



## JISC Project Plan

### Overview of Project

#### 1. Background

Workforce development for new skills and competencies required by the Leitch report agenda demands that innovative approaches are adopted. It is not enough to provide skills and training to a workforce. Instead a more holistic approach is required. Internationally, industry leaders realise that not only is knowledge important but *proximity to a community* facilitates the sharing of knowledge and the capacity for localised learning by firms, leading to greater innovation<sup>1</sup>.

The growing understanding of the role played by knowledge and proximity in building competition has led to interest in industry clusters which are in effect, *skill ecosystems* (without the emphasis on skills). Research on regional clusters indicates that innovation and competitiveness increase when organisations work together in clusters. Industry clusters of local businesses and educational providers increase efficiency, stimulate innovation, create new labour market approaches and facilitate new business models:

At Middlesex we have adopted this notion of a *skills ecology* by our strategic project – MODNET – (Middlesex Organisational Development Network). Building on the recognized national Centre for Excellence in Work Based Learning, Middlesex had established a network that includes six FE colleges (Barnet College, City of Westminster College, College of North West London, College of North East London, Enfield College and Southgate College), employers and a leading national private training provider QA-IQ Ltd<sup>2</sup> (the UK's largest provider of training in Information technology). MODNet is designed to develop long term strategic relationships with employers in order to develop and provide flexible and work based routes to all major qualifications offered by the University. MODNet is at the heart of the university's approach to employer engagement and the project will enable the University to make major changes to its infrastructure (IT, organizational, estates) in order to deliver the objectives on the corporate plan. MODNet will provide a specialist advisory service on the use of learning as a resource to employers; a one stop enquiry service, recognition and enhancement of learning already held by employers and customized work based learning programmes. Central to MODNet is the deployment of a university wide CRM System (currently planning and selection is underway) which will provide the primary contact point (in multiple ways) for employers and their needs. This proposal will develop technology to support those objectives hence the support for this project from senior executive.

#### The challenges and the proposal

Recent research undertaken by the Council for Industry and Higher Education<sup>3</sup> and for the DfES<sup>4</sup> highlights that employers are seeking quality of provision, relevance to business needs and a delivery method suited to the company rather than the HEI. The need for improved communication between HEIs and employers is a common feature of both reports.

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<sup>1</sup> [http://www.icvet.tafensw.edu.au/ezine/year\\_2005/july\\_august/review\\_ecosystems.htm](http://www.icvet.tafensw.edu.au/ezine/year_2005/july_august/review_ecosystems.htm)

<sup>2</sup> <http://www.ga.com/>

<sup>3</sup> King M (2007), Workforce Development, Employer engagement with higher education, London:CIHE.

<sup>4</sup> Wedgwood M (2007), Employer Engagement, Higher Education for the Workforce, London:DfES.

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Contact: Balbir Barn  
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The Leitch Review of 2006 challenges institutions to deliver learning opportunities so that 40% of adults of working ages have a higher education qualification. National demographics mean that there will have to be more delivery of workforce training and education to organizations and while the JISC call indicates that “educational institutions may not have the processes and technical infrastructures to support these priorities....”, the problem may be much worse and it is helpful to look at the challenges from the three perspectives of employer, university and learners as indicated below:

**Employers:** Currently, skills training is ad hoc (and driven by employees) rather than being strategically owned. There are no route maps of provision and availability that lead to coherent programmes addressing the needs of employers. Employers are not generally involved in the design of programmes and relationships between employers are point-point and not networked.

**Learners** on the other hand want carefully managed, consistent approaches to accreditation of prior learning (AP(E)L) and want personalized learning – tailored to meet their needs in chunks that they choose. They need to be able to define and declare their own programme specifications!

**University Providers** however design courses that do not generally include employers in the design stage; their courses are not always sensitive to market needs in a precise and bespoke way. Often work based elements in course design need to be integrated in a coherent employer led fashion. Informed pedagogy on extracting learning from the workplace needs to be made explicit and many have not embarked on such approaches. The primary course design processes are designed for products that have 3-5 year lifespan with FT students the “normal” market. Rapid course development is not possible.

Given this situation, a potential scenario arises:

Hendon Print Works Ltd (HPW) is North London’s main printing services supplier. The company employs approximately 50 people and is looking to grow even in the current credit crunch climate. The Leadership team of the company has identified staff development as a key problem both for retention of staff and acquiring new staff. As a rule HPW prefers to recruit young and retain people for a longer time. Some of their staff have been with the company for 25 years or more. Generally the company recruits new people with A Levels or equivalent. On the job training is supported by specific courses delivered by the British Print Industries Federation (BPIF) - the printing industry’s professional body which lead to certificates. HPW has a strong relationship with the BPIF and is keen to work with the Print Foundation in order to increase the skills level as whole of the industry – as a vanguard in this – it hopes to broaden its market to the whole of the SE of England and not just London.

