

Project Acronym: PiP
 Version: 4
 Contact: Catherine Owen (catherine.owen@strath.ac.uk)
 Date: March 2009

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| Lead Institution | University of Strathclyde | | |
| Project Director | Diane McDonald and David Nicol | | |
| Project Manager & contact details | Catherine Owen (catherine.owen@strath.ac.uk) CAPLE, University of Strathclyde, Graham Hills Building 50 George Street, Glasgow G1 1QE 0141 548 2085 | | |
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JISC Project Plan

1 Overview of Project

In keeping with its decentralised organisational structure, the curriculum design and approval process at the University of Strathclyde is characterised by distinctive faculty-led approaches that feed into institutional activities at key approval points. The University would like to enhance the support it provides to academic and other staff members in translating its strategic aspirations into learning tasks, modules and programmes across each of its five faculties.

The PiP project will contribute to the development of new ways of documenting and describing modules and courses so that students, academic staff and university managers and administrators can benefit from better information. This goal is to improve the sharing and flow of information so as to enhance quality assurance processes and related university planning and monitoring activities.

A second goal is to enhance the educational impact of learning task, modules and programmes. To achieve this learning design 'patterns' will be produced based on the core pedagogical principles already developed through the Re-engineering Assessment Practices (REAP) project and now embedded in the University's policy and quality enhancement processes. Where appropriate, these patterns will draw on ideas being explored by the University as part of its work on the QAA Scotland Theme on the 21st Century Graduate and the work being undertaken by the University on student transition.

The project will explore methods of representing these design patterns so that academic staff members in departments and faculties can draw on them when engaged in design or redesign activities. Across clusters of modules or programmes these patterns will help academic staff develop programmes which offer a consistent student experience centred around some core principles (e.g. defined in relation to student engagement and empowerment). This is important in an institution which allows students a large degree of flexibility in curriculum choice.

It is hoped that the patterns produced will establish proof of concept that more efficient design processes can be achieved if a pool of design options are available and used by staff when they engage in curriculum design activities. The range of disciplines within the University of Strathclyde and the variety of learning platforms, technologies and approaches that are used in the institution will ensure the outputs of the project have relevance to the wider FE and HE communities in the UK.

The University of Strathclyde received its Royal Charter in 1964 and now has over 29,000 full and part-time students, the third largest in Scotland. It is located across two campuses in the centre of Glasgow. It is organised in five faculties – Business, Education, Engineering, Science and Law, Arts and Social Sciences – each of which operate with a reasonably high degree of autonomy within an agreed framework. A number of learning platforms (proprietary, open-source and in-house) are used across the institution. The University also prides itself in its innovative approach to teaching and learning in general, and to curriculum design in particular; this commitment being embedded in the institutional strategy for 2007-2011. Two actions arising from the teaching and learning objective within the strategy are worth highlighting. The University plans to promote excellence in learning and teaching through continuous innovation in the curriculum and design and implement a University-wide credit framework to facilitate cross-faculty working. Consequently, the University of Strathclyde is in the process of reviewing and renewing its curriculum. This proposal is concerned with developing institution-wide processes which will support the achievement of these objectives by embedding principles of good practice in the curriculum design process. This will enable us to better understand

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how, when and where our students are learning by providing better information about student engagement and student empowerment.

This project will build upon the work of the REAP (Reengineering Assessment Practices) project. The REAP project was funded by the Scottish Funding Council between 2005 and 2007 as part of its e-transformation programme, with the overall programme being managed by JISC. The University of Strathclyde was lead partner; the other partners being the University of Glasgow and Glasgow Caledonian University. Although the driver was assessment, the REAP project was concerned with module redesign, as it considered all the interactions students engage in and how teachers support these interactions. The project developed a set of principles for the redesign of modules, based on the dual idea of moving students from engagement to empowerment (i.e. where they are able to monitor, judge and evaluate their own learning) and that learning is a collaborative endeavour (i.e. courses must create many opportunities for dialogue between students and with teachers). REAP showed that technology could support the implementation of these assessment principles and lead to learning and efficiency gains. The University has embedded the REAP principles within its policy and has initiated a programme of activities to develop many more redesigns both across the institution and across programmes in faculties. Apart from the REAP partner institutions several other institutions, including Leeds Metropolitan, the University of Greenwich, University of Hertfordshire are adapting the REAP principles to their own context.

2 Aims and Objectives

The project aims to assist academic staff members at the University of Strathclyde to create learning tasks, modules and programmes that reflect the aspirations of the university and its communities. These aspirations are embedded in strategies and policies across the university and at different levels within faculties and departments. The project will build on the principles explored through the REAP project and now embedded in university policy. It will also closely relate to associated university activities around the QAA Scotland theme of Graduates for the 21st Century and other educationally-focussed initiatives.

The project will work closely with university faculties and with university management units including the Academic Office, Registry and other relevant central academic service units to map current practice in designing and approving modules and programmes and to identify bottlenecks and opportunities for enhancing these processes.

The project will identify what types of design patterns, methodologies and support materials might be the most useful in supporting academic staff to design effective learning tasks, modules and programmes which reflect university ambitions. It will investigate how examples of learning task designs and their associated practice models can be combined to create effective module designs and how module designs might be combined to create coherent programmes of study. It will also contribute to the development of new ways of documenting, describing and sharing information about modules and courses to the benefit of all stakeholders including students, academic staff and university managers and administrators. This should result in improved information flow for quality assurance and related university planning and monitoring activities.

At the heart of this project is the desire to create more effective communication between university communities about what is important in the educational experience at the University of Strathclyde. Design patterns are one way of communicating good practice in curriculum design to academic staff members; quality documentation and sharing is another. The designs themselves, once implemented across programmes, should communicate to students the learning activities, behaviours and attributes that contribute to an effective learning experience. University managers will benefit from improvements in the way that modules and programmes are documented and described. The project will work with its university partners to establish what technologies will be most useful to support academic, administrative and management staff to access and make use of curriculum designs and to create the most effective and useful module and programme information.

The specific objectives of the project are to:

- Document current practice in faculty curriculum design and approval processes, with an emphasis on identifying gaps or blockages in planning processes, in information sharing, in the way guidance is provided and in alignment with strategic objectives.
- Develop a new approach to curriculum design and approval that reduces blockages, more appropriately supports staff and reflects the principles and strategic objectives embodied in university policy.
- Test out ways of representing effective learning designs at the task, module and course level to support teachers in design activities and to support staff members responsible for planning, managing and sharing of curriculum design information.
- Represent these outputs in ways that are useful to other institutions engaged in curriculum design and to the wider HE and FE sector.

