td>£11,181</td>
<td>£11,181</td>
<td>£0</td>
</tr>
<tr>
<td>Project Manager (0.2 FTE Grade G)</td>
<td>£5,319</td>
<td>£10,638</td>
<td>£5,319</td>
<td>£21,275</td>
<td>£0</td>
<td>£21,275</td>
</tr>
<tr>
<td>Project Manager (0.2 FTE Grade F)</td>
<td>£4,315</td>
<td>£8,629</td>
<td>£4,315</td>
<td>£17,258</td>
<td>£17,258</td>
<td>£0</td>
</tr>
<tr>
<td>Project Officer (1 FTE Grade F)</td>
<td>£18,395</td>
<td>£36,790</td>
<td>£18,395</td>
<td>£73,580</td>
<td>£0</td>
<td>£73,580</td>
</tr>
<tr>
<td>Project Officer (0.4 FTE Grade F) **</td>
<td>£1,403</td>
<td>£16,839</td>
<td>£8,419</td>
<td>£26,661</td>
<td>£0</td>
<td>£26,661</td>
</tr>
<tr>
<td>Specialist input from related projects</td>
<td>£1,374</td>
<td>£2,747</td>
<td>£1,374</td>
<td>£5,494</td>
<td>£5,494</td>
<td>£0</td>
</tr>
<tr>
<td>Recruitment costs</td>
<td>£1,409</td>
<td>£2,818</td>
<td>£1,409</td>
<td>£5,636</td>
<td>£0</td>
<td>£5,636</td>
</tr>
<tr>
<td>Project evaluation</td>
<td>£2,250</td>
<td>£4,500</td>
<td>£2,250</td>
<td>£9,000</td>
<td>£0</td>
<td>£9,000</td>
</tr>
<tr>
<td>IT systems support</td>
<td>£401</td>
<td>£802</td>
<td>£401</td>
<td>£1,603</td>
<td>£0</td>
<td>£1,603</td>
</tr>
<tr>
<td>Administrative support</td>
<td>£401</td>
<td>£802</td>
<td>£401</td>
<td>£1,603</td>
<td>£0</td>
<td>£1,603</td>
</tr>
<tr>
<td>FMSC to develop LSE feeds</td>
<td>£3,750</td>
<td>£7,500</td>
<td>£3,750</td>
<td>£15,000</td>
<td>£15,000</td>
<td>£0</td>
</tr>
<tr>
<td>Graphic design (outsourced)</td>
<td>£1,000</td>
<td>£2,000</td>
<td>£1,000</td>
<td>£4,000</td>
<td>£0</td>
<td>£4,000</td>
</tr>
<tr>
<td>Project dissemination (workshops, website, conferences etc)</td>
<td>£1,250</td>
<td>£2,500</td>
<td>£1,250</td>
<td>£5,000</td>
<td>£0</td>
<td>£5,000</td>
</tr>
<tr>
<td>Travel to conferences and JISC events</td>
<td>£625</td>
<td>£1,250</td>
<td>£625</td>
<td>£2,500</td>
<td>£0</td>
<td>£2,500</td>
</tr>
<tr>
<td>Computer hardware (2 servers and 1 PC for Project Officer)</td>
<td>£9,000</td>
<td>£0</td>
<td>£0</td>
<td>£9,000</td>
<td>£0</td>
<td>£9,000</td>
</tr>
<tr>
<td>School direct costs (telephony, consumables, networks)</td>
<td>£645</td>
<td>£1,290</td>
<td>£645</td>
<td>£2,580</td>
<td>£0</td>
<td>£2,580</td>
</tr>
<tr>
<td>School Indirect Costs</td>
<td>£518</td>
<td>£1,037</td>
<td>£518</td>
<td>£2,073</td>
<td>£0</td>
<td>£2,073</td>
</tr>
<tr>
<td>University directly allocated costs ***</td>
<td>£2,484</td>
<td>£4,968</td>
<td>£2,484</td>
<td>£9,936</td>
<td>£4,471</td>
<td>£5,465</td>
</tr>
<tr>
<td>University indirectly allocated costs ***</td>
<td>£13,098</td>
<td>£26,195</td>
<td>£13,098</td>
<td>£52,390</td>
<td>£23,576</td>
<td>£28,815</td>
</tr>
<tr>
<td><strong>Total including inst contribution</strong></td>
<td>£70,430</td>
<td>£136,893</td>
<td>£68,447</td>
<td>£275,770</td>
<td>£76,979</td>
<td></td>
</tr>
</tbody>
</table>

