

Date: 9th January 2009



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JISC – Circular 05/08: Institutional innovation projects in lifelong learning and workforce development Design

Main switchboard:
020 8411 5000

I am pleased to submit a proposal entitled “**MUSKET: Middlesex University Skills and Education Planning Tool**” to the above call.

The proposal document submitted with this letter includes:

- a) Completed cover sheet and FOI sheet;
- b) The proposal document (12 pages);
- c) Letters of support from:
 - a. Prof. W Ahmad, Deputy Vice Chancellor: Research and Enterprise
 - b. Bill Walker, QA-IQ Ltd
- d) One page curriculum vitae of the core team

Please do not hesitate to contact me for further information if required.


Yours sincerely

A handwritten signature in blue ink that reads 'Balbir Barn'.

PROFESSOR Balbir S Barn
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Cover Sheet for Proposals <i>(All sections must be completed)</i>			
Name of Initiative:		Institutional innovation projects in lifelong learning and workforce development	
Name of Lead Institution:		Middlesex University	
Name of Proposed Project:		MUSKET – Middlesex University Skills and Education Planning Tool	
Name(s) of Project Partner(s):		QA-IQ Ltd	
Full Contact Details for Primary Contact:			
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Tel: +44 208 411 4563			
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Length of Project:		2 Years	
Project Start Date:		April 2009	Project End Date: March 31 2011
Total Funding Requested from JISC: £299,783			
Funding Broken Down over Financial Years (April-March):			
Mar 09	Apr 09 – Mar 10	Apr 10 – Mar 11	
	£148,355	£151,427	
Total Institutional Contributions:			
Outline Project Description: The project aims to support employer engagement and workforce planning requirements by providing a CRM based integrated view of employer based, professional and tertiary sector education. The project will deliver models (documented in standards such as UML and BPMN) that will span employer engagement and course information in a unified and integrated manner. The project will deliver software tools that will allow non-technical specialists to import MS Word documents containing course descriptions from professional providers, employer specific training and HE and provide semantic markup to enable export into the JISC XCRI-CAP standard beyond simple XML editing. A second tool will support the defining of mappings and relationships between different sources and types of course information to support employer-led learner route planning. The resulting knowledge base will be accessible to employers in our MODNet network through enhanced CRM processes that are employer-knowledge aware. Through our partner QA-IQ Ltd (the UK's leading provider of professional IT training) we will have access to over 300 courses that will provide us with authentic data to implement be-spoke workforce development to our employer community and beyond. The resulting models of CRM practice, integration approaches and the software tools have relevance to the wider HE community.			
I have looked at the example FOI form at Appendix B and included an FOI form in the attached bid (Tick Box)		YES	
I have read the Circular and associated Terms and Conditions of Grant at Appendix D (Tick Box)		YES	

FOI Withheld Information Form

We would like JISC to consider withholding the following sections or paragraphs from disclosure should the contents of this proposal be requested under the Freedom of Information Act.

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

NB: We do NOT wish to withhold information for this project.

Section / Paragraph No.	Relevant exemption from disclosure under FOI	Justification
NB: We do NOT wish to withhold information for this project.		

Please see <http://www.ico.gov.uk> for further information on the Freedom of Information Act and the exemptions to disclosure it contains.

MUSKET – Middlesex University Skills and Education Planning Tool

1 Fit to Programme Objectives and Overall Value to the JISC Community

1.1 Background

1. 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 innovation¹.
2. 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 models¹.
3. 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 Ltd² (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.

1.2 The challenges and the proposal

4. Recent research undertaken by the Council for Industry and Higher Education³ and for the DfES⁴ 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.
5. 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

¹ http://www.icvet.tafensw.edu.au/ezine/year_2005/july_august/review_ecosystems.htm

² <http://www.qa.com/>

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

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

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:

6. 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.
7. 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!
8. 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.
9. 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.

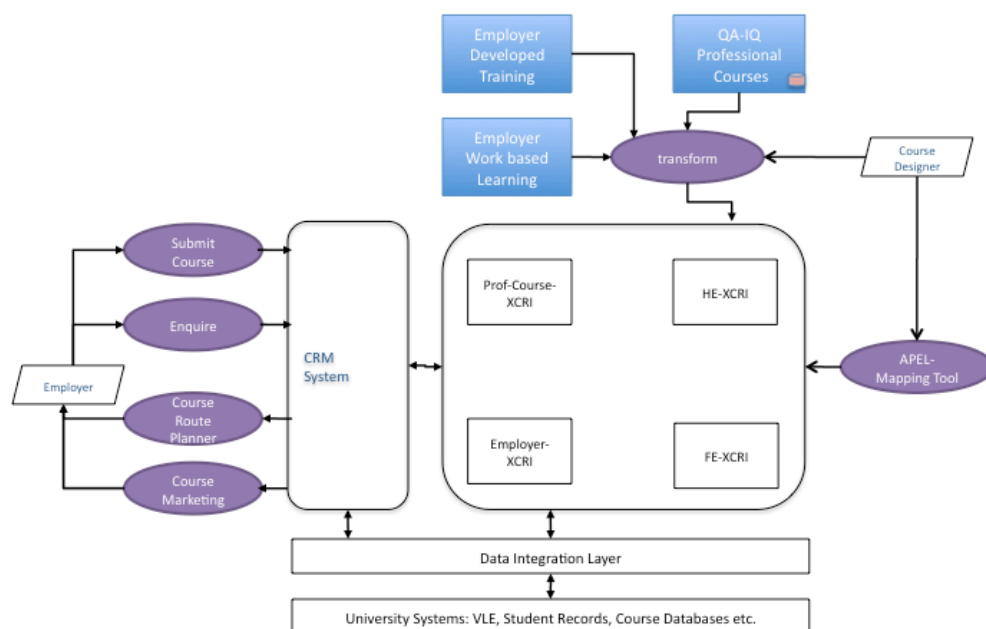
Some of the print workers have undertaken several years of work based learning and attended many print foundation courses and as a result of the accreditation of their learning, the University contacts, HPW and the individuals concerned and suggests that by undertaking two additional modules (from a 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.