To develop this further, it persuades the BPIF to accredit its training programmes with the Middlesex University Institute of Work Based Learning. As a result of this accreditation service, some of the training is now certified at undergraduate level by Middlesex. Some of the more advanced printing courses require some additional assessment work (defined by the University School of Arts and Design) before they can be certified. Even more useful, is the fact that on the job training that print workers do can also be described at HE level as long as the appropriate records are kept and senior management are prepared to authenticate work. Again, assessments undertaken at Middlesex allow such on the job training to be recorded at HE Level. This accreditation is possible because the Middlesex Institute of Work Based Learning is a national centre of excellence in WBL and has been a leader in accreditation services for many years.

Some of the print workers have undertaken several years of work based learning and attended many print foundation courses and as a result of the accreditation of their learning, the University contacts, HPW and the individuals concerned and suggests that by undertaking two additional modules (from a range offered) at Levels 5 and 6, the individuals would be entitled to a BA in Work Based Learning Studies. These modules are naturally available in variety of modes including WBL, part-time, distance learning and online.

As a result of this training initiative, HPW Ltd continue to retain staff, have widened their markets as customers are benefiting from a highly skilled work force. What is more, other local companies have heard about this scheme and want to participate as well – which means that the local community overall has benefited.

## 2. Aims and Objectives

The project aim is to develop and deliver a software application that will support employer engagement and workforce planning requirements by providing a CRM based integrated view of employer based, professional and tertiary sector education.

The project's objectives are:

- to deliver models that will span employer engagement and course information in a unified and integrated manner;
- to deliver two software tools:
  - one that will allow non-technical specialists to import MS Word documents containing course descriptions, provide semantic mark-up, and export into the JISC XCRI-CAP standard creating a database;
  - one that will support employer-led learner route planning.

## 3. Overall Approach

There are several key components to the proposed system. The underpinning structure for the system is development using the XCRI standard<sup>5</sup>. A XML based database will store course descriptions from a several sources. Such sources will include: professional courses delivered by professional training providers such as our partner in MODNet – QA-IQ. Employers will make internal courses also available as XCRI descriptions. HE courses offered by Middlesex will be available as XCRI descriptions and selected courses from our MODNET FE partners may also be available.



Two tools are proposed for developing content for this database. Firstly, the **transform tool** will be a MS WORD based tool that will allow a course description from an external provider (such as QA-IQ) to be mapped to XML description fields conforming to the XCRI-CAP standard. We envisage a tool that will open a standard WORD document, and allow a course designer to mark up content as XCRI-CAP fields. The tool will then allow the marked up text to be exported as an XCRI-CAP file to the XML Database. A second tool – the **APEL mapping tool** – will support the mapping of an imported XCRI\_CAP description (done by the transform tool) to HE and / or FE courses. A variety of mapping relationships are envisaged and the requirements workshops planned at the beginning of the project will elicit and refine potential relationships. Currently, there is considerable expertise in the IWBL in accreditation services and we expect to build and “implement” this expertise. The mapping tool has

<sup>5</sup> <http://www.xcr.org>

the potential to implement mapping rules which will enable the CRM system to support “route planning” for learners in specific work places.

Central to the proposed system is the use of a data integration layer to allow import of key data from University systems such student records, course information and e-learning systems. An important component of this integration will be the availability of getting and supplying data to our planned CRM system.

We believe that engagement with employers and workforce development will depend upon a successful deployment, use and integration of a University-wide CRM system. The University is currently funding and deploying a commercial CRM system during 2009 and this project will provide case study experience of integration with such a system. We plan to use the CRM system as the primary interface with employers and we anticipate the following key processes to be designed and implemented as part of this project.

- **Submit course:** An employer can offer a course for translation into XCRI
- **Enquire:** Employers/employees make enquiries via telephone, email, web and based the nature of the enquiry – information will be constructed from the XML database and the knowledge based mappings.
- **Course Advisor:** As part of the communication to the employer community the CRM system will be used to advise employers about course opportunities, professional accreditation, CPD based on knowledge about the employer. This service can also function as a course route planner.

The final shape and functions of the system will depend upon the requirements of key stakeholders but we expect that key features such as: transformation and mapping tools, data integration, significant use of XCRI-CAP across a range of stakeholders and the use of CRM as the primary interface will remain.