**Annual Requested from JISC** | £51,186 | £98,403 | £49,202 | £275,770 | £76,979 |

**TOTAL REQUESTED FROM JISC** | **£198,791** |

** Project Officer will join this project in March 2009 due to full time commitments elsewhere
** The University of Newcastle upon Tyne have agreed to waive 45% of FEC.

## Value for Money

This project offers excellent value for money and will provide technical, pedagogic and evaluation outputs of great interest and applicability to the wider JISC community. We will be delivering a novel approach fusing together semantic web and Web 2.0 approaches which will bring together curriculum map and personal learning ePortfolio/blogs in a way which that is more suited to the changing nature and expectations of our learners.

The project is important to Newcastle University as reflected by the institutional contributions to the budget and the letters of support (below). There are specific programme requirements for providing learners and staff with curriculum maps and the ability for learners to add information to these maps will positively complement existing support for learner engagement, reflection, PDP and assessment. There are also...
institution-wide requirements for programmes to map to and support an Undergraduate Skills Framework – to which this project will contribute.

The Learning Maps concept is likely to be of much wider interest to the HE/FE community and beyond as it will help addresses sector wide policy requirements (Leitch, Burgess, PDP, supporting lifelong learning, curriculum mapping/monitoring and quality assurance). We are aiming to produce a tool that has applicability across subject areas and embedding beyond the duration of the project (see WP7 Planning for sustainability). All project outputs will be freely available to JISC/HE community.

Previous experience of the project team

This is a broad project team, many of whom have considerable track records and experience in the field of MLEs and an international reputation in ePortfolios and portfolio interoperability on which this project will build. The team also includes experts on pedagogy, curriculum mapping, PDP and assessment.

Stephen Ball (Project Director) - is Deputy Programme Director for the Medical programme at Newcastle, with a specific interest in Curriculum Mapping.

Simon Cotterill (Project Management) - has played a leading role in over 20 ePortfolio-related projects, including project management of JISC/HEFCE funded initiatives (see www.eportfolios.ac.uk). He also has previous experience of taxonomy development (consultancy with Oxford University Press) and knowledge of neural networks (project in parallel distributed processing during a PG certificate in IT) which are relevant to this project.

Gordon Skelly (Project Management) - has a background in software engineering and has over 10 years experience in developing and delivering online learning environments utilising curriculum frameworks. His current remit also includes the implementation of an institutional content management system and the incorporation of associated taxonomies to enhance its use with existing undergraduate medical resources.

Project Officer - 100% FTE post to be advertised ASAP after confirmation of funding.

Paul Horner (Project Officer) - [nb 100% FTE on JISC EPICS-2 until end of Feb 2009] is an Internet Developer within FMSC. He played a leading role delivering the technical outcomes of the EPICS project. He has experience of developing and supporting ePortfolios for numerous partners, and has contributed and demonstrated at International conferences around emerging interoperability standards.

Tony McDonald (Project Officer) - is Assistant Director of the Faculty of Medical Sciences Computing (FMSC) at Newcastle University. He is responsible for the provision of IT services for the Medical Degree Programme, including the bespoke VLE and administration systems used for delivery of the programme which has successfully sustained an 80% increase in student numbers over the last five years. These systems have successfully managed the transition of several major curriculum changes. He is a CETL4HealthNE Fellow in the Learning Technologies strand, and has a great interest in the provision of identity management systems which integrate with the NHS and HE.

Paul Drummond (Project Officer) - Paul's key interests lie in the development of reflective portfolios to support clinical trainees. He has been involved in the development of interoperability standards for the exchange of learner information for over five years and is currently a member of the JISC Distributed eLearning Advisory Board. His projects include the development of competency based teaching materials (cancer screening, genomics, end of life issues and shared decision making) to support the CPD of doctors in the USA, funded by the National Human Genome Project / the Centers for Disease Control.