3 Overall Approach

The project will pursue its objectives through two substantial pilot phases, a Phase 1 starting in 2008-09 and a Phase 2 pilot starting in 2009-2010, which will build on the experience of the Phase 1 pilot.

The Phase 1 pilot project will be located within the Law, Arts and Social Sciences (LASS) and led by Dr. Robert Rogerson. The revision of the BA degree required for 2009-10, as the University moves to a universal 20 credit framework, presents the Faculty with an opportunity to attempt a more radical re-focusing of its degree programme. This redesign will work across all seven departments of the Faculty. The aim is not to make minor improvements or enhancements to the first year, but rather to transform the culture of learning and teaching on the BA degree programme. The re-design effort will build on work already undertaken at the University of Strathclyde during the REAP project and aims to develop student responsibility by transforming assessment activities with an emphasis on creating a balance of individual and group-working assessment experiences.

Working with the LASS faculty, the project team will use the extensive redesign effort in the faculty as a pilot to explore:

- how learning tasks, modules and programmes are currently described and documented
- how the principles developed in REAP might be used to inform the inter-relationship of learning tasks, modules and programmes and the coherence of the educational experience both horizontally and vertically
- what tools and support materials might most benefit academic staff designing learning tasks, modules and programmes
- how learning tasks, modules and programmes can best be described and documented to support institutional assurance, enhancement and planning processes.

Concurrently, the project team will work with institutional partners from the university's academic office, registry and other related central support and planning units to establish current practice in the assurance of modules and programmes and establish how the information developed by faculties to describe modules and programmes could be enhanced to improve management of curricula approval and to support improved university planning. Working with these partners, the project will:

- map the sequence of institutional processes and procedures that support decision-making and approval of curricula
- develop tools and associated guidance materials to support streamlining of these processes and better communication of educational aims and processes

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The project team will also feed into institutional work to develop a document workflow system that will allow curriculum design and quality assurance teams to manage relevant documentation online through a secure approval process. The institutional requirements for the system have already been scoped by Registry, although further work at the faculty and department level will be required.

During Phase 2, the outputs of Phase 1 will be refined in collaboration with partners in an additional faculty or faculties at the university. The aim of this phase is to establish transferability of processes, support materials and tools to assist academic staff designing courses. It also provides the opportunity to explore disciplinary perceptions and differing needs in curriculum design. The project benefits from the close relationships with departments and faculties across the university enjoyed by CAPLE and the on-going access to departmental and faculty activities afforded by CAPLE's work across the institution. A number of departments and faculties have already expressed interest in the project. During Phase 2 the project will:

- test the methodologies and principles developed in Phase 1 in different disciplinary contexts
- further develop and refine the tools and guidance materials for academic staff
- further refine the documentation and description of modules and programmes

Critical success factors include:

- Access to module and programme design processes in university faculties
- Effective collaboration with university support and administrative units (e.g. Academic Office, Registry)
- Patterns, methodologies and support materials that properly address the needs of academic staff
- Staff members use and develop patterns and tools in a sustainable way

What the project scope does not include

We recognise that there are many other institutional activities and concerns that are related to the design of the student learning experience. These include estates management and planning, technology provision, timetabling and marketing of programmes. Our work across the university will inevitably mean that we feed into activities already underway to address some of these issues, but these are not the primary focus of the project.

Similarly, we are aware that students, as the focus and beneficiaries of educational improvements, are important stakeholders in our project's activities. Our aim is to support academic staff members to translate university educational policies and guidelines (most specifically, but not limited to, the University's Assessment Policy, which is based on the work of REAP) into real tasks, modules and programmes. These policies have already been rigorously scrutinised by the university community, including student groups. We recognise that there may be further scope for involving students in the design of specific modules and programmes, but this is not part of the scope of the current project.

Most importantly, the project does not aim to evaluate the effectiveness of module or programme designs in implementation. All of the design patterns the project will develop will be based on known implementations gleaned from the literature or from implementations tested through the REAP project. Many of these have already been evaluated. We expect that, during the design process, existing task designs will be re-configured to serve local needs or contexts (for example, class sizes, available technologies) and that our repository of design patterns will grow as a result of re-configuration of existing patterns. Ultimately, the repository may be augmented by data from the patterns in implementation, but this is not a focus of the current project.

4 Project Outputs

The project outputs include:

- Publications in a refereed journal on learning designs that draw together the relevant literature.
- A baseline map of the sequence of institutional processes and procedures that support decision-making and approval of curricula.
- A reworked map including a set of tools and associated guidance materials to support the streamlining and enhancement of institutional processes and procedures associated with curriculum design
- A set of learning designs that address known teaching and learning issues of high relevance to academic staff in the disciplines.
- A set of tools and associated guidance materials to support the use of learning designs by academic staff in the disciplines.
- A website detailing progress during the lifespan of the project and as a dissemination point after the project close.
- An evaluation report detailing successes and lessons learned.
- Interim and final reports to JISC detailing lessons learned.
- Conference and other papers, presentations and other dissemination activities

5 Project Outcomes

The overall aim of the project is to help academic and administrative staff members to better manage the complex task of creating effective and coherent academic programmes within an institutional context of modularisation and student choice. The project will create materials that expose academic staff to good educational practice that is linked to the strategic aims of the university and addresses related local needs. The project will also re-design institutional processes including module and programme approval forms to reinforce messages about effective educational practice. Creating a reinforcing conceptual link between these two areas is our overall goal. Project activities should also feed into institutional efforts to improve the efficiency and effectiveness of course approval and quality assurance activities. Improved course documentation should also have a positive impact on planning and inform activities in timetabling reform, estates management and technology provision.

The project is one component of a number of change management processes which are part of the institutional landscape at the University of Strathclyde. The project is able to capitalise on the university's commitment to the SCQF framework which will require credit standardisation of all university modules delivered from 2009/10 and has created an opportunity for departments and faculties to re-visit their current programme and module provision. Similarly, the university is committed to streamlining its administrative activities to ensure that its devolved structure does not create complexities in processes including assurance of modules and programmes. Like other institutions, the university also wishes to support academic colleagues to progress the aspirations described in its academic strategy and associated policies, including emerging work on QAA Scotland's Graduates for the 21st Century theme.