10. In order to enable the vision described in the scenario above this project proposes the following:

1.3 The proposal

11. There are several key components to the proposed system. The underpinning structure for the system is development using the XCRI standard⁵. 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.



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

13. 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.

14. 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

⁵ <http://www.xcr.org>

- 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.
15. 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.
16. 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.
17. As these innovations take place inside a network/community the notion of a skills ecology can emerge.

1.4 The Project's contribution to a vision for lifelong learning and workforce development

18. The project contributes to the vision (referenced paragraphs in the call) in the following manner:

Learning and Teaching Practice:

19. 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. (Refer to paragraph 14).
20. 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 Insitute of Work Based Learning. (paragraph 15)
21. 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. (paragraph 17)

Technology and Standards

22. 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. (paragraph 20).

23. One of the key focus areas of the project is the data integration of the CRM system with course information and the modeling 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. (Paragraph 21 and 22).

Strategy and Policy:

24. 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. (paragraph 23).
25. 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. (paragraph 25).

1.5 Contribution to programme outcomes

26. Models of technology-supported delivery of lifelong and work-based learning: Currently, the Institute of Work Based Learning at Middlesex has well developed Accreditation Service – by encapsulating that knowledge in models (more specifically, a domain specific language) we will provide a robust model of how work-based learning and some of its pedagogical ambiguity can be better captured.
27. Enhanced institutional processes: The proposal developers have earlier articulated the need for CRM systems in higher education to have a greater focus on process understanding. (See section 2.1. This project will develop CRM processes that are integrated with course information knowledge bases that will better support the delivery of information to employers specific to their needs. These processes will be articulated as process maps (using BPMN 1.0) and will also be contributed to the e-Framework for consideration and subsequent re-use. Supporting domain information models regarding CRM integration with course information will also be available as models and practice scenarios.
28. Critically, the description of commercial courses, in-house employer training and HE provision will be captured using the XCRI-CAP model and so increase wider availability of standards compliant and easily updatable electronic information. The supporting tools enabling this capture will be available in source and binary form for use by other institutions.

1.6 Strategic Institutional Relevance

29. The Middlesex University Corporate Plan is committed to strengthening and developing BCE activity and in particular the increased provision of CPD and work based learning. This project will provide a significant contribution to that plan and that recognition is characterised by the supporting statement of commitment to this project by the executive management of the university.
30. Following on from completion of the project, it is expected that the project outcomes and deliverables will be further embedded into the institution as they will be enabling functions that will support the ongoing MODNet project. Longer term sustainability will be achieved by the virtual and physical employer and knowledge networks established as part of the university's corporate strategy.

2 Workplan

2.1 Context of the proposal

31. CRM is part of the overall BCE strategy at Middlesex. Currently, the use of CRM at Middlesex can best be regarded as Peripheral (ad hoc) that is BCE relationships are managed at the School (Faculty) level and there is no centrally deployed CRM system. As a consequence, there are limited processes that support CRM usage. A major contribution to institutional strategy will therefore be the formulation of university wide CRM business processes. Earlier development work undertaken by the proposal submitters has argued that the JISC CRM Work done to date on CRM maturity⁶ (Peripheral, Tactical, Strategic) should incorporate other dimensions such as: A classification of CRM implementation; A process framework and knowledge requirements.
32. The function dimension described in the JISC landscape CRM study needs to be elaborated further. We suggest that the widely accepted classification of CRM systems (Schwede, 2000)⁷ is a useful contribution. In this classification, there are three types of CRM system: Operational (automation of CRM business processes); Analytical (manage and evaluate knowledge of customers); and Collaborative (manage and synchronize customer touch points and channels).
33. Gebert et al⁸ proposed a process framework for planning CRM implementations. In their study they recognize the importance of the need to integrate both knowledge management and process mapping to support CRM and suggest six key CRM processes (campaign management, lead management, offer management, contract management, complaint management and to service management) that an organization should understand and model in their own context.
34. In the context of this project, such processes need to be described in terms of the workforce development nature of the call. Thus campaigns are about letting employers know about future courses that might be appropriate for their staff. In addition there may be other processes specific to workforce development and lifelong learning.
35. Under the BCE programme⁹, JISC funded a project to undertake a process mapping approach to CRM and to develop a self-analysis toolkit. This project will specifically devote a work package to exploring the outcomes of that project (to be reported in Jan 2009) and apply the self-analysis toolkit in the context of this project.

2.2 Project aims and deliverables

36. The project aims 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.
37. 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

⁶ <http://www.jisc.ac.uk/media/documents/themes/bce/crmstudyfinalreport20070817.pdf>.

⁷ Schwede, S (2000), "Vision and reality of CRM", *Information Management and Consulting*. Vol. 15. No. 1, pp. 7-11.

⁸ Gebert, H., Geib, M., Kolbe, L. And Brenner, W. (2003), "Knowledge-enabled customer relationship management: integrating customer relationship management and knowledge management concepts[1]. *Journal of Knowledge Management*. Vol. 7. No. 5. pp. 107-123.

⁹ <http://www.jisc.ac.uk/whatwedo/programmes/bce.aspx>

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 (see section 3).
- **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:**

2.3 Project methodology

38. The general approach taken by the project will be based on three principal foundations. Firstly, an adapted version of Rational Unified Process (RUP)¹⁰ will be used to support the design / implementation of the tools and the integration services.
39. 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.
40. 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.
41. 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.
42. 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 Foundation¹¹. We anticipate that a number of the services developed for the KS work will be relevant to this project.