The proposed work introduces a number of innovations:

- **Engagement of professional external private providers:** The tools that are planned for development will enable external providers to map their training provision to HE level courses and programmes. Our partnership with QA-IQ will enable more than of 300 professional courses to be described using XCRI-CAP which will then be mapped to HE and FE descriptors to enable accreditation of prior and experiential learning. The use of substantial authentic data will provide high-level of confidence in the use of the tools. The markup and mapping tools will be developed as add-ons to MS Word (subject to technical analysis). These tools will make production of XCRI compatible specifications significantly easier for non-specialists and are more than just XML editors because of their ability to provide additional semantic analysis
- **The XML database of XCRI based course descriptions from a range of providers will act as a knowledge management system to CRM activities.** Such a system will enable the design of enhanced CRM processes to better support BCE activity focused on workforce skills development.

As these innovations take place inside a network/community the notion of a skills ecology can emerge.

## 4. Project Outputs

The project will deliver:

- **D1: Enhanced CRM process and information models:** These models (documented in standards such as UML and BPMN) will span employer engagement and course information in unified and integrated manner. The integrated models will allow CRM systems to be viewed as employer driven portals to key education and training information.
- **D2: Evaluation Report:** A report that explores the initial baseline processes, the impact of the proposed system and lessons learnt and their applicability to the wider HE sector.
- **D3: Two software tools to support course description and management:** Two software tools – 1: **Transform** tool that will allow non-technical specialists to import MS Word documents and

provide semantic markup to enable export into the JISC XCRI-CAP standard. 2: A **Mapping** tool that will define mappings and relationships between different sources and types of course information to support employer-led learner route planning.

- **D4: Dissemination Outputs and Engagement with the community:** Several dissemination outputs are planned.
- **D5: Employer-led Learning Route Planner Case Study:** Based on the software tools and the mapping specification - a case study demonstrating how the course information knowledge base will be accessed through a CRM system will be documented.
- **D5: Six-monthly Interim reports and a final report.**

#### Intangible Deliverables

- Project activities will be disseminated through the web page and further activities.
- The project web site will also be used to promote and publicise the route planner case study, use cases, reports and evaluations.
- The deployed tools will be available at the end of the project.

In addition the project team will publish the work through conferences and journal proceedings.

## 5. Project Outcomes

The Project contributes to a vision for lifelong learning and workforce development in the following manner:

#### **Learning and Teaching Practice:**

The planned integration (initial research indicates that very little work has been done on this) between a course information knowledge base and the CRM system will mean that details of courses will be available to employers and learners in a manner that is relevant to their needs based on the knowledge of them collected through the CRM system.

Employers in the MODNET community, the partner FE colleges, and professional providers (such as QA-IQ) will be able to offer their programmes and to define specific routes of study. Over a longer time (beyond the project time) we expect and will support a sustainable employer network where there will be transferability between employer led training within the network. The network will initially be set up and sustained by the MODNET (over three years) and then further by the Institute of Work Based Learning.

The planned CRM system (for deployment in 2009) will enable the support of queries by employers across multiple touch points (telephone, web and email). Enhanced CRM processes concerning with course and employer information will provide case study knowledge on how to implement course information led CRM systems.

#### **Technology and Standards**

By choosing to use the XCRI-CAP model for describing commercial courses, in-house employer based learning, and HE/FE provision from MODNet partners we are well placed to conform to European-wide standards and so enable efficient data collection and searching. Additionally by developing enhanced semantic relationships between descriptions of courses and integrating the resulting knowledge base to an employer based CRM system we are more readily able to target provision information to employers specific to their needs.

One of the key focus areas of the project is the data integration of the CRM system with course information and the modelling of enhanced CRM processes that include interrogation of course information. This element of the work is strongly aligned with the CRM and process needs set out in paragraph 21 of the call.

#### **Strategy and Policy:**

This proposal is central to the strategic mission of the University. While the MODNet project will establish a University-wide CRM system and implement changes to various IT systems, the proposal described here will develop processes that integrate with course information that will enable the delivery of a superior knowledge based service via the CRM system to employers. These new processes will be embedded in the institution during the lifetime of this project.

This project will build upon the learning and knowledge network developed for MODNet. This network includes Middlesex, a range of FE college partners (see supporting letter from the Deputy Vice Chancellor), and employers in the North London area. Currently almost 30 employers are already engaged with the MODNet development. This network will provide a test bed for the technology and tools that will be developed. In addition, the project will be able to develop relationships with several sector skills councils such as Semta, E Skills, UK Skills, Skills for Health, Skill Fast UK and Skill Set as they have already supported the MODNet project.