While this project will be conducted within the University of Strathclyde the outputs and outcomes of the work will be of benefit to the wider FE and HE community in a number of ways. The wider community will benefit from:

- Curriculum designs, frameworks, resources and support materials to help academic staff translate institutional aims into effective tasks, modules and programmes and to enhance the coordination of these activities across different stakeholders (including academic and administrative staff, students and support staff)
- Reports detailing the development of these materials at the University of Strathclyde with lessons learned of interest to the broader community

These curriculum designs, frameworks, resources and support materials will reflect effective ways of addressing stakeholder requirements through intelligent curriculum design. The project will explore ways of representing these designs in a standards-compliant format so that practitioners can use them to inform their own curriculum design.

Resources will comprise generic solutions to common stakeholder requirements that can be customised for local use. They will help facilitate a theoretical rational and principled approach for the selection of learning designs that are appropriate in different educational contexts. As such, these resources should have applicability across the sector, helping ensure consistency in curriculum design across an institution, a more consistent student experience and a “quick start” to the curriculum design process for practitioners. In this way, the project addresses the aims of the Curriculum Design programme by helping academic staff members to meet the needs of learners and by enhancing the understanding of the relationship between curriculum design and institutional policy at practitioner and management level. Programme aspirations are also addressed through the exploration of appropriate systems for documenting and approving module and programme designs that will have broader applicability across the sector.

6 Stakeholder Analysis

The following table describes the stakeholder involvement in this project:

External stakeholders:

| Stakeholder | Interest / stake | Importance | Communication Methods |
|---|--|------------|--|
| JISC | Funders of the project, concerned with supporting high-quality outcomes of use to the sector. Resources and practice models based on patterns that are developed will be of interest to the JISC as part of co-ordinated curriculum design effort. | High | Schedule of regular reports, programme meetings and representation on project steering group. |
| Academic practitioners across the community | Will benefit from support materials to support effective curriculum design across their institutions. | Medium | Regular updates on progress through website, conferences and publications. Opportunities to comment on progress through consultation |

| | | | |
|--|--|--------|--|
| | | | events and website tools (e.g. blogs) |
| HE and FE Institutions across the sector | Will benefit from support materials and practice models and lessons learned detailed in reports and other dissemination materials and events. | Medium | Outcomes published through website, publications and newsletters. |
| HEA | Relevant subject centres will benefit from support materials and practice models and lessons learned detailed in reports and other dissemination materials and events. | Medium | Outcomes published through website, publications and newsletters. |
| Curriculum design and delivery projects | Will benefit from participation in events and through sharing of selected interim findings, and through communication via cluster meetings. | Low | Programme meetings, Cluster meetings and Cluster joint activities. |

Internal stakeholders:

| Stakeholder | Interest / stake | Importance | Communication Methods |
|---|--|------------|---|
| Academic staff | Project will partly support curriculum re-design as a co-ordinated effort across faculties to transform the student experience and provide sustainable resources to ensure subsequent course design activities are robust | High | Workshops, presentations and online activities to communicate aims and gain feedback. Groups of expert participants to take part in agile development of process and design materials. |
| Institutional managers and administrators | At the University of Strathclyde, re-designed course procedures should provide a better match between institutional strategic priorities and curriculum activities. This is of interest to a broad range of university managers. | High | Workshops, presentations and online activities to communicate aims and gain feedback. Groups of expert participants to |

| | | | |
|---|--|--------|--|
| | | | take part in agile development of process and design materials. |
| Students at the University of Strathclyde | Will benefit from co-ordinated curricula across faculties and educational designs more supportive of their needs and the institutions educational goals. | Medium | Students will be invited to participate in curriculum design activities where appropriate. |

7 Risk Analysis

The project recognises the following risks, and is taking appropriate action to manage them.

| Risk | Probability (1-5) | Severity (1-5) | Score (P x S) | Action to Prevent/Manage Risk |
|--|-------------------|----------------|---------------|--|
| Loss of project staff members | 5 | 3 | 15 | The impact of loss of members of the project team is reduced by the fact that the project is embedded in Learning Services and CAPLE. These two departments are sources of considerable expertise and other staff members will be able to cover any loss within the project team. |
| Difficulty in recruiting a technical analyst | 3 | 3 | 9 | Although this post is only funded 50% by the project, a full time resource will be recruited (the other 50% will be funded by the University to undertake separate tasks), mitigating the risks associated with sourcing competent part-time staff. Should any delay occur, the project will be supported by a pool of technical staff within the University's Learning Services department. |
| Lack of time to complete project. | 2 | 4 | 6 | Although the project remit is taxing, the project team have an excellent record of timely delivery. |
| Failure to identify appropriate project pilots | 1 | 5 | 5 | The project already has a partnership agreement and access to the Faculty of LASS and additional faculties have already been identified as possible future pilot sites. |

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| Risk associated with delivery of project pilots | 3 | 3 | 9 | Members of the project team also have additional roles within the institution to support curriculum re-design and this activity is on-going within a number of faculties across the institution. Should one partner or group of partners default on the design process, there are a number of potential alternatives on hand. |
| Risk associated with rights management in materials created | 1 | 1 | 1 | The project benefits from local access to JISC legal and will take into account the resources developed by the CASPAR project in developing materials. |

8 Standards

There is currently no single standard or specification that will capture the full extent and complexity of the materials that are likely to be developed by the project. The technical team are currently investigating the most suitable approaches and it is expected that the outcome will utilise several standards and specifications each for different purposes.

The standards and specifications currently under evaluation are discussed in the next section. As the project settles on preferred standards and specifications the list in the table below will be refined.

| Name of standard or specification | Version | Notes |
|-----------------------------------|---------------|---|
| Archimate ¹ | 1 | |
| IMS Learning Design ² | 1 | |
| Topic Maps ³ | ISO/IEC 13250 | |
| UML | 2 | |
| XCRI-CAP ⁴ | | Under investigation, but not expected to offer a great deal |

9 Technical Development

The project comprises two broad areas of related technical development:

1. Analyse and improve the curriculum approval workflow by:
 - Benchmarking current processes and workflows
 - Modelling and analysing these workflows to identify areas for improvement, with a particular emphasis on the use of technology to improve communication and create efficiencies
 - Modelling improved/enhanced approval workflow system(s)
 - Implementing pilot workflow systems

¹ ArchiMate® Version 1.0, <http://www.archimate.org/>

² IMS Learning Design, <http://www.imsglobal.org/learningdesign/index.html>

³ ISO/IEC 13250, Topic Maps <http://www.isotopicmaps.org/>

⁴ XCRI: eXchanging Course-Related Information <http://www.xcri.org/>. This may be incorporated into the European Norm for Metadata for Learning Opportunities, however it is unlikely to happen during the lifetime of the project.