2.4 Work packages

43. **Work package 1: Produce Evaluation Baseline:** This work package will review the current processes and practice and collect supporting evidence for the subsequent innovations planned. The “As Is” view will be modeled using a variety of modeling techniques and notations such as BPMN and UML. The package will conduct workshops using the Problem Frames approach to identify key challenges and institutional drivers. A series of challenges and the desired changes in the process will be specified along with supporting systems specifications. **(Deliv: D2)**
44. **Work package 2: Review Related Work:** This work package will review outcomes and results of existing JISC projects relevant to this work. Examples of programmes include: the Curriculum Design and Delivery projects, existing Domain Map projects. One area of specific focus will be to evaluate the outcomes of the JISC BCE programme and to consider the use of CRM maturity toolkit in the design of the CRM processes proposed in this project. Also of interest will be the work done by the Mellon Foundation regarding the Kuali Student development activities. A deliverable outlining key lessons relevant to this project will be produced. **(Deliv: D2)**

¹⁰ Kruchten, P. (1999). *Rational Unified Process*; Addison Wesley

¹¹ <http://student.kuali.org/>

45. **Work package 3: Develop CRM Process and Information Models for Integration with Course Information.** This work package will use standards such as BPMN to model the required processes that will support the interaction between employers, the CRM system and the course information knowledge base (XML data base). These models are expected to be a significant contribution to the understanding of CRM and how specific learning needs can be tailored to support the needs of employer workforce development. **(Deliv: D1)**
46. **Work package 4: Define Requirements:** This work package will produce a detailed set of requirements produced as use case models, scenarios and requirement statements. Activities to elicit requirements will include workshops, the use of Problem Frames (the technique developed in the PSPEX project), and other user-centred design approaches such as cognitive walkthroughs. The requirements will be based on a synthesis of qualitative data (from engagement with stakeholders) and information derived from the modeling from other work packages. **(Deliv: D3)**
47. **Work package 5: Evaluate technical approaches:** This work package is aimed at getting an internal understanding of potential technologies that can be deployed on the project. Specific technical integration issues will be addressed. For example, understanding of the CRM integration interfaces that are available. Simple prototypes exploring technical issues will be developed. A public document describing some of the key lessons and observations will be produced. **(Contribute to Deliv: D2)**
48. **Work package 6: Implement Transform Tool:** This activity will design and implement the transform tool that enables a non-specialist to import a word based description of a course and to markup and enhance description of the course so that it can be exported in XCRI-CAP format. The tool will be supported by help documentation and the general project website. **(Deliv: D3)**
49. **Work package 7: Import Data (Piloting of Transform Tool):** This activity will populate the XML database by importing course information from the primary scenarios planned for this project. These include: professional courses from QA-IQ Ltd, in-house employer developed training materials and Employer work based learning practice. Workshops to support the import of data will be held. **(Deliv: D3, D4)**
50. **Work package 8: Specify Mapping Rules:** This activity will develop (in a co-design manner) the set of rules and mappings that will allow content from the different sources to be related to the standard course offer from Middlesex and its FE partners. These relationships and rules will support the notions of progression, requirements, co-requisites, assessment needs. Earlier work on the PSPEX project provides some initial understanding of this and here we are specifically interested in the WBL and professional course element. Currently, there is considerable expertise in the IWBL in accreditation services and we expect to build and “implement” this expertise. **(Contribute to Deliv: D3)**
51. **Work package 9: Implement APEL Mapping Tool:** This activity will design and implement the mapping tool that will enable a subject specific domain expert in WBL to map an imported course to other courses within the XML data base. The tool will be supported by help documentation and the general project website. **(Deliv: D3)**
52. **Work package 10: Pilot usage of the Mapping Tool:** This activity will work with domain specialists to create mappings of sample courses. Working with employers, key courses will be selected to implement these mappings. Priorities will be determined based on developing relationships with employers and their needs. **(Deliv: D3, D4)**
53. **Work package 11: Develop Route Planner Scenarios:** This activity will use the mappings and rules specification and the enhanced CRM processes to document how such information can be used create route plans for employers to plan their workforce development requirements. These scenarios will serve as a set of requirements for potential tool builders. It is anticipated that Postgraduate students might engage in tool building activity for Masters dissertations. **(Deliv: D5)**
54. **Work package 12: Pilot CRM processes:** This activity will pilot the CRM processes defined earlier. In particular the integration of the CRM system with the tools that support the course

information knowledge base will be tested. Example processes that might be piloted include employer driven learner route planning. This work package is expected to expose critical CRM requirements for HEIs to consider as they implement CRM systems in a HE setting. **(Deliv: D5)**

- 55. Work package 13: Expert Consultancy:** This work package is an external consultancy with an appropriate expert who has substantial experience software and technical architecture. They will provide advice and guidance in the area of XCRI-CAP and XML in general. **(Deliv: D3)**
- 56. Work package 14: Evaluation Strategy and Implementation:** This work package will use the information collected from work package xx to define an evaluation strategy and plan. The evaluation strategy will then be implemented as an ongoing activity in conjunction with the dissemination strategy. The final activities will include the production of an evaluation report that will contribute to the final report deliverable. **(Deliv: D2, D4)**
- 57. Work package 15: Programme Engagement:** This work package will provide resource for members of the team to collaborate with other relevant JISC programmes. The work package has allocated 50 person days for the two years of the project. **(Deliv: All)**
- 58. Work package 16: Project Management:** Day to day operational management and communications with all stakeholders including website management. The work package will also be responsible for managing communications with the wider JISC programme and for producing all reports to the funding body. **(Deliv: All).**

2.5 Project plan

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	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 Expert Consultancy																												
WP14 Evaluation Strategy and Implementation																												
WP15 Programme Engagement																												
WP16 Project Management																												

2.6 Project Management

59. The project team will meet regularly to monitor progress across work packages, monitor and manage risks, agree changes and address major issues. The PI will coordinate day-to-day project management. The PI will use a set of instruments for documentation and management that will be set out in the Project Plan but will include a Risk Register, a Quality Assurance Plan and an Issues Log.
60. 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.
61. 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>).

2.7 Statement on IPR

62. 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.

2.8 Quality Management and Standards

63. The team already has experience of compliance with the JISC Software Quality Assurance Policy from several JISC projects including COVARM, PSPEX and REMORA projects and this experience and practical techniques from earlier work will be transferred to this project to address issues of methodology, version and configuration management, and documentation guidelines.

64. Quality Control on this project will include the use of quality reviews where the software, models and documentation will be reviewed by a subset of the team. Other elements of quality control will include the regular maintenance of a risk register and issues log.

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

2.9 Potential Risks to the project

Risk	Prob (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.

3 Dissemination and Engagement with the community

66. 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.

67. 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.

68. 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.

69. 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.

70. 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.