## 6. Stakeholder Analysis

Stakeholder	Interest / stake	Importance
University	<ul style="list-style-type: none"> <li>The system will help achieve the goals of the university.</li> <li>The project will support synergies with other educational organisations offering courses.</li> <li>Existing curriculum can lead to provision of further programmes and short courses.</li> </ul>	Medium
Middlesex University Organisational Development Network (MODNet)	<ul style="list-style-type: none"> <li>Enhanced service for employees via the system.</li> <li>Ability to integrate courses from industry and reach more organisations in need for WBL.</li> </ul>	High
CRM Team	<ul style="list-style-type: none"> <li>The knowledge base will provide improved usage of the CRM system leading to wider access of university programmes by the employers.</li> <li>Acquire in depth knowledge of CRM requirements at both university and industry level.</li> <li>Create in house CRM solution scalable to different course and training needs.</li> </ul>	High
Institute for Work Based Learning (IWBL)	<ul style="list-style-type: none"> <li>Create new relationships with employers and strengthen existing ones.</li> <li>Creating courses more aligned to employer needs.</li> <li>The use of standards may provide easier path to APEL and the development of modular customised programmes.</li> </ul>	High
Centre for Learning and Quality Enhancement (CLQE)	<ul style="list-style-type: none"> <li>Its involvement ensures the quality standards of the newly designed programmes in WBL.</li> <li>Introducing quality assurance in early stages of programme design.</li> </ul>	Medium
Employers	<ul style="list-style-type: none"> <li>Valued training for employees; training much close to organisational needs.</li> </ul>	High

	<ul style="list-style-type: none"> <li>Ability to customise training programmes.</li> <li>Access to further career development options integrating academic and industrial provision of courses.</li> </ul>	
Project partner (QA-IQ)	<ul style="list-style-type: none"> <li>Programmes more recognised among the community.</li> <li>Clarifying credit bearing of courses and alignment to academic learning outcomes and degrees.</li> </ul>	High
Local community (Barnet)	<ul style="list-style-type: none"> <li>SMEs serve the community better.</li> <li>Further career development opportunities for employees.</li> <li>Course structure and size become more manageable/feasible.</li> </ul>	Low
Learners	<ul style="list-style-type: none"> <li>Able get educational programmes better suited for their careers.</li> <li>More flexible, programme planning takes under consideration learner needs.</li> </ul>	High
JISC	<ul style="list-style-type: none"> <li>The project will use certain standards for the enhancement of work based learning programmes.</li> <li>Availability of getting and supplying data to our planned CRM system.</li> </ul>	High
JISC & Wider UK HE and FE Community	<ul style="list-style-type: none"> <li>Allowing a course description from an external provider to be mapped to XML description fields conforming to the XCRI-CAP standard.</li> <li>Supporting the mapping of an imported XCRI_CAP description to HE and / or FE courses.</li> </ul>	High

## 7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Availability of team for meetings	3	2	6	Early continual planning. Use of collaborative technologies such as Skype etc.
Main CRM system delayed	3	3	9	An alternative local open source CRM system will be deployed to test integration
Loss of key personnel	2	2	4	The project team has strength in depth and full institutional support.
Inability to recruit staff	2	4	8	Though recent experience suggests a good supply of applicants for technical posts, existing research staff would be able to conduct early work until suitable staff recruited.
Methodological framework is inadequate.	2	3	6	Framework will be reviewed and refined iteratively during early stages of project. Much of the methodology has been widely

				documented in the literature and deployed successfully on previous projects
Technical problems in system integration and implementation more difficult than anticipated	2	4	8	Members of the project team possess significant software development and technical skills, and are supported by excellent technical support staff.
Staffing – risk of being unable to get suitable research staff with the required skills in time	3	2	6	Special care has been taken in the implementation of WP6, for which the input of this role is crucial, to start 5 months after the start of the project. This allows sufficient time for recruitment. If the research staff is not recruited earlier than that the project team has sufficient skills to carry out the required work.
Organisational The project requires collaboration and co-operation between the project partners to ensure a successful outcome	3	3	9	The project will closely monitor the risk register to avoid and mitigate such event.
Technical – technical difficulties that prevent implementation, integration and deployment of the system.	2	3	6	The project team includes team members from the CRM system and from the WBL group who can ensure technical support. The project will follow JISC project management guidelines and JISC standards closely.

## 8. Standards

The project will utilize and conform to appropriate and relevant standards. These will include:  
UML 2.0, BPMN 1.0, XCRI-CAP

Name of standard or specification	Version	Notes
UML 2.0 OMG standard	2.0	This standard is important as it will enable a common language and semantics for describing software designs and specifications
BPMN	1.0	OMG standard for Business process modelling – includes mappings to BPEL4WS
XCRI-CAP	1.1	open specification for producing and aggregating collections of courses

## 9. Technical Development

The general approach taken by the project will be based on three principal foundations. Firstly, an adapted version of Rational Unified Process (RUP)<sup>6</sup> will be used to support the design / implementation of the tools and the integration services.