2. Develop supporting resources and materials to help staff members involved in curriculum design and approval decisions by:
 - Representing curriculum designs that communicate proven educational principles
 - Storing designs and support materials in an architecture that also supports meaningful metadata (these might include information on underlying principles, disciplines and previous implementations, etc.)
 - Helping users to access designs and support materials at the right stages of the curriculum design and documentation process.

9.1 Process analysis: technical approaches

Formal analysis of business processes is a novel approach for the University of Strathclyde and we are developing an iterative approach that seeks the broadest engagement by only gradually introducing structure process and architecture analysis approaches.

9.1.1 Benchmarking

During the initial benchmarking stages we will use simple flowcharts and activity diagrams to determine an agreed model of the current curriculum approval process from the department through to the institutional level. These diagrams are *merely* visual representations and will be used to generate a simple hypertext presentation with copies of documentation, etc. available by clicking through on the web-based diagram.

9.1.2 Process Analysis

The initial benchmarking will provide the basis for a formal analysis of the current processes and information architecture. The approach currently under investigation is to use the ArchiMate standard as an approach to capture all aspects of the current environment, including function, process and structure. Translating the benchmarked process into ArchiMate provides the basis for analysis of the processes and supporting function and roles.

The task at this stage is to identify areas of dysfunction and inefficiency in the current arrangements. Anecdotal evidence of such point gathered from stakeholders during the benchmarking phase would be included in the analysis and, where possible, verified through an analysis of the current structures. A principal focus of the analysis is to identify opportunities at the application and technology infrastructure layers to effect changes that would improve the operation of the business processes.

Through the analysis we will arrive at one or more future architecture models that promise greater efficiency and effectiveness. These future models would be verified with stakeholders.

9.1.3 Pilot Implementations

Through the process analysis we will identify a number of enhancements to the current systems and procedures that can offer improvements without requiring radical overhaul of the environment. These will be implemented as pilots not only to improve the process in the short to medium term while the large organisational level redesign takes place, but also to validate aspects of the analysis undertaken through PiP.

The nature of these pilots is not yet clear, however it is likely that some will focus on document workflows, which have already been identified as a weakness in the current process. We expect to make use of the institutional MOSS to deliver document and workflow management. MOSS is already being rolled out in various areas of the institution and it is expected that many stakeholders and participants in the pilots will already be using the system by the time the pilot implementations begin.

9.2 Design Patterns: technical approaches

9.2.1 Capture and represent curriculum designs

The project is currently evaluating approaches to the capture and representation of curriculum designs.

Approaches for eliciting pedagogical designs have been developed by CETL(NI): Institutional E-learning Services and the Pattern Language Network (Planet) project.⁵ While not specifications or standards these appear to offer effective approaches to capturing existing pedagogies and abstracting patterns.

While promising methods of working with practitioners, the following issues have already been identified

- the methods concentrate on the learning activity or, occasionally, the module level rather than the higher course curriculum level
- there is little scope in the methods for representing sequences and relationship between design elements and learning activities

The desirability of building from the structured narrative descriptions produced by the HLM and Planet methods is understood by the developers of these approaches and we hope to be able to participate in these developments as the opportunity arises.

The following standards provide languages for formally expressing the structure, sequences and relationship that constitute curriculum designs. Although they do not, in themselves, provide a visual representation, the formalism of the modelling is expected to enhance the clarity of the models

- IMS Learning Design v.1,⁶ offers the most comprehensive learning design language, however it may not capture the non-pedagogical aspects of curriculum design, e.g. timetabling, constraints on contact time, etc.
- ISO/IEC 13250 Topic Maps,⁷ offers an alternative to the largely linear structures of the IMS specifications and should also be flexible enough to capture the wider range of issues than the purely pedagogical, however the specification may be too open to capture the structure

XCRI-CAP⁸ may also offer ways of expressing programme designs, however it is unlikely that this schema will be able to comprehend the pedagogical structure or intent of a design. Representation of the designs in a compelling and accessible form is an important factor in their reuse. The challenge is to provide a rigorous visualisation approach that is also accessible to non-technical users. Archimate 1.0⁹ offers the opportunity to create visual representations of both structure and process that appear to be quite accessible to a lay audience. Coupled with our use of this standard in the workflow and process analysis, Archimate is the principal focus of investigation into techniques to represent design patterns.

9.2.2 Curriculum design support materials

The support we offer to curriculum designers and those approving courses will comprise a *bundle* of resources in various formats, probably including visual representations (and underpinning model), structured descriptions and narratives. These related resources will be held in a content database

5 Hybrid Learning Model (HLM) <http://cetl.ulster.ac.uk/elearning/hlm.php>. Pattern Language Network <http://patternlanguagenetwork.org/>

6 IMS Learning Design, <http://www.imsglobal.org/learningdesign/index.html>

7 ISO/IEC 13250, Topic Maps <http://www.isotopicmaps.org/>

8 XCRI: eXchanging Course-Related Information <http://www.xcri.org/>. This may be incorporated into the European Norm for Metadata for Learning Opportunities, however it is unlikely to happen during the lifetime of the project.

9 ArchiMate® Version 1.0, <http://www.archimate.org/>

most likely built in Microsoft Office Sharepoint Services (MOSS) as there is an institutional commitment to this platform as the infrastructure for a range of business information systems. The database will offer several different routes into the collection through a web-based interface, and we are also scoping the feasibility and value of an “expert system” that would link the database with the curriculum approval workflow with contextualised links to provide targeted “just in time” support to designers at the formative stages of the design process.

Adding PiP materials to shared repositories such as CloudWorks will require some refactoring of the materials held, however it is unlikely to require any additional data collection. We will be evaluating the appropriateness and value to the community of such repositories towards the end of the project and will add materials created by the project wherever it would be most effective.

10 Intellectual Property Rights

All the project deliverables, reports and other relevant outputs will be published via the project website and made freely available to the academic community. Where appropriate, materials will be offered to relevant repositories (including CloudWorks and other community-wide collections) to support wider dissemination and sustainable access.

Intellectual property rights associated with the project will be retained by the University of Strathclyde. The right to be identified as the author of intellectual property generated as part of the project will reside with the author(s) of the relevant materials. Where third party materials are used to inform project outputs these materials will be properly identified and appropriate permissions sought as required. The project benefits from the proximity of JISC Legal at the University of Strathclyde and advice from this team will be sought where this is deemed appropriate by the project working group.