Project Stage	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 / Cetus Events	National and International Conferences
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	y	
Purpose											
Awareness	y		y		y	y	y	y	y	y	
Inform and Understand	y			y	y	y	y	y	y	y	
Engagement and Use		y			y			y			

4 Budget

Directly Incurred Staff	Apr08– Mar09	Apr09–Mar10	Apr10 – Mar11	TOTAL £
Total Directly Incurred Staff (A)	-	77,825.42	83,356.23	161,181.65
Non-Staff	Apr08– Mar09	Apr09–Mar10	Apr10 – Mar11	TOTAL £
Travel and expenses: 6 programme meetings at £300 for two people,	-	1,200.00	600.00	1,800.00
Co-Design Workshops (12 planned at 150 per workshop)		900.00	900.00	1,800.00
Hardware/software: 1 Server (3000) 2x laptop (inc: peripherals at 2000),	-	7,000.00	-	7,000.00
Consumables	-	500.00	500.00	1,000.00
Dissemination: 2 conferences - (at £2000) (inc: fees, travel, subsistence)	-	2,000.00	2,000.00	4,000.00
Dissemination and Evaluation: Workshops + publicity material, brochures, printing	-	1,000.00	3,000.00	4,000.00
Other - Recruitment Adverts		1,568.00	-	1,568.00
Total Directly Incurred Non-Staff (B)	-	14,168.00	7,000.00	21,168.00
Directly Incurred Total (C) (A+B=C)	-	91,993.42	90,356.23	182,349.65
Directly Allocated	Apr08– Mar09	Apr09–Mar10	Apr10 – Mar11	TOTAL £
Staff	-	61,101.45	64,095.88	125,197.33
Estates	-	13,759.04	14,240.61	27,999.65
Other				
Directly Allocated Total (D)	-	74,860.49	78,336.49	153,196.98
Indirect Costs (E)	-	113,062.40	117,019.58	230,081.98
Total Project Cost (C+D+E)	-	279,916.31	285,712.30	565,628.61
Amount Requested from JISC	-	148,355.64	151,427.52	299,783.16
Institutional Contributions	-	131,560.67	134,284.78	265,845.45
Percentage Contributions over the life of the project	JISC	Partners		Total
	0.53	0.47		1.00
No. FTEs used to calculate indirect and estates charges, and staff included	No FTEs			
	2.92			

Staff contributions and justification of resources

5 Previous experience of the project team

71. 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.
72. Two Research Assistant appointments will be made in addition to the team comprising the following individuals:
73. **Prof. Balbir S Barn, Associate Dean (Principal-investigator / Project Manager):** Balbir is Professor of Software Engineering at Middlesex. He has substantial experience in leading and participating in JISC funded projects (e.g. COVARM, P-SPEX, COVa and REMORA). Balbir has implemented CRM systems for major commercial clients and has also contributed to the development of process modeling collateral on behalf of JISC. (*Contribute to all work packages*).
74. **Prof Martin Loomes, Pro-Vice Chancellor and Dean of School of Computing Science (Co-Investigator):** Martin has substantial experience of academic leadership. His PhD was in the area of Curriculum Design, and much of his research activity since has been at the cusp of Education, Design and Technology. He has also managed the development of several cross-disciplinary programmes, and a major on-line programme with a complex, pre-defined, VLE structure. (*Contribute to: WP1, 4, 5 and 15*)
75. **Dr Georgios A. Dafoulas, Principal Lecturer (Co-Investigator):** George has experience of several EU funded projects (ADEPT, IntCUitNet, eFactors) and led DTI funded Knowledge Transfer Programmes. He has extensive software engineering experience and works closely with the Centre of Learning and Quality Enhancement and the Institute of Work Based Learning. (*Contribute to: WP1, 4, 6, 8, 9 and 10*)
76. **Mike Wing, Pro-Vice Chancellor, and Director of the Centre for Learning and Quality Enhancement (Co-Investigator):** Mike is responsible for academic quality enhancement and learning development. (*Contribute to: WP1, 4 and 14*)
77. **Geetha Abeysinghe, Principal Lecturer (Co-Investigator):** Geetha is based in the Business Information Systems Dept. Her main research interests include: Information Systems, Business Process Modelling, and the role of Natural Language Processing in process modelling. (*Contribute to: WP1, 3, 4m 6, 8 and 9*)
78. **Kyriaki Anagnostopoulou, Head of e-Learning, (Co-Investigator):** Kyriaki has responsibility for the development and management of e-learning initiatives and the implementation of the University's VLE. (*Contribute to: WP1, 3, 6, 11 and 14*)
79. **Dr Serengul Smith: Senior Lecturer (Co-Investigator).** Serengul provides a useful blend of technical skills in the area of automated reasoning (her PhD topic) and has published in the usability area. Serengul will contribute to the design of the planned tools. (*Contribute to: WP1, 2, 4, 5, 6, 8, 9 and 14*)
80. **Dr Anthony "Skip" Basiel: Senior Lecturer (Co-Investigator):** Skip is the IWBL Link Tutor for QA-IQ and has familiarity with the training products of QA-IQ. Skip has strong development skills and worked extensively on pedagogies for e-learning and will contribute to the design of the software tools and the pedagogic knowledge encapsulated by the tools. (*Contribute to: WP1, 2, 4, 5, 6, 7, 8, 9 and 14*)
81. **TWO RESEARCH ASSISTANTS TBA:** Appointments will have strong software development skills, strong communication skills and some relevant domain knowledge. (*Contribute to all work packages*).
82. In addition to the core team, other University staff – Paula Vickers The director of IT services, Professor Jonathan Garrett (Head of the IWBL and lead on the MODNet project), Deputy Vice Chancellor Prof. Margaret House will provide input at the steering project meetings.