<sup>6</sup> Kruchten, P. (1999). Rational Unified Process;; Addison Wesley  
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A second foundation will be the use of a model driven architecture using UML 2.0 and BPMN 1.0 as the primary mechanism for defining and delivering models for: representing the results of the analysis; constructing the canonical information requirements and business processes for the domain; defining technology independent specifications of services; defining XML data representations of the information consumed and produced by services; and generating appropriate implementation models of the service specifications.

A third foundation will take a user-centred approach to develop requirements, design, implementation and even deployment through a co-design process. By engaging with key stakeholders throughout the lifetime of the project we will maximize our opportunity to deliver useful end-products to the community.

Many of the work packages will include co-design approaches in their workshops. Further, for all these aspects, the team has significant experience of their application on various JISC projects over the last four years including COVARM, PSPEX, COVA, MPLAT and REMORA.

Appropriate technology selection will be part of the early stages of the project but initial thoughts of the team include an exploration of the open source software developed as part of the KUALI Student (KS) work funded by the Mellon Foundation<sup>7</sup>. We anticipate that a number of the services developed for the KS work will be relevant to this project.

## 10. Intellectual Property Rights

Any code produced will be published via the project website and made available under an appropriate open source agreement and may be used within any educational establishment as per the terms and conditions of JISC grants. Middlesex University will retain IPR on project outcomes.

## *Project Resources*

### 11. Project Partners

N/A

### 12. Project Management

The project team will meet regularly to monitor progress across work packages, monitor and manage risks, agree changes and address major issues. The project managers will coordinate day-to-day project management (20% of their time has been allocated for managing the project). The project managers will use a set of instruments for documentation and management including a Risk Register, a Quality Assurance Plan and an Issues Log.

A Project Steering Board will be set up to monitor the strategic relevance of the project to the Institution. The make-up of this board will include: The Deputy Vice-Chancellor for Academic Affairs – Prof. Margaret House, Pro-Vice-Chancellor Prof. Martin Loomes, An advisor from QA-IQ Ltd, the Director of IT – Paula Vickers, the Head of the Institute of Work Based Learning – Prof. Jonathan Garnett and Principal Investigator – Prof. Balbir Barn. Support from internal services – such as IT, Registry has also been assured.

Internal and external communications will be managed by a dedicated (external facing) website with an integrated Blog and Wiki to support internal requirements. This structure is based on considerable JISC project experience for example the Remora Project (<http://samsa.tvu.ac.uk/remora>).

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<sup>7</sup> <http://student.kuali.org/>

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The project requires experience in curriculum, institutional procedures, modelling, professional practice and a sound technical knowledge. The team assigned to this project brings together a strong blend of knowledge, skills, experience and senior management strategy in a compelling case. In addition the team has large-scale project management experience and the quality and depth of the project team should provide JISC with an appropriate level of reassurance on the capability of this team to deliver the outputs as stated.

#### List of members of the project team

Project team member	Role	Contact details
Prof. Balbir S Barn, Associate Dean	Principal Investigator / Project Manager	School of Engineering & Information Sciences, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 4563 <a href="mailto:b.barn@mdx.ac.uk">b.barn@mdx.ac.uk</a>
Prof Martin Loomes, Pro-Vice Chancellor and Dean of School of Engineering & Information Sciences	Co-investigator	School of Engineering & Information Sciences, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 5344 <a href="mailto:m.loomes@mdx.ac.uk">m.loomes@mdx.ac.uk</a>
Dr George Dafoulas, Principal Lecturer	Co-investigator / Project Manager	School of Engineering & Information Sciences, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 4402 <a href="mailto:g.dafoulas@mdx.ac.uk">g.dafoulas@mdx.ac.uk</a>
Dr Mike Wing, Pro-Vice Chancellor, and Director of the Centre for Learning and Quality Enhancement	Co-investigator	Centre for Learning and Quality Enhancement, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 5963 <a href="mailto:m.wing@mdx.ac.uk">m.wing@mdx.ac.uk</a>
Dr Geetha Abeysinghe, Principal Lecturer	Co-investigator / Project Manager	School of Engineering & Information Sciences, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 6944 <a href="mailto:g.abeyesinghe@mdx.ac.uk">g.abeyesinghe@mdx.ac.uk</a>
Kyriaki Anagnostopoulou, Head of e-Learning	Co-investigator	Centre for Learning and Quality Enhancement, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 5148 <a href="mailto:k.anagnostopoulou@mdx.ac.uk">k.anagnostopoulou@mdx.ac.uk</a>
Dr Serengul Smith, Senior Lecturer	Co-investigator	School of Engineering & Information Sciences, Middlesex University The Burroughs, Hendon, London NW4 4BT +44 208 411 6747 <a href="mailto:s.smith@mdx.ac.uk">s.smith@mdx.ac.uk</a>
Dr Anthony "Skip" Basiel, Senior Learning Development Tutor	Co-investigator	Institute for Work Based Learning, Middlesex University The Burroughs, Hendon, London NW4 4BT

		+44 208 411 5638 <a href="mailto:a.basiel@mdx.ac.uk">a.basiel@mdx.ac.uk</a>
Research Assistants (TBA)		

### 13. Programme Support

We will require a strong and collaborative working relationship with the programme and will seek advice and support from the Programme Manager. More specifically we will need:

- guidance on project reporting and early feedback on problems that may arise;
- to be part of the project steering group and to have input on the development direction of the project;
- to alert the project on developments in other projects and programmes that may be of relevance to this project;
- advice on dissemination of project outcomes.