Project Resources

11 Project Partners

The project is located wholly within the University of Strathclyde. The LASS faculty has agreed to support this project and the project team have access to the course teams re-designing the first year curriculum and are contributing to the programme of support for course teams. Dr Robert Rogerson is represented on the PiP Project Working Group. It is anticipated that similar relationships will be established with senior faculty staff and course teams as the project focus broadens to include further faculties.

12 Project Management

12.1 Project working group

A project working group has been established and includes the core project team members as detailed in section 12.5, plus the following representatives from the University of Strathclyde:

- Sarah Currie (Academic Office)
- Rowena Kochanowska (Academic Office)
- Martin Brough (Registry)
- Eleanor Magennis (Estates)
- Catherine Milligan or Helen Rodger (VLE Team)
- Sheila McNeill, CETIS
- additionally, Dr Steve Draper from the University of Glasgow, who offers considerable expertise and advice on curriculum design issues.

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During the first year of the project (and potentially thereafter), the working group will also include Dr Robert Rogerson who is championing curriculum re-design activities in the Faculty of LASS. During subsequent phases of the project we plan to invite equivalent senior members of staff in different faculties as the project widens its institutional scope beyond LASS.

This group will meet twice per semester during the lifespan of the project.

12.2 Terms of reference for the project working group

Although we anticipate that the working group will wish to define its own terms of reference at an initial meeting to be held in April 2009, it is likely that the following terms will constitute a subset:

The project working group shall:

- Contribute to the operational goals of the project
- Provide expertise and advice on key issues
- Contribute to project deliverables where appropriate
- Ensure that project deliverables are fit for purpose
- Advise on changes to project activities or deliverables
- Act as a link to internal and external stakeholders and broker relationships and access as required

12.3 Steering Group

A project steering group, representing the interests of project stakeholders, will be chaired by Anne Hughes, Vice-Principal for Learning and Teaching at the University of Strathclyde and include the following members:

- Professor Ray Land, Director CAPLE, University of Strathclyde
- Professor Val Belton, Vice-Dean, Business School, University of Strathclyde
- Shona Cameron, Director of Learning Services, University of Strathclyde
- Saskia Hansen, Head of Governance, Management and Planning Team, University of Strathclyde
- Professor Peter Bullen, critical friend to project
- Martin Hawksey, JISC Regional Support Centre
- Dr Alastair Robertson, HEA Academy Scotland
- Professor Peter Goodyear, University of Sydney (tbc) and/or
- Professor David Boud, University of Sydney (tbc)
- Academic Champion, VLE Team, University of Strathclyde (name tbc)

Additionally, a representative from JISC will be invited to attend Steering Group meetings. Meetings will normally be held once every six months during the life of the project (initial meeting planned for September 2009).

12.4 Terms of reference for the steering group

Although we anticipate that the steering group will wish to define its own terms of reference at an initial meeting to be held in September 2009, it is likely that the following terms will constitute a subset:

The steering group shall:

- Oversee the general strategy of the project
- Provide steering and advice on key issues
- Provide a source of expertise and contribute to project deliverables where appropriate
- Ensure that project deliverables are fit for purpose
- Act as a link to internal and external stakeholders and broker relationships and access as required

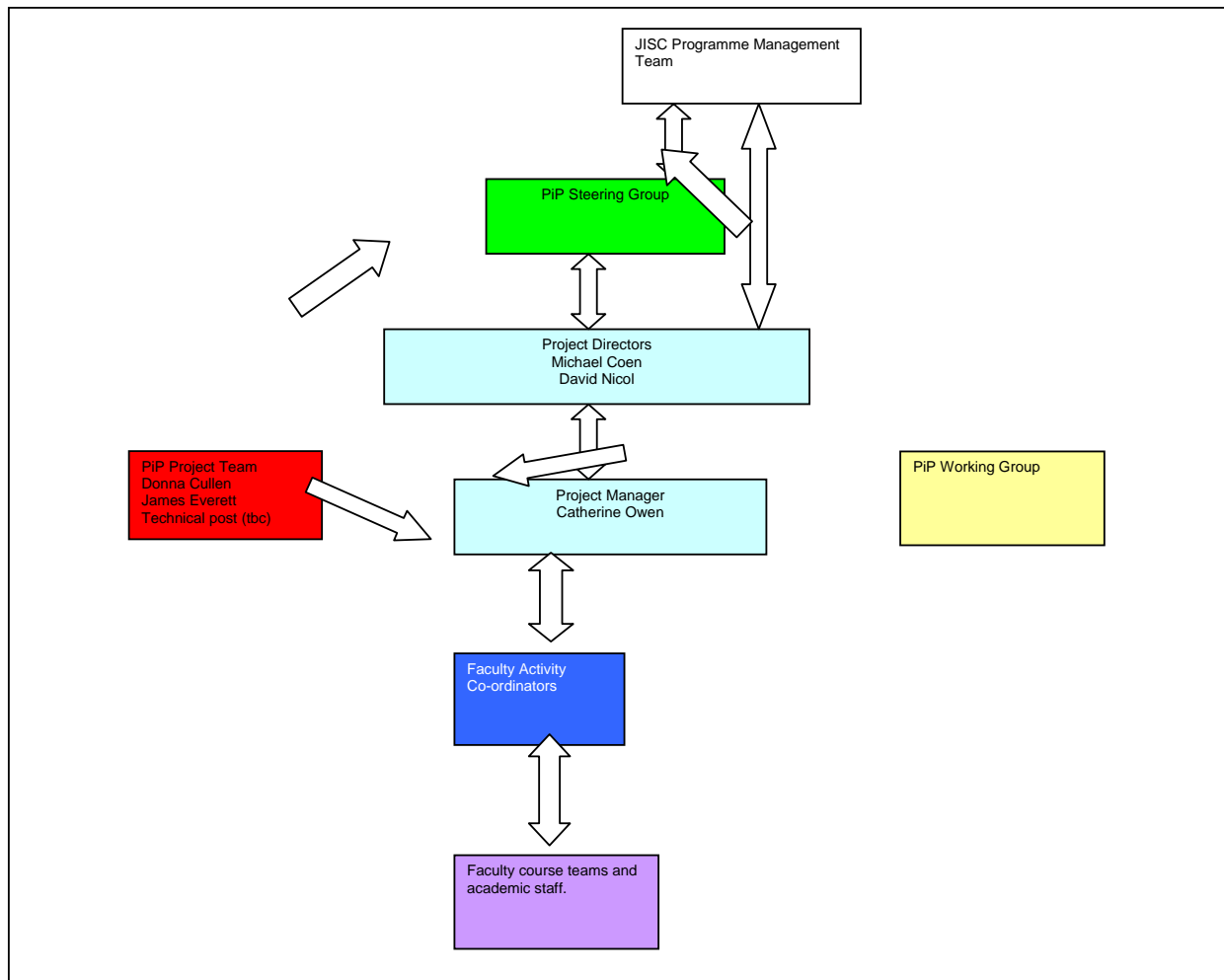
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- Advise on changes to project milestones, activities or deliverables and ensure that key objectives are met
- Take advice from third parties as it sees fit.