Contents of Appendices

The following appendices are provided for providing further supporting information:

- A) One page c.v for each member of the core team**
- B) Letters of support from:**
 - i. Middlesex University:– Prof. W. Ahmad , Deputy Vice Chancellor:
Research and Enterprise**
 - ii. QA-IQ Limited**

Appendix A CVs of Core Staff Team			
Name:	Dr Balbir Barn		
Job Title:	Professor of Software Engineering	Institution:	Middlesex University
Expertise, Research and Development	<p>Balbir is Professor of Software Engineering at Middlesex University. Prior to academia, Balbir worked extensively on CBD methods and design of component modelling toolsets at Texas Instruments Research Labs. Here, Balbir was part of the design team for the world's first application generation toolset – the IEF™. This product then formed the basis of business process modelling toolset – BDF™ which supported business process simulation for which Balbir was a lead developer. Again at Texas Instruments, Balbir was the UK lead researcher on a United States funded NIST research project (worth \$5M) for research and development into model based architectural description of software applications. Balbir has extensive industrial experience, in leading and managing development projects. More recently, Balbir has been investigating the design of UML based methods to support the discovery, design and specification of web services.</p> <p>Sample Relevant Projects and Consultancy</p> <p>Project Manager and PI for the JISC funded COVARM project on course validation business process modelling. (2005-6) COMPLETED</p> <p>PI for JISC PSPEX project (2007-2009) – Project exploring programme specifications and their change.</p> <p>PI for JISC COVa project (2007-8) – Project implementing COVARM scenarios using a BPMN toolset. (COMPLETED)</p> <p>Co-Investigator for JISC REMORA project (2007-9) with Southampton and Royal Holloway. Mobile Applications for supporting Social Work Students.</p> <p>Consultancy to implement a CRM strategy for Thomas Cook by undertaking a systems integration evaluation of the TC business.</p> <p>Consultant with one of the world's foremost methodologists – Desmond D'Souza to define and develop a model based Software Architecture Method for a leading international investment bank utilising work on Component based development from Texas Instruments. .</p> <p>Product management of commercial products used by major blue chip companies – COOL:SPEX™ Consultancy to capture business processes and functional architecture models for British Telecom.</p> <p>Research on component based approaches to software architecture and the development of design methods to support component-based design. NIST project (\$5M).</p> <p>Recent Dissemination from the JISC projects includes:</p> <p>Oussena, S, Sparks, D and Barn, B.S, (2007). Implementing Reference Models using Service Oriented Architectures and XML Rules. International Conference on Enterprise Information Systems, June 2007.</p> <p>Barn, B.S (2007) "Supporting and enhancing the course validation process using a software driven process workflow application"; Association of University Administrators Conference, Nottingham.</p> <p>Barn B.S (2006) Conceptual Modelling of Educational Theories: An ontological approach. IADIS Conference on Exploratory Learning in the Digital Age (CELDA), December, 2006. Barcelona, Spain. (Best Paper Prize).</p> <p>Barn B.S., Dexter H., Oussena S. Petch J. (2006) "A Synthesis approach for deriving reference models for SOA frameworks" In IADIS INTERNATIONAL JOURNAL ON COMPUTER SCIENCE AND INFORMATION SYSTEMS, pages 100-116. Vol. 1, 2.</p> <p>Barn B.S., Dexter H., Oussena S., Sparks D. (2006) "SOA MDK: Towards a Method Development Kit for Service Oriented Development". Information Systems Development 06 (ISD 06), Budapest, Hungary. Published as LNCS Proceedings.</p>		

Name:	Professor Martin Loomes		
Job Title:	Pro-Vice Chancellor and Dean of the School of Computing Science	Institution:	Middlesex University
Expertise, Research and Development	<p>Martin is Pro Vice Chancellor and Dean of Computing Science at Middlesex University. He started his career as a Maths teacher, followed by a brief period as an Engineering Lecturer for ICL, moving to Hatfield Polytechnic (now University of Hertfordshire) in 1981, where he moved through the ranks from lecturer to Associate Dean (Research). During that period he had extensive responsibility for subject and curriculum development at all levels, including the development of several cross-school programmes and a significant e-Learning MSc. He moved to Middlesex University as Dean of Computing Science in 2005, and was made Pro Vice Chancellor in 2006 in recognition of his University-wide roles and responsibilities, which includes managing the campus at Hendon. His PhD is in the area of Curriculum Design, and in particular the ways in which “theory” interacts with design. He has held more than £1.5m of externally funded grants, most of which are focused upon the ways in which theory and practice interact in a variety of domains.</p> <p>Sample Relevant Projects and Consultancy</p> <ul style="list-style-type: none"> • Developments in On-Line Learning (5 projects) – funded by Teaching and Learning Development Fund: duration 2000-2005 Value £23,000 • Imitation Technology and Computer Science - funded by EPSRC (GR/M59129/01): duration 1999 – 1999 Value £5,091 • Multi-Cultural Software Development: a Teaching Company programme between University of Hertfordshire and Rank Zerox – funded by Teaching Company Directorate and Rank Zerox: duration 1995-1998 value £73,000 • Cognitive & Organisational Processes in Software Eng. Methodologies for Safety Critical Systems - funded by EPSRC (GR/J20234/01): duration 1994 – 1997 value £134,106 • Software Development and Testing: a Teaching Company Programme between University of Hertfordshire and Synergy (UK) Ltd - funded by EPSRC (GR/J22634/01): duration 1993 – 1995 value £117,451 • A Distance Learning Programme for Software Engineers: collaborative with Sheffield Polytechnic, Loughborough University, ICL, BBC OU Productions – funded by Alvey Directorate: duration 1989 –1991, value £48,000. <p>Sample Relevant Publications</p> <ul style="list-style-type: none"> • Martin Loomes and Bruce Christianson (2006), <i>Reflections on Academic Leadership</i>, Journal for the Enhancement of Learning and Teaching, Vol 3 Issue 1, ISSN: 1743-3932 • Yi Sun, Timothy S. Butler, Alex Shafarenko, Rod Adams, Martin Loomes, & Neil Davey (2004) <i>"Identifying Word Boundaries in Handwritten Text"</i> Proceedings of the 2004 International Conference on Machine Learning and Applications (ICMLA 2004), IEEE Catalog Number: 04EX970, ISBN: 0-7803-88213-2. Pages 5-9. • Loomes, M.C., Shafarenko, A, & Loomes, M.J. (2002) <i>Teaching Mathematical Explanation through Audiographic Technology</i>, Journal of Computers and Education, Volume 38, Issues 1-3, pp137-149 • Blackwell, C., et al., (2001) <i>Cognitive Dimensions of Notations: Design Tools for Cognitive Technology</i>, Proceedings of the Fourth International Conference on Cognitive Technology: Instruments of Mind, Springer Lecture Notes in Computer Science, vol. 2117, pp. 325-341 		