Furthermore, through the Support and Synthesis Project we would like to make contact with relevant projects and identify any synergies within the Life Long Learning & Workforce Development programme.

### 14. Budget

The overview budget is presented here and details are available in appendix A.

Directly Incurred Staff	Apr08-Mar09	Apr09-Mar10	Apr10-Mar11	TOTAL £
<b>Total Directly Incurred Staff (A)</b>	-	77,825.42	83,356.23	161,181.65
<b>Non-Staff</b>	<b>Apr08-Mar09</b>	<b>Apr09-Mar10</b>	<b>Apr10-Mar11</b>	<b>TOTAL £</b>
<b>Total Directly Incurred Non-Staff (B)</b>	-	14,168.00	7,000.00	21,168.00
<b>Directly Incurred Total (A+B=C) (C)</b>	-	91,993.42	90,356.23	182,349.65
<b>Directly Allocated</b>	<b>Apr08-Mar09</b>	<b>Apr09-Mar10</b>	<b>Apr10-Mar11</b>	<b>TOTAL £</b>
<b>Directly Allocated Total (D)</b>	-	74,860.49	78,336.49	153,196.98
<b>Indirect Costs (E)</b>	-	113,062.40	117,019.58	230,081.98
<b>Total Project Cost (C+D+E)</b>	-	279,916.31	285,712.30	565,628.61
<b>Amount Requested from JISC</b>	-	148,355.64	151,427.52	299,783.16
<b>Institutional Contributions<sup>8</sup></b>	-	131,560.67	134,284.78	265,845.45
<b>Percentage Contributions over the life of the project</b>		<b>JISC</b> 53 %	<b>Partners</b> 47 %	<b>Total</b> 100%
<b>No. FTEs used to calculate indirect and estates charges, and staff included</b>	<b>No FTEs</b> 2.92			

<sup>8</sup> If the institutional contributions include a contribution towards the direct costs of the project please complete a table along the lines of the example overleaf  
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**Nature of Institutional Contributions**

**NB: We would like a discussion of this at the next meeting with the Programme Manager.**

<b>Directly Incurred Staff</b>				
Post, Grade & % FTE	£	£		£
<b>Directly Incurred Non Staff</b>				
Hardware/Software etc.	£	£		£
<b>Directly Allocated</b>				
Staff, Estates etc.	£	£		£
██████████		██████████	██████████	██████████
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Estates		13759.04	14240.61	£27,999.65
<b>Indirect Costs</b>				
Indirect Costs	£	£113,062.40	£117,019.58	35185.15
<b>Total Institutional Contributions</b>	£	£187,922.89	£195,356.07	£383,278.96

**Detailed Project Planning**

**15. Workpackages**

The following workpages have been identified:

- Workpackage 1: Produce evaluation baseline (**deliverable D2**)
- Workpackage 2: Review related work (**deliverable D2**)
- Workpackage 3: Develop CRM process and information models for integration with course information (**deliverable D1**)
- Workpackage 4: Define requirements (**deliverable D3**)

- Workpackage 5: Evaluate technical approaches (**deliverable D2**)
- Workpackage 6: Implement transform tool (**deliverable D3**)
- Workpackage 7: Import data (piloting of transform tool) (**deliverables D3, D4**)
- Workpackage 8: Specify mapping rules (**deliverable D3**)
- Workpackage 9: Implement APEL mapping tool (**deliverable D3**)
- Workpackage 10: Pilot usage of the mapping tool (**deliverables D3, D4**)
- Workpackage 11: Develop route planner scenarios (**deliverable D5**)
- Workpackage 12: Pilot CRM processes (**deliverable D5**)
- Workpackage 13: Expert consultancy (**deliverable D3**)
- Workpackage 14: Evaluation strategy and implementation (**deliverables D2, D4**)
- Workpackage 15: Programme engagement (**deliverable All**)
- Workpackage 16: Project management (**deliverable All**)

The workpackages in more detail are included in the workplan included in appendix B.