David Teasdale (Project Officer) - is an experienced Internet Developer in the FMSC. He has worked across a number of ePortfolio projects and has experience in developing mobile interfaces to portfolios in dentistry / CETL4HealthNE.

Richard Moon (Project Officer) - is an experienced Internet Developer in the FMSC. He has worked on a number of student-facing systems and has an interest in online assessment, authentication and student administration.

John Snowdon (Project Officer) - is the systems administrator for the FMSC. He has extensive experience of commissioning, setting-up, deployment and administration of a wide range of systems, including Linux Redhat, Solaris and OS-X based unix systems as well as Windows 2000 server.
technologies. He is also fully versed in the use of Apache, Kerberos, SSL-based services and other technologies relevant to this proposal.

**John Moss (IT Advisor)** - has 8 years experience in developing and embedding Teaching and Learning support systems and expertise in institutional data flows. He is also a Fellow and the Convenor of the Learning Technologies workgroup of the CETL4HealthNE initiative.

**Erika Gavillet & Moira Bent (Liaison Librarians)** - will be our liaison with the wider library team so that we can better integrate library resources with the evolving Maps and complement other library initiatives with our project. Moira holds a National Teaching Fellowship and has existing experience in this area of work and Erika has also contributed to the development of an Information Literacy e-learning resource.

**David Baume (External Evaluator)** - is a very experienced higher education developer and evaluator. He is currently evaluating 3 CETLs and the national Lifelong Learning Network VETNET-LLN. Also currently project team member for the JISC-funded project undertaken by CRA on E-portfolios in formative and summative assessment. David has previously evaluated EPICS and FDTL-4 ePortfolios projects with this team.

**Simon Meacher (Project Advisor)** as a member of the Quality in Learning and Teaching Simon has a University-wide remit for PDP at Newcastle. In collaboration with the Careers Service and a University-wide working group, Simon helped develop an Undergraduate Skills Framework, which will be supported in the Learning Maps.

**Sue Gill (Project Advisor)** is Senior Development Officer in Quality in Learning and Teaching (QuILT), at Newcastle University and is responsible for Curriculum Enhancement support for staff. She has extensive experience of distance and eLearning in both HE and FE. Her remit includes responsibility for the pedagogic support of PDP.

**Geoff Hammond (Project Advisor)** - is Head of School of Medical Sciences Education Development and Director of CETL4HealthNE. He has an interest in ePortfolios, e.g. amongst other national projects, he was Director of the successful collaborative FDTL-4 project 'Managed Environments for Portfolio-based Reflective Learning: Integrated Support for Evidencing Outcomes'.

**Katriona Watson (Project Advisor)** - is the Assistant Registrar for Medical Education and secretary to the Board of Medical Studies and is responsible for the organisation, planning and delivery of the administrative work associated with the MBBS curriculum, liaising with the NHS clinicians and administrative teams around the Northern Region. Katriona has also contributed to the development of the electronic student Learning Support Environment and Medical Student Administration Systems.
Appendix 1. Concept demonstrator for this project

These are screen shots from a concept demonstrator (limited functionality) built as the basis for discussion with local stakeholders about participation in the bid. We will produce a more visual / 3D view in this project.

Example of related nodes sorted by connection strength - following a link strengthens the connection.
An ‘intelligent’ process will aggregate curriculum resources from multiple sources based on metadata associated with the node and its related nodes. This will also support changing curricula e.g. a Stage 2 student could view Stage 1 resources from the previous year not the current Stage 1 curriculum.

Nb. this is a limited-functionality concept demonstrator developed to help discussion with stakeholders during the preparation of this proposal.

It should be noted that the finished product is likely to be very different depending on the stakeholder consultation (WP3)
Appendix 2. FOI Withheld Information Form

We would like JISC to consider withholding the following sections or paragraphs from disclosure, should the contents of this proposal be requested under the Freedom of Information Act, or if we are successful in our bid for funding and our project proposal is made available on JISC’s website.