Name:	Michael Wing		
Job Title:	Pro Vice Chancellor, and Director of Learning and Quality Enhancement	Institution:	Middlesex University
Expertise, Research and Development	<p>Expertise and Research Interests: Dr Michael Wing has been an academic within higher education for thirty years, and over this time has undertaken a variety of roles including research assistant, lecturer, programme director, and Faculty Head of Academic Development. For the last eight years he has been responsible for institutional academic quality enhancement at Middlesex University. In recent years, this remit has been broadened to include e-learning. He is currently Pro-Vice Chancellor, and Director of the Centre for Learning and Quality Enhancement, which has the University remit for:</p> <ul style="list-style-type: none"> • developing and academic quality enhancement and learning development strategy, • developing and implementing associated policies and procedures, • providing cross-University support and guidance for the use of e-learning technologies to support the curriculum, • delivering University staff development in academic quality and pedagogy, and • preparing the University and partners for audits, reviews and similar activities. <p>He regularly chair programme validations, reviews and audits within the University, and acts as an external at such events at other institutions. He is also a QAA auditor and has acted as auditor on QAA collaborative audits, institutional audits, and audits of overseas provision. He has acted as academic quality consultant to other institutions (e.g. advising on institutions preparations for the seeking of conferment of University title and status), and is currently Governor at the College of North East London where he sits on the Academic Standards Committee.</p> <p>Research and Scholarly Activity</p> <p>Co-author of 24 journal and 15 conference/workshop papers (these papers are either in the field of computer science or haematology). His PhD, awarded in 1991, by the CNAA (Kingston Polytechnic), was in the area of artificial intelligence as applied to scheduling problems. Until recently member of several conference committees, all related to information systems. Supervisor of four successful PhD or DPhil students in the area of computing science, or academic quality.</p> <p>Relevant consultancy</p> <ul style="list-style-type: none"> • Review of institutional approaches to academic quality enhancement and learning development: University of Portsmouth (2006), Edge Hill College (2003) and: • Advising on preparations for QAA institutional or collaborative provision audit: University of Central Lancashire (2008/2006); University of Derby (2007); University of Hertfordshire (2007/2004); Northumberland University (2005); Sheffield Hallam University (2006/2005) 		

Name:	Georgios A. Dafoulas BSc, MPhil, PhD, PGCAP, MBA, fmHEA, TF		
Job Title:	Principal Lecturer BIS Programme Leader BSc BIS, BSc BISM & all BSc transitional progs.	Institution	Middlesex University
Expertise, Research and Development	<p>Dr George Dafoulas is a Senior Lecturer in Business Information Systems at School of Computing Science, Middlesex University. He is the Programme Leader for BSc Business Information Systems and BSc Business Information Systems with Management, the Curriculum Leader in Pedagogy for Global Campus and a member of the University's e-Learning Strategy Group. He holds a BSc, MPhil and PhD in Computation, a PG Certificate in Academic Practice and near completion of an executive MBA. He was recently awarded a Teaching Fellowship and Associate Membership for the Institute of Work Based Learning.</p> <p>Dr Dafoulas has authored several research papers for refereed journals and peer-reviewed international conferences, mainly in the fields of software engineering and computer-supported cooperative work. He has also acted as a member of program and organising committees for a number of international conferences.</p> <p>The most recent projects that he has been involved with, were distributed team working in software engineering, allocation of e-contracts in virtual software teams, development and evaluation of online communities of practice and the computer-assisted assessment and communication patterns in e-learning. Research partners include British Telecom, IBM, The Department of Trade Industry, and the Global Campus at Middlesex University.</p> <p>Sample Relevant Projects</p> <ul style="list-style-type: none"> ▪ NSF funded project Global Software Development Learning Teams ▪ EU-ASEAN-AUNP funded project Asian Distance Education – e-learning Professional Training (ADEPT) ▪ Socrates/Minerva funded project IntCultNet: InterCultural Learning in the Internet <p>Relevant Publications:</p> <p>Mimirinis, M., G. Dafoulas and A. Murphy (2006) "e-Learning Training Guide Vol.1 – Blended Teaching: Pedagogy & Tools", International Course Handbook Series for Asian Distance Education: e-Learning Professional Training (ADEPT), Middlesex University Press, ISBN 1 859242 77 4, 101 pages.</p> <p>Dafoulas, G. and A. Murphy (2006) "e-Learning Training Guide Vol.2 – Tutoring Remotely: Methods & Tools", International Course Handbook Series for Asian Distance Education: e-Learning Professional Training (ADEPT), Middlesex University Press, ISBN 1 859242 82 0, 110 pages.</p> <p>Dafoulas, G. and A. Murphy (2006) "e-Learning Training Guide Vol.3 – Communicate Online – Culture & Tools", International Course Handbook Series for Asian Distance Education: e-Learning Professional Training (ADEPT), Middlesex University Press, ISBN 1 859242 87 1, 61 pages.</p> <p>Macaulay, L., Keeling, K. A., McGoldrick, P. J., Dafoulas, G. and Kalaitzakis, M., 2007, Co-evolving E-tail and Online Communities: Empirically-Based Conceptual Framework. International Journal of e-Commerce. (scheduled for summer 2007 (12,1)).</p> <p>Dafoulas, G. and M. Mimirinis, (2005 – 14 pages), "Communication patterns in e-learning communities" in Interactive Technology and Smart Education (ITSE), Vol. 2 Issue 4, ISSN 1741-5859.</p> <p>Leng, P. and G. Dafoulas, (2005 – 4 pages), "E-Learning Communities" in Interactive Technology and Smart Education (ITSE), Vol. 2 Issue 4, ISSN 1741-5859.</p>		