### Project Gantt chart

Work package	RUP Phase	2010												2011												
		A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
WP1 Produce Evaluation Baseline	Analysis	■	■	■																						
WP2 Review Related Work	Analysis																									
WP3 Develop CRM Process and Information Mod	Analysis			■	■	■																				
WP4 Define Requirements	Design			■	■	■																				
WP5 Evaluate technical approaches	Design			■	■	■																				
Wp6 Implement Transform Tool	Implement																									
WP7 Import Data (Piloting of Transform Tool	Deploy																									
WP8 Specify Mapping Rules	Design																									
WP9 Implement APEL Mapping Tool	Implement																									
WP10 Pilot usage of the Mapping Tool	Deploy																									
WP11 Develop Route Planner Scenarios	Design																									
WP12 Pilot CRM processes	Deploy																									
WP13 Export Consultancy																										
WP14 Evaluation Strategy and Implementation																										
WP15 Programme Engagement																										
WP16 Project Management																										

## 16. Evaluation Plan

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
Jan 2010	Piloting the transform tool.	Does the tool accurately import the course information?  How does the tool perform with various types of courses?	Questionnaires, interviews, Comparison of pilot trials in a simulated against pilot scenarios. Evaluation will be led by MDX in collaboration with, IWBL and QA-IQ.	The primary scenarios accurately represent the courses available.  The XML database is successfully populated by imported course information.
Jun 2010	Piloting the mapping tool.	Does the tool create mappings of sample courses?  Do the created courses support relationships with employers and	Questionnaires, interviews, Comparison of pilot trials in a simulated against pilot scenarios.	WBL courses are accurately mapped to courses in the XML database.

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		satisfy their needs?	Evaluation will be led by MDX in collaboration with, IWBL and QA-IQ.	
Oct 2010	Piloting CRM processes.	Is the CRM tool integrated with the information knowledge base?		Implementation of employer driven learner route planning.

## 17. Quality Plan

<b>Output</b>		<b>A set of 'As-is' models</b>			
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Jun '09	Models represent the 'as-is' scenario accurately and completely	Review the models by the CRM, and WBL team members	The models satisfy all reviewers	Project team	
Jun '09	Set of desired changes in the modelled process	Review the changes by the CRM, and WBL team members	The set satisfy all reviewers	Project team	
<b>Output</b>		<b>Evaluation Report</b>			
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Jun 09	The report encapsulate the impact of the system on the stake holders and its applicability to the wider community; JISC Report Guideline	Review and proof read reports by the team	Acceptance of the report by the team as correct	Project team	
<b>Output</b>		<b>Enhanced CRM process and information models</b>			
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Aug 09	Fitness for purpose -  The model represent adequately (accuracy and completeness) the interactions between employers, the	Reviewed within the team: by CRM team, WBL members, and QA-IQ	The case study satisfies all partners in the project as to its capability of illustrating the required elements	Project team	

	CRM system and the course information knowledge base				
<b>Output</b>					
<b>The transformation Tool</b>					
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Dec 09	Fitness for purpose –  Allow non-technical specialists to import MS Word documents and provide semantic markup to enable export into the JISC XCRI-CAP standard	Testing the tools with a selected set of courses	Adherence to specifications and Sign off test plan (with a record of the results)		
Dec 09	Fitness for Purpose, - Usability	User Evaluation	Successful transformation of documents	WBL	
Dec 09	JISC Open Source Policy	Publish source code	Source code published on the website	Research assistant	
Dec 09	JISC Report Guideline	Proof Reading and acceptance for correctness by the project team	Publication of help documents	Project manager	
<b>Output</b>					
<b>The Mapping Tool</b>					
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Jan 10	Fitness for purpose –  Define mappings and relationships between different sources and types of course information to support	Testing the tools with a selected set of courses	Adherence to specifications and Sign off test plan (with a record of the results)		

	employer-led learner route planning				
Jan 10	Fitness for Purpose, - Usability	User Evaluation	Successful arrival of a learner route for a specific set of learner needs	Employers	
Jan 10	JISC Open Source Policy	Publish source code	Source code published on the website	Research assistant	
Jan 10	JISC Report Guideline	Proof Reading and acceptance for correctness by the project team	Publication of help documents	Project manager	
<b>Output</b>					
<b>Employer-led Learning Route Planner Case Study</b>					
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Mar 11	Fitness for purpose - Useful, illustrative and supported by the tools; should demonstrate how the course information knowledge base will be accessed through a CRM system	Reviewed within the team: by CRM team, WBL members, and QA-IQ	The case study satisfy all partners in the project as to its illustrability of required elements	Project team	
<b>Output</b>					
<b>Interim reports and a final report</b>					
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Milestones and the end of the project	Fitness for purpose - Accurately and effectively reflects working of the project.	Review within team and with programme manager	Report accepted by JISC.	The project manager	

**Quality Criteria:** specify the criteria against which the quality of the output will be measured, e.g. fitness for purpose, best practice for processes, adherence to a specific standard or specification, usability, accessibility, validity, etc.