We acknowledge that the FOI Withheld Information Form is of indicative value only and that JISC may nevertheless be obliged to disclose this information in accordance with the requirements of the Act. We acknowledge that the final decision on disclosure rests with JISC.

<table>
<thead>
<tr>
<th>Section / Paragraph No.</th>
<th>Relevant exemption from disclosure under FOI</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Example:

<table>
<thead>
<tr>
<th>Section / Paragraph No.</th>
<th>Relevant exemption from disclosure under FOI</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>s.43 Commercial Interests</td>
<td>Contains detailed description of our proposed system design which would damage our commercial interests if disclosed, by making this information available to competitors.</td>
</tr>
</tbody>
</table>
Appendix 3. Supporting Letters

Executive Office
Newcastle University
6 Kensington Terrace
Newcastle upon Tyne
NE1 7RU United Kingdom
Professor A.C. Stevenson
Pro-Vice-Chancellor

ACS/PD/YSL

30th July 2008

To Whom It May Concern

Learning Maps proposal for the JISC 8/08 Curriculum Delivery call

On behalf of Newcastle University I am pleased to lend my support to the enclosed bid to develop flexible approaches to curriculum mapping which will be of value to curriculum planners, educators and students alike. The processes, case studies and resulting software will be of great benefit to the Faculty of Medical Sciences, Newcastle University and the wider HE sector.

The team which has put this bid together have worked effectively on a wide range of electronic support systems for learners in Higher Education and have particular experience in the areas of curriculum support and personal development planning. The combination of these two areas of expertise will provide the underpinning for an exciting project bringing the concept of personalisation of learning into the curriculum planning and mapping arena.

This bid is fully endorsed by Newcastle University.

I look forward to hearing the outcome of the bidding process.

Yours sincerely

[Signature]

Prof AC Stevenson
Pro Vice Chancellor

tel: +44 (0) 191 222 7600
fax: +44 (0) 191 222 6229
Tony.Stevenson@ncl.ac.uk
www.ncl.ac.uk

The University of Newcastle upon Tyne trading as Newcastle University
28th July 2008

To Whom It May Concern

Learning Maps proposal for the JISC 8/08 Curriculum Delivery call

I am writing to support the above proposal which has the potential to be of great benefit to Newcastle University and the wider HE sector.

The project will provide a novel approach to embedding personal development planning in curriculum and personal learning maps. This answers a substantial need in higher education generally to provide tools that enable students to personalise their learning and record the outcomes of that learning in a format presentable to future employers. This is of particular importance to Newcastle University as we seek to embed our new Graduate Skills Framework which will deliver the skills to students that employers wish to see. Providing a facility that will allow students to map their learning directly from the curriculum to a personal development planner is a major step on the way to achieving this.

The project team behind this bid are highly experienced in the development of PDP tools and other technologies to support learning, and they have a proven track record in project management and delivery.

Yours faithfully

Kathy Wiles
Head, Quality Learning and Teaching
Newcastle University
King George VI Building
Newcastle upon Tyne
NE1 7RU
29 July 2008

JISC
North Avon House
Cold Harbour Lane
BRISTOL
BS16 1QD

Re: Learning maps proposal for the JISC 8/08 curriculum delivery call

I write to express my strong support for the learning maps proposal.

Within the Faculty of Medical Sciences, and in partnership with NHS colleagues across the region, we provide two highly complex programmes Medicine and Dentistry. Large numbers of staff both from within the institution and outside the institution contribute to these programmes; approximately 3,000 teachers are involved in our medical degree programme. To be able to provide our contributors with a system which allows them to contextualise their teaching contributions, however large or small, within the programme as a whole would be a very valuable addition to the support we provide for our teachers.

In addition the learning map will provide a flexible and interactive tool which will allow students to be able to map and record their achievements and experiences in respect of their acquisition of skills. This is crucially important for both our professional and non-professional courses. In the context of medicine this will be carried out in the context of both clinical and transferable/generic skills, and for Bioscience and Psychology will provide a much needed mechanism by which students will be able to consider and plan their experiences in the context of the University’s undergraduate skills framework.