Name:	Kyriaki Anagnostopoulou		
Job Title:	Head of e-Learning	Institution:	Middlesex University
Expertise, Research and Development	<p>As the Head of e-Learning I am working on developing and improving teaching and learning to meet the current and future needs of the university's students. In particular I have responsibility for the development and management of e-learning initiatives and the implementation of the University's VLE. My role focuses on supporting academic and support staff to achieve effective embedding of technology to support learning and teaching at individual, school and institutional level. My work aims to inform institutional policy and practice and involves consultancy, staff development events, contributions to the University's PGCHE, collaboration and liaison with academic and support staff, development of online learning resources, project management and supporting collaborative (national and international) initiatives aimed at promoting the pedagogically sound uptake of specific learning technologies. I have been involved in the authoring and development of tools, templates and toolkits which guide academics in designing distance learning materials within the context of their subject and e-learning. It is part of my role to have a presence in the wider educational development field (over 10 year's experience) and be present at the forefront of e-learning developments nationally and internationally.</p> <p>Sample Relevant Projects and Consultancy</p> <ul style="list-style-type: none"> • HEA funded 'Managing Connections: using e-learning data to improve retention rates in higher education' • EU funded 'The East-East: Partnership Beyond Borders programme' • Since 1999 I have presented and facilitated workshops at over 20 conferences, both national and international, on topics relating to e-learning, staff development and managing change. • I am a member of the Heads of e-Learning Forum (HeLF), JISC Pedagogy Group and Vista User Group. • I was an invited keynote speaker at the IT Technologies in Education in the 21st Century, Armenia (2007) and the Institute of IT Trainers (2004) and an contributor to an online course run by the University of Alberta, Canada (2002) which experimented with teaching techniques for e-learning. <p>Sample Relevant Publications</p> <ul style="list-style-type: none"> • Anagnostopoulou, K and Haynes, M 2005 eLearning – Authoring and Reviewing Materials London: Middlesex University • Haynes M., Bakry W-E and Anagnostopoulou K., (2004) Ensuring quality Haynes M, Anagnostopoulou K, Bakry W 2004 Measuring quality enhancement through the four pronged approach to supporting online learning Open Praxis, Bulletin of the International Council for Open and Distance Education Vol 1 pp 12-15 • Anagnostopoulou, K 2002 Designing to Learn and Learning to Design: an overview of instructional design models LTSN: York [online at: http://www.heacademy.ac.uk/resources.asp?process=full_record&section=generic&id=198 last accessed 17.05.05] • Jackson, B. and Anagnostopoulou, K. "Making the right connections: improving quality in online learning" in Stephenson, J. (Ed) "Teaching and Learning Online: new pedagogies for new technologies" London: Kogan Page • Anagnostopoulou, K. and Haynes, M. Managing Online Learning Environments: an online module for middle managers, <i>Management Connections On-line (funded by JISC, managed by University of Abertay, Dundee)</i> (online) 		

Name:	Geetha Abeysinghe BSc (Hons) MSc PhD		
Job Title:	Principal Lecturer and Programme Leader MSc Business Information Systems Management	Institution	Middlesex University
Expertise, Research and Development	<p>Geetha is a principal lecturer at Middlesex University. Her PhD is in temporal aspects of knowledge-based systems. Prior to joining Middlesex she worked as a research fellow in the business process modelling group at University of Southampton.</p> <p>My main research interest lies in modelling and mapping the business process. Methods for process elicitation, analysis and modelling. Study of different modelling paradigms and notations and modelling tools currently in use.</p> <p>I have enhanced and modified the notation used in Role Activity Diagrams (RADs) introduced by Martyn Ould, to a new notation NMDS (Notation for Modelling guarded Distributed Systems) which supports modelling distributed guarded processes. Currently I am investigating how NMDS can be converted to a formal specification of a special purpose language, LIPS (Language for Implementing Parallel Distributed Systems).</p> <p>Sample Relevant Projects</p> <p>EC Esprit Framework 4 funded research project CORE (COstruction Companies Process RE-engineering). The objective was to re-engineer some of the business processes in the end-user companies.</p> <p>EPSRC funded project, to investigate the possibility of converting a NL descriptions of business processes to an executable formal notation.</p> <p>Recent internal grant to Investigate into the under-achievements of the dominant male-student population in the School of Computing Science.</p> <p>Relevant Publications:</p> <ul style="list-style-type: none"> • G. Abeysinghe, A. S. Bavan, and A.V.S. Rajan, (2004), "Requirement Specification for Distributed Applications Using Diagrammatic Notations", Proceedings of ADCOM 2004, the 12th International Conference on Advanced Computing and Communication, Ahmadabad, India, December 15-18, 2004, pp 527-535. • Siri Bavan and Geetha Abeysinghe, (2004), "On the Modelling and Implementation of Distributed Systems", Proceedings of VECPAR'04, High Performance Computing for Computational Science, Polytechnic University of Valencia, in Spain, June 28-30, 2004, pp. 783-796. • S. Bavan and G. Abeysinghe, "On the specification and implementation of distributed systems Using NMDS and LIPS", Information and Software Technology, August 2005, Volume 47, Issue 11, pp 709-774. 		

Name:	Dr Serengul Smith		
Job Title:	Senior Lecturer and Programme Leader	Institution:	Middlesex University
Expertise, Research and Development	<p>Serengul Smith is a senior lecturer at Middlesex university and the programme leader of BSc Information Technology, BSc Multimedia Computing and BSc Interactive Systems Design in the School of Engineering and Information Science and has recently become a University Teaching Fellow. Serengul is a thread leader at the Collaborative International Research Centre for Universal Access (CIRCUA) at the School of Computing Science, Middlesex University, London, UK. Serengul received her BSc in Mathematical Engineering from Istanbul Technical University in Turkey. She gained her MSc in Knowledge Engineering and PhD in the Application of Machine Learning Techniques in Web-based Information systems at Middlesex University.</p> <p>In order to enhance her students learning and build their research and collaboration skills, Serengul proposed development of a tool which would allow students and researchers to store and share their bookmarked URLs. With a local government development grant (£30K), Serengul coordinated and completed a project to develop and implement the tool which she is currently using in her teaching. This tool is now freely available on the Internet for all to use.</p> <p>The Bookmarkstore Manager was developed (2008) as a plug-in facility in the form of a configurable social bookmarking component that could easily be incorporated into any website irrespective of the motivation for developing the website.</p> <p>Further details can be found at www.bookmarkstore.net</p> <p>Sample Relevant Projects and Consultancy</p> <p>Jagne J., A. Serengul Smith-Atakan (2006). Cross-Cultural Interface Design Strategy, Universal Access In The Information Society Archive Volume 5, Issue 3 Pages 299 - 305, Issn:1615-5289.</p> <p>Jagne J., Serengul Smith, Paul Curzon And Bob Fields, (2006) "Integrating Social And Cultural Variances Into International Ecommerce Interface Design" Volume 2 Proceedings Of Hci 2006.</p> <p>Jagne J., Duncker-Gassen E., Smith-Atakan S., Curzon P. (2006). Cross-Cultural System Design Strategy: Avoiding Problem In Usability Evaluation, IADIS International Conference Www/Internet (Outstanding Short Paper).</p> <p>Adams. R, Smith-Atakan, A. S. (2005) "Methods For Universal Access Technology" In Proc. Of The 11th International Conference On Human-Computer Interaction (HCI2005), Volume 7 - Universal Access In HCI: Exploring New Interaction Environments, Las Vegas, July 2005.</p>		