12.5 Critical friend and project cluster

The project critical friend is Professor Peter Bullen from the University of Hertfordshire. Peter made an initial visit to the project team in January 2009 and we anticipate working closely with him during the lifespan of the project. The project team also welcome the opportunity to work closely with the two other institutions nominated as cluster partners (University of Ulster and the Open University). The PiP project team hosted the first cluster CAMEL meeting April 2009. The cluster has also submitted a joint proposal for a seminar session for the 2009 ALT-C conference which has been accepted and it is anticipated that further joint dissemination activities will take place as projects progress.

12.6 Project Team:



| Project Core Team Member | Institutional Role | Role on Project | No. Days on Project | No. Days on Programme |
|--------------------------|---|---------------------|---------------------|-----------------------|
| Diane McDonald | Interim Head of Innovation Services and Projects | Project Co-Director | 180 | 25 |
| David Nicol | Director of the Centre for Academic Practice and Learning Enhancement | Project Co-Director | 180 | 25 |
| James Everett | Principal Innovation Officer Learning Services | Technical Manager | 410 | 40 |

| | | | | |
|--|--|---|-------------|------------|
| Catherine Owen | Project Manager, Centre for Academic Practice and Learning Enhancement | Project Manager, evaluation co-ordinator | 480 | 40 |
| Donna Cullen | Innovation and Projects Officer, Learning Services | Analyst, evaluation and technical support | 410 | 10 |
| <i>To be recruited</i> | | Technical Analyst/Support Technical Analyst | 330 | 10 |
| Senior Management / Project Champions | | | | |
| Anne Hughes | Deputy Principal | Project Champion | 10 | 2 |
| Shona Cameron | Head of Learning Services | Project Champion | 30 | 20 |
| Robert Rogerson | Senior Lecturer | Leading Phase 1 Pilot | 50 | 10 |
| Total | | | 2090 | 185 |

12.7 Other project team members

The broader project team also includes academic staff members and course teams engaged in curriculum design across the institution. In the Faculty of LASS, there are seven departments currently engaged in re-designing courses and the project offers advice and support to these teams, co-ordinated by a local project manager.

Staff members from other key university support departments are also involved in a number of project activities and include representatives from the University's Academic Office and Registry, including officers responsible for quality assurance and for co-ordinating the University's strategic approaches to revising its course credit framework and course approval processes.

13 Programme Support

The project team is particularly keen to ensure that project outputs are of real value to the higher education community. We anticipate that the programme support team could offer substantial advice in accessing sources of external expertise and individuals or groups who might participate in evaluation of project deliverables and, where appropriate, contribute to their design.

The project benefits from a close relationship with JISC CETIS, based in CAPLE, who are a source of expertise in technology-supported curriculum design and a useful conduit for contacts and information about developments across the curriculum design community and across the programme.

14 Budget

See Appendix A.

Detailed Project Planning

15 Workpackages

See Appendix B attached.

16 Evaluation

Introduction

The objectives of the project are to:

1. Analyse and improve the curriculum approval workflow by:

- Documenting current practice in faculty curriculum design and approval processes, with an emphasis on identifying gaps or blockages in planning processes, in information sharing, in the way guidance is provided and in alignment with strategic objectives.
- Developing a new approach to curriculum design and approval that reduces blockages, more appropriately supports staff and reflects the principles and strategic objectives embodied in university policy.

2. Develop supporting resources and materials to help staff members involved in curriculum design and approval decisions by:

- Testing ways of representing effective learning designs at the task, module and course level to support teachers in design activities and to support staff members responsible for planning, managing and sharing of curriculum design information.
- Representing these outputs in ways that are useful to other institutions engaged in curriculum design and to the wider HE and FE sector.

Purpose of evaluation

Evaluation of the activities and outputs of the project will focus on these two separate, but related areas. Evaluation activities will be both formative and summative, with a particular emphasis on establishing an institution-wide community of practitioners and administrators, who will help the project team to establish a baseline, analyse current practice, identify opportunities for enhancement and develop materials that have the best possible potential for wider adoption across the institution. Although the principal focus will be internal, the project will also solicit formative evaluative data from external stakeholders as materials are created and refined.

Measures of success

The project team will work closely with academic and administrative partners to gain insights into the value of changes to the university's curriculum design and approval processes. Standards and measures explicitly related to those of the programme-level evaluation and of interest to institutional partners and the wider academic community are likely to include:

- Improved document and process workflow when developing and approving curricula
- Improved efficiency and/or effectiveness of the curriculum design and approval process
- Embedding of educational policies in module and programme documentation
- Perceived improvements in module and programme data collection for different university constituencies (e.g. to support multiple processes and outputs)
- Enhanced information available to learners at key decision points

Approaches to evaluation

1. Baseline analysis and comparison

The project team are producing baseline maps of the institutional processes associated with curriculum design and approval and with the flow of information about modules and courses. These baseline maps will form the basis of discussions with key stakeholders to establish:

- How academic staff currently approach module and programme design
- The steps that departments and faculties go through when supporting and validating this process
- What guidelines, policies, or other institutional messages inform the design and approval process
- Perceived blockages and opportunities for enhancement

Data collection activities will include:

- **Analysis of institutional documentation** including module and programme approval forms, department and faculty quality assurance reports, external examiners reports and data from student evaluations
- **Interviews** with key stakeholders including faculty and management representatives about decision-making processes and the use of documentation to inform decision-making
- **Workshops** with stakeholder groups

Once a clear baseline has been established, this data will be used **formatively** (to inform changes to the curriculum design and approval processes) and **summatively** (to demonstrate changes to the way curriculum design and approval is conducted).