At the level of programme management and development the learning maps will provide an invaluable tool for ensuring that opportunities exist within our curricula to ensure that all learning outcomes required of our professionally accredited degrees are met and our programmes are therefore aligned with the requirements of the statutory bodies.

On behalf of undergraduate education in the Faculty of Medical Sciences I very much welcome this proposal.

Professor Suzanne Cholerton
Dean of Undergraduate Studies
Dear Sir/Madam

RE: Learning Maps proposal for the JISC 8/08 Curriculum Delivery call.

I am writing to express my support for the above proposal which will be of great benefit to the MBBS programme at Newcastle and will have significant potential benefits in the wider education community.

We have long recognised that the provision of an appropriate and useable curriculum map would be of benefit to both students and to educators. However there has also been considerable debate about the form and function of such a curriculum map since what would be of most benefit to academic staff may not be appropriate for the needs of students. Thus the concept of a flexible and organic map which all users can shape to their needs is an exciting one and accords with the drive to become more student centred in our curriculum design processes. The additional possibility of facilitating student input into curricular materials is an exciting one which maps well onto the Web2.0 concept.

At Newcastle we have been heavily involved in the development and implementation of personalised learning portfolios and the opportunities for linking this to a personalised curriculum takes us as a step further into the realms of being able to devise and monitor personalised learning plans. This is a very exciting proposal.

Yours faithfully

Dr Philip Bradley
Director of Medical Studies
29 July 2008

Dear Sir/Madam

RE: Learning Maps proposal for the JISC 8/08 Curriculum Delivery call.

This is an innovative, achievable proposal. The outcomes will be of major benefit to the undergraduate programme in Medicine: facilitating a successful, sustainable approach to long-standing problems in curriculum planning, delivery, integration and development. Importantly, the project highlights a student engagement element that will bring added value to the University and the wider HE community as a whole.

This proposal is in the right area, at right time. It comes from a unit with a track-record in delivering. I support it wholeheartedly.

Dr S G Ball
Deputy-Director of Medical Studies
Faculty of Medical Sciences
Newcastle University
24 July 2008

JISC
Northavon House
Coldharbour Lane
Bristol
BS16 1QD

24th July 2008

RE: Learning Maps proposal for the JISC 8/08 Curriculum Delivery call.

I am delighted to express my support for the above proposal which will be of great value to our programmes in Speech and Language Sciences and more broadly across the University.

Through our close partnership with the project team in the past, we believe the Speech and Language Sciences programme is well placed to develop and extend the current activity around our ePortfolio and reflective learning and embed this into an wider integrated system of learning maps. Real potential for our programmes lies in increasing the links between academic/theoretical knowledge and clinical competencies, with greater transparency between these strands within the undergraduate skills framework, and continuing to develop the assessment side of reflective learning. Our previous collaboration has led to methods of learning that have proved highly successful with Speech and Language Sciences students.

We welcome this opportunity to continue a highly productive partnership, working with the project team to further support reflection and personal and professional development planning in our programmes.

[Signature]

Dr Anne Whitworth
Speech and Language Sciences
School of Education, Communication and Language
Dear Simon,

Re: JISC e-Learning: JISC Circular 08/08 “Projects in the areas of curriculum delivery, assessment and course advertising”

Thank you for being in touch regarding your planned proposal “My Learning Maps” to the JISC Circular 08/08 “Projects in the areas of curriculum delivery, assessment and course advertising”, looking into use of web 2.0 technologies to provide flexible mind map and mash up interfaces connected to more formal ePortfolio content.

We would be happy to be involved, as you see fit, supporting your work and particularly in relation to your dissemination strategy. Please note that we undertake to support all strategic development projects (such as this) and will therefore offer the same support to other projects, I hope that this is okay.

We wish you all the best with this proposal to the JISC, and look forward to hearing the outcome, in due course.

With kindest regards,

Dr Megan Quentin-Baxter
Director (Acting)

Higher Education Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine
School of Medical Education Development
Faculty of Medical Sciences
Newcastle University
Newcastle upon Tyne, NE2 4HH

Director (acting): Dr Megan Quentin-Baxter
Email: megan@medev.ac.uk Telephone: 0191 2225888
www.medev.ac.uk