Name:	Dr Anthony "Skip" Basiel		
Job Title:	IWBL Senior Learning Development Tutor:	Institution:	Middlesex University
Expertise, Research and Development	<p>In this academic capacity Skip is an advisor to WBL candidates, consult the Centre on eLearning and ICT issues, Chair the Staff Development training group, writes research grants and research publications. Additionally, He consults on several eLearning projects. Skip has extensive technical knowledge ranging from programming to multi-media applications for e-learning. He has certificates from many professionally accredited courses and completed his PhD using DPRof route (an example of work based learning). Currently Skip is also the link tutor with QA-IQ. He has successfully had a number of funded eLearning research projects accepted. (i.e. – Hosting the British Council CEDEFOP study visit programme for Work Based Learning supported by eLearning).</p> <p>Sample Relevant Projects and Consultancy</p> <p>British Council – Gaza University: e-Learning Consultation £7,000</p> <p>Middlesex University Centre for Learning Development DfES funded School level research project: - "Educational Web-based Video Conferencing project" – School of LLE, £5,000</p> <p>HEA – 'Multimodal On-line systems for Explaining Programs' - £3,000</p> <p>Sample Relevant Publications</p> <p>"Developing a Virtual Project Environment for Research to aid Doctoral Level Professional Studies: 'The Transitional Autonomy Model' (TAM)" - Uace Work Based Learning Network Annual Conference: Knowledge, Work and Learning, Wales – Nov. 2002</p> <p>'Blending Formal and Informal Learning within an International Learning Network', with John Cook, et al. – Networked Learning Conference '06 - UK</p> <p>'A European Perspective of Work Based Learning: Lessons from a CEDEFOP Study Visit', UALL Work Based Learning Conference – MU, July '07</p> <p>"How can ICT promote the teaching, learning and use of Research Methods in a Work Based Learning context?" http://www.elearning.mdx.ac.uk/research/index.htm#Symposium</p>		

Professor Waqar Ahmad BA PhD

Deputy Vice-Chancellor
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8 January 2009

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Dear Sir/Madam

JISC Grant Funding Call 11/08

Call for Institutional Innovation projects in lifelong learning and workforce development

Project Proposal: MUSKET – Middlesex University Skills and Education Planning Tool

I am pleased to write in support of the MUSKET project being proposed by Prof. Balbir Barn in the School of Engineering and Information Sciences at Middlesex University. The School has an excellent record of research and teaching in fields that will directly underpin the work of the project.

The MUSKET project directly addresses problems that are relevant in several areas of our provision at Middlesex. The proposed project is an excellent adjunct to our major strategic project, Middlesex Organisational Development Network (MODNet), which aims to establish a network of employers, FE Colleges and professional education providers in order to develop long term relationships with organisations to help develop and provide flexible work based learning routes to higher education. MODNet is being led by our Institute for Work Based Learning (WBL) which is a recognized centre for national and international excellence and leadership in WBL, and houses a Hefce funded Centre for Excellence in Teaching and learning in WBL.

Currently MODNet has a network of six FE colleges (Barnet College, City of

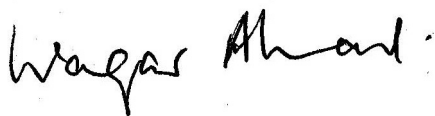
Westminster College, College of North West London, College of North East London, Enfield College and Southgate College), and a leading commercial provider of training in Information Technology, project management and business/organizational development (QA-IQ Ltd). The MUSKET project will be able to leverage off these relationships and QA-IQ has already indicated its support for the MUSKET project in a separate letter.

The MUSKET project will develop significant additional technical capability and model based understanding that MODNet does not currently address. In developing these additional functions, the University will be in a better position to realize the business and community engagement related objectives of the corporate plan.

Our commitment to the project is demonstrated by the involvement of senior staff at Professor and PVC level and support from other key functions of the University such as the IT Directorate, E-Learning, and QA.

I wish Balbir and the team every success. The project has my personal support and the support of my Executive colleagues.

Yours sincerely

A handwritten signature in black ink that reads "Waqar Ahmad". The signature is written in a cursive style with a horizontal line underlining the name.

Waqar Ahmad

Deputy Vice-Chancellor Research & Enterprise



5th January 2009

Joint Information Systems Committee
Northavon House
Coldharbour Lane
Bristol
BS16 1QD

Dear Sir/Madam

JISC Grant Funding Call 1/08 Call for Institutional innovation projects in lifelong learning and workforce development
Project Proposal:

I am pleased to write in general support of the project being proposed by Prof. Balbir Barn in the School of Engineering and Information Sciences at Middlesex University.

The project is concerned with taking an integrated approach to employer based provision, work based learning and external professional courses and mapping them to higher education descriptors using the tools proposed in the project. Such an approach will enable QA-Xpertise to make available our courses to a much wider audience and with the potential for HE level certification. In turn, we believe this could be significant to the wider government objectives in addressing the world-class skills agenda laid down by the Leitch Report. We are already working with Middlesex on other work based learning projects and support for this project is another example of our close collaboration.

We wish Prof Barn and the team every success.

Yours sincerely,

Handwritten signature of L. R. Walker in dark ink.

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