2. Evaluation of curriculum designs and supporting materials

The development of curriculum designs and supporting materials is conceived as an iterative process of formative evaluation over a number of stages:

- Patterns derived from the REAP project and from the educational literature are developed and represented as practice models
- These models are tested with academic staff in different disciplines across multiple faculties at the University of Strathclyde through workshops and related consultation exercises
- Models are refined and further developed
- Models are tested across the sector

This formative evaluation process should result in resources that best serve the needs of those engaged in curriculum design at the University of Strathclyde and provide materials to inform similar developments at other institutions.

3. Evaluation of technical outputs

The project comprises two broad areas of related technical development:

Analyse and improve the curriculum approval workflow by:

- Modelling current processes and workflows
- Modelling improved/enhanced approval workflow system(s)
- Implementing pilot workflow systems

Develop supporting resources and materials to help staff members involved in curriculum design and approval decisions by:

- Representing curriculum designs that communicate proven educational principles
- Storing designs and support materials in an architecture that also supports meaningful metadata (these might include information on underlying principles, disciplines and previous implementations, etc.)
- Testing the usability and accessibility of designs and support materials at the right stages of the curriculum design and documentation process.

The project team will work closely with a team of stakeholders to establish the content and validity of the technical outputs of the project. This evaluation will be primarily formative, with an emphasis on generating data to inform development of technical products that have the best possible chance of being widely adopted by the university community. Criteria are likely to include:

- Appropriateness of software platforms
- Interoperability with university systems
- Usability of tools
- Efficiency

4. Summative evaluation of project approach to institutional change

The overall aim of the project is to help academic and administrative staff to better manage the complex task of creating effective and coherent academic programmes within an institutional context of modularisation and student choice. The project is conceptualised as a proof-of-concept endeavour that will examine what types of design patterns, practice models, methodologies and support materials might be the most useful in supporting academic staff to design effective learning tasks, modules and programmes which reflect university ambitions.

The summative assessment of the project will ask whether this approach to institutional enhancement has the potential to create positive changes in the way that modules and programmes are designed and approved. Evidence sought is likely to include:

- curriculum design and approval activities are conducted in a new way
- the process of change is consistent with and embedded in institutional processes
- the intended outcome is sustainable and is likely to result in long-term changes in activities

The project team are also likely to seek additional evidence in collaboration with the GMAP team at the Academic Office, who are closely involved with the development of project outcomes.

Quality Plan

| Output | Project development and initiation | | | | |
|------------|------------------------------------|--|---|-----------------------------------|-------------------------------|
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| April 2009 | Fitness for purpose | Review by project working group and by JISC and programme partners | Acceptance by project working group and JISC. | Project Directors/Project Manager | |

| Output | Base-lining of current practice | | | | |
|----------------|---------------------------------|---|--------------------------------------|-----------------------------------|-------------------------------|
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| Jan – Jul 2009 | Fitness for purpose | Review by project working group and key process stakeholders (e.g. faculty managers and academic office). | Acceptance by project working group. | Project Directors/Project Manager | |

| Output | Publication in relevant journal | | | | |
|----------|---------------------------------|--|--|-----------------------------------|-------------------------------|
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| Jul 2010 | Fitness for purpose | Review by project management group and peer review by publication. | Acceptance by project working group and peer review via project website. | Project Directors/Project Manager | |

| Output | Re- worked map of institutional processes including a set of tools and associated guidance materials | | | | |
|--------|--|--|--|--|--|
| | | | | | |

| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
|----------|---------------------|--|---|-----------------------------------|-------------------------------|
| Jul 2011 | Fitness for purpose | Review by project management group and key process stakeholders. | Benchmarked against current best practice in repository design and management as identified by Project Technical Manager. | Project Directors/Project Manager | |

| Output | A set of learning designs | | | | |
|----------|------------------------------------|--|--------------------------------------|---|-------------------------------|
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| Jul 2011 | Fitness for purpose and usability. | Review by project working group. . Piloting by user group(s). | Acceptance by project working group. | Project Directors/Project Technical Manager | |

| Output | A set of tools and associated guidance materials to support the use of learning designs | | | | |
|----------|---|---|---|---|-------------------------------|
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| Jul 2011 | Fitness for purpose and usability. | Review by project management group and peer review via project website. Possible beta testing by user group(s). | Acceptance by project working group and publication on project website. | Project Directors/Project Technical Manager | |

| Output | A website detailing progress during the lifespan of the project | | | | |
|--------|---|--------------|------------------------|--------------------------|-------------------------------|
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| | | | | | |

| | | | | | |
|--------------|-----------------------------------|---|---|---|--|
| 2008 onwards | Fitness for purpose and usability | Review by project management group and peer review via project website. | Acceptance by project working group and peer review on project website. | Project Directors/Project Technical Manager | |
|--------------|-----------------------------------|---|---|---|--|

| | | | | | |
|---------------|--|--|---|-----------------------------------|--------------------------------------|
| Output | Evaluation report detailing successes and lessons learned | | | | |
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| Dec 2011 | Fitness for purpose | Review by project management group and key stakeholders including JISC | Acceptance by project working group and publication on project website. | Project Directors/Project Manager | |

| | | | | | |
|---------------|--|--|---|-----------------------------------|--------------------------------------|
| Output | Interim and final reports to JISC | | | | |
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| 2008 - 2012 | Fitness for purpose | Review by project steering group and JISC. | Acceptance by project steering group and JISC | Project Directors/Project Manager | |

| | | | | | |
|---------------|--|---|---|---|--------------------------------------|
| Output | Conference and other papers, presentations and other dissemination activities | | | | |
| Timing | Quality criteria | QA method(s) | Evidence of compliance | Quality responsibilities | Quality tools (if applicable) |
| 2009 - 2012 | Fitness for purpose and usability | Review by project management group and peer review. | Acceptance by project working group and publication on project website. | Project Directors/Project Technical Manager | |

Dissemination Plan

| Timing | Dissemination Activity | Audience | Purpose | Key Message |
|----------------------------|--|--|--|-------------|
| December 2008 and on-going | Project website | Curriculum design community, academic staff. | Provide information about the project. Inform on project progress. Dissemination of project outcomes and deliverables. | |
| 2011-2012 | Project events | Curriculum design community, academic staff. | Share findings, methodologies. | |
| 2011-2012 | External events, conferences including ALT-C, HEA, JISC etc. | Curriculum design community, academic staff. | Share findings, methodologies. | |
| 2009 - 2012 | Papers, articles and other dissemination materials. | Curriculum design community, academic staff. | Share findings, methodologies. | |

Dissemination will be targeted at the internal and external stakeholders identified above. Appropriate methods for communicating with these stakeholder groups will be developed by the project and, at a programme level, in conjunction with the curriculum design support project. Dissemination methods will include:

- a project website which will host on-going progress reports.
- attendance at programme events, conference presentations and publication in journals.
- potentially hosting an international on-line conference. This type of event was successful as part of the REAP project with a range of materials arising from the conference including conference keynotes, a 35 cases studies of technology-supported assessment course designs, the outputs of synchronous and asynchronous discussions of keynotes and case studies. 400 delegates from 32 countries participated in the conference.