**Quality Responsibilities:** list who is responsible for monitoring and ensuring the quality.

**Quality Tools:** list any tools to be used to help ensure the quality.

## 18. Dissemination Plan

Dissemination of information and outcomes from the project activities will be achieved using a number of methods. Project findings and the developed system will be promoted through national and international forums, workshops, and conferences, and JISC meetings.

A Project Web site will be created at the start of the project and will contain current information on activities (a blog with Atom and RSS feeds), reports on the tools developed, and evaluation reports. Links to relevant articles and projects relating to the project will be added. Presentations and publications derived from project work will also be available on the site.

The project will aim to organise workshops at appropriate point in order to disseminate results and engage with the wider community. Where appropriate, the project will aim to work with relevant JISC CETIS specialist groups such as Enterprise and Pedagogy for both advice and dissemination of outcomes.

The Institute of Work Based Learning will be implementing a substantial dissemination strategy through the MODNet project and also runs weekly WBL Wednesdays (<http://www.mdx.ac.uk/wbl/wblwednesdays.asp>). Adobe Breeze video presentations are also used frequently.

Each dissemination activity will be designed to either raise awareness, inform/understand or create an environment for engagement and use of the outcomes of the project.

	Dissemination Activity										
	Project Website	Semantic Web: Wiki, Blog, RSS Feeds	JISC e-Learning Website	Advisory Board	Internal Seminars	Project Meetings	Briefing Publications	Journal Publications	Workshops for the HE Community	JISC / Cetis Events	National and International Conferences
<b>Project Stage</b>											
Beginning	y	y		y	y	y					
During	y	y	y	y	y	y		y	y	y	
Post Completion	y	y	y				y	y	y	y	
<b>Purpose</b>											
Awareness	y		y		y		y	y	y	y	
Inform and Understand	y			y	y		y	y	y	y	
Engagement and Use		y			y				y		

<b>Timing</b>	<b>Dissemination Activity</b>	<b>Audience</b>	<b>Purpose</b>	<b>Key Message</b>
Weekly	Project management meeting (through OAS!S+ the Middlesex blackboard/WebCT platform)	Principal Investigator and project managers	Day to day housekeeping, progress monitoring and project management activities	MUSKET updates and project announcements
Monthly	Progress meeting (through web site and blog for public documents and OAS!S+ for private documents)	All members	Inform and engage members to project's work packages	MUSKET progress
According to milestones	Work package meeting (through OAS!S+ the Middlesex blackboard/WebCT platform)	Selected members according to responsibility	Inform members and address issues	MUSKET internal documents
According to deliverables	Demonstrations, tests, evaluation documents	Selected members according to responsibility, users, and educational/research community	Inform and receive feedback	MUSKET developments
According to project stage	Project reports (through the web site and blog / JISC submissions)	All members and educational/research community	Inform	MUSKET external documents
Throughout the project	Research papers, posters, workshops, panels, abstracts, newsletters	Educational/research community	Promote, attract further interest	MUSKET research documents

Apart from the activities identified above, a series of activities aiming at disseminating the project's findings will be supported by the marketing team of Middlesex University. Such activities may include coverage in Middlesex publications and events, further promotion through the University web site and press coverage.

## 19. Exit and Sustainability Plans

<b>Project Outputs</b>	<b>Action for Take-up &amp; Embedding</b>	<b>Action for Exit</b>
Documentation	All project documentation will be posted on the project's web site and archived in Middlesex research pages.	<p>Access: The server will be hosted by Middlesex University</p> <p>Preservation: All reports will be archived in the appropriate JISC repository</p> <p>Maintenance: The project page will be maintained according to the Middlesex University policy</p> <p>Intellectual property: Middlesex</p>

		University will retain IPR on project outcomes
Software	Any code produced will be published via the project website and made available under an appropriate open source agreement and may be used within any educational establishment as per the terms and conditions of JISC grants.	<p>Access: The source code will be available for downloading from the Middlesex University server</p> <p>Preservation: The source code will be archived at the appropriate JISC data centre</p> <p>Maintenance: The tools will be free to use by HE and FE establishments. All supporting documentation will be freely available via the project website. Maintenance will be available for the project for one year after the closing date.</p> <p>Intellectual property: IPR of third party integrated services will be maintained according to the licence used</p>

<b>Project Outputs</b>	<b>Why Sustainable</b>	<b>Scenarios for Taking Forward</b>	<b>Issues to Address</b>
MUSKET tools and evaluations	Can be used for other JISC projects and further research	Extending the MUSKET transform and mapping tools with additional services	Access to source code and documentation

## ***Appendixes***

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

### **Appendix B. Workpackages**