17 Exit and Sustainability Plans

| Project Outputs | Action for Take-up & Embedding | Action for Exit |
|--|--|---|
| Publication(s) in a refereed journal on learning designs that draw together the relevant literature. | Available to the sector to support future work. | Materials in public domain and disseminated via journal(s). |
| Baseline map of the sequence of institutional processes and procedures | Serves as an interim tool to support institutional analysis of current practice. | Archived with project materials. |

| | | |
|--|--|--|
| Reworked map including a set of tools and associated guidance materials to support the streamlining and enhancement of institutional processes | Created through consultative process with key institutional stakeholders. Refined to fit stakeholder needs. Widely disseminated through support events and online. | Intention that tools created will be adopted by institutional stakeholders, although it is possible that these constitute a "proof of concept" models that is incorporated into wider institutional technology developments. |
| Set of learning designs | Created through consultative process with key sector experts. Refined to fit stakeholder needs. Widely disseminated through sector-wide events, publications and online. | Incorporated into tools detailed above for institutional stakeholders and sustainable dissemination to other sector partners through publications and deposit into e.g. Cloudworks. |
| Set of tools and associated guidance materials to support the use of learning designs | Created through consultative process with key sector experts. Refined to fit stakeholder needs. Widely disseminated through sector-wide events, publications and online. | Incorporated into tools detailed above for institutional stakeholders and sustainable dissemination to other sector partners through publications and deposit into e.g. Cloudworks. |
| Website detailing progress during the lifespan of the project and as a dissemination point after the project close | Publicised to internal and external communities via e.g. HEA, JISC, mailing lists etc. | Archived for a minimum of three years after project end-date. |
| Evaluation report detailing successes and lessons learned | Published on PiP website, JISC website etc. Publicised to internal and external communities via e.g. HEA, JISC, mailing lists etc. | Archived for a minimum of three years after project end-date. Reworked for publication in journal. |
| Interim and final reports to JISC detailing lessons learned. | Published on PiP website, JISC website etc. Publicised to internal and external communities via e.g. HEA, JISC, mailing lists etc. | Archived for a minimum of three years after project end-date. |
| Conference and other papers, presentations and other dissemination activities | Results available for community to use and/or refine. Published on PiP website, JISC website etc. Publicised to internal and external communities via e.g. HEA, JISC, mailing lists etc. | Publicise the results of the study through conference and/or publication. Preservation through the project website. |

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Date: April 2009

The University of Strathclyde has a strong track record in sustaining project outputs both locally and as part of a longer-term engagement with external communities and the outputs of this project are intended to have a long-term impact on procedures and policies at the institution. The project enjoys significant senior management support which will be an important factor in the sustainability of project outputs at the University of Strathclyde.

All project team members (with the possible exception of a technical support post) are existing members of staff at the University of Strathclyde and it is reasonable to assume that most, if not all, will be retained by the University after this project is completed. The project team will ensure that the project website is maintained for at least three years after project completion.

Most importantly, the project is explicitly linked to institution-wide activities led by senior officers at the University of Strathclyde and by management in faculties that are variously addressing timetabling, quality assurance, educational enhancement and technology development. Outputs from the project have a considerable chance of high recognition and high value in the institution.

Appendix A. Project Budget

| | Sept 08– Jul 09 | Aug 09– Jul 10 | Aug 10 – Jul 11 | Aug 11 – Jul 12 | TOTAL £ |
|---|--------------------|-----------------------|--------------------|--------------------|---------------------|
| Directly Incurred Staff | £ | £ | £ | £ | |
| Catherine Owen, Project Manager, 480 Days (0.4 FTE in 08/09, 0.6 FTE thereafter) | | | | | |
| Donna Cullen, Analyst, 410 days, approx. 0.64 FTE from Sept 08 - July 11) | | | | | |
| Technical Analyst , APS Grade 7, 330 Days, Full time from Aug 09 - Jan 11 | | | | | |
| Total Directly Incurred Staff (A) | | | | | |
| Directly Incurred Non-Staff | | | | | |
| Travel and expenses | | | | | |
| Hardware/software | | | | | |
| Dissemination | | | | | |
| External Consultants | | | | | |
| Funding for Pilot Departments | | | | | |
| Total Directly Incurred Non-Staff (B) | | | | | |
| Directly Incurred Total (A+B=C) | | | | | |
| Directly Allocated | | | | | TOTAL £ |
| Prof. David Nicol, Project Co-Director, 180 Days, 0.21 FTE on average per annum | | | | | |
| Diane McDonald, Project Co-Director, 180 Days, 0.21 FTE on average per annum | | | | | |
| Jim Everett, Technical Manager, 410 days, on average 0.64 FTE per annum between Sept 08 and July 11 | | | | | |
| Estates | | | | | |
| Directly Allocated Total (D) | | | | | |
| Indirect Costs (E) | | | | | |
| Total Project Cost (C+D+E) | | | | | |
| Amount Requested from JISC | | | | | |
| Institutional Contributions | | | | | |
| Percentage Contributions over the life of the project | JISC - 39% | Partners - 61% | | | Total - 100% |

Project Acronym: PiP
Version: 5
Contact: Catherine Owen (catherine.owen@strath.ac.uk)
Date: April 2009

| | | |
|--|---------------------------|--|
| No. FTEs used to calculate indirect and estates charges, and staff included | No FTEs - 9.08 | Which Staff: Owen, Cullen, Technical Analyst, Coen, Nicol and Everett |
|--|---------------------------|--|

Changes from the original budget:

- The time allocated to Project Management has been increased, with Catherine Owen's input rising from 410 days to 480 days. This addresses feedback on the level of project management commitment.
- There has been a reduction in the funding allocated to the Technical Analyst post, from 410 days to 330 days, reflecting the fact that project appears to require less technical development than was originally anticipated.

Project Acronym: PiP
Version: 4
Contact: Catherine Owen (catherine.owen@strath.ac.uk)
Date: March 2009

Appendix B. Work Packages

See attachment