


a - Proposal Cover Sheet: Enterprise Architecture Group Pilot

Cover Sheet for Proposals <i>(All sections must be completed)</i>			
Name of Capital Initiative:		Enterprise Architecture Group Pilot Call	
Name of Lead Institution:		Liverpool John Moores University	
Name of Proposed Project:		LJMU Enterprise Architecture Pilot	
Name(s) of Project Partner(s):		None	
Full Contact Details for Primary Contact:			
Name:	John Townsend		
Position:	Deputy Director (Corporate Information Systems)		
Email:	j.w.townsend@ljmu.ac.uk		
Address:	LJMU Tower 24 Norton Street Liverpool L3 8PY		
Tel:	0151 231 5543		
Fax:	0151 231 4173		
Length of Project:	12 months		
Project Start Date:	January 2008	Project End Date:	January 2009
Total Funding Requested from JISC:		£42,914	
Funding Broken Down over Financial Years (Apr–Mar):			
Apr07 – Mar08		Apr08 – Mar09	
£10,557		£32,357	
Total Institutional Contributions:		£28,609	
Outline Project Description			
Piloting of the TOGAF approach to Enterprise/Service-Oriented Architecture development, to investigate the applicability of the approach to Higher Education, within the context of LJMU revised IT Governance structures and existing Architecture work.			
I have looked at the example FOI form at Appendix A and included an FOI form in the attached bid (Tick Box)	YES ✓	NO	
I have read the Circular and associated Terms and Conditions of Grant at Appendix B (Tick Box)	YES ✓	NO	

b. FOI Withheld Information Form

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

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

Section / Paragraph No.	Relevant exemption from disclosure under FOI	Justification
<p>Section h.(Lines 1,2 & 3.)</p> <p>Budget Directly Incurred Staff detail lines ref individual staff costs.</p>	<p>Section 40 (2) Personal Details</p>	<p>If this information is compared with the information in Section e, the salary details of the individual members of staff can be easily identified.</p> <p>Guidance published by the Office of the Information Commissioner dated 21st August 2007 on determining what is personal data says that:</p> <p><i>“an organisation would be disclosing personal data where it releases information which can be linked to particular individuals”.</i></p> <p>However, the public interest can be served by disclosure of the Total Directly Incurred Staff Costs</p>

c. Supporting Letter



Finance Director
Liverpool John Moores University
70 Mount Pleasant
Liverpool
L3 5UX

1st October 2007

JISC
Northavon House
Coldharbour Lane
Bristol
BS16 1QD

Enterprise Architecture Group Pilot Call

I would like to give my full support to the attached proposal which would enable LJMU to build on work already undertaken in this area and make an effective contribution to the objectives of the overall project. I can confirm that the evidence given of current institutional commitment to Enterprise/Service Oriented Architecture development is accurate and true, and that the programme of work will continue for the next year.

Yours faithfully

A handwritten signature in black ink, appearing to read "D. Stewart", is written over a thin horizontal line.

Finance Director

Denise Stewart : Finance Director

Finance, Rodney House, 70 Mount Pleasant, Liverpool, L3 5UX
Telephone +44 (0)151 231 3508 Facsimile 0151 707 3201

d. Institutional Readiness

1. Over the last two years LJMU has been engaged in two significant projects which demonstrate our current engagement with enterprise architecture/service oriented approaches.

The Information Systems Architecture (ISA) Project.

- 1.1. Since 2003 LJMU has had in place a comprehensive development programme (the Systems Development Projects Programme). This programme includes all university-wide projects that involve the deployment of information systems and associated processes. The programme is run utilising the Office of Government Commerce 'Managing Successful Programmes' methodology with executive-level sponsorship, a senior-level programme board and a senior IT/IS manager as Programme Director. The programme had an initial five-year timescale now extended to eight (2003-2011) and is fully established as the structure for managing and coordinating all major information systems projects.

The overall vision of the programme as stated in the Programme Definition is:

- 1.1.1. *"To deliver high value-added student and learning support services and achieve effectiveness and efficiency gains through the development of JMU as a process-managed organisation, supported by an appropriate and integrated ICT infrastructure and a trained and empowered workforce, and conforming to the Excellence Model requirement to manage by fact and process"*.

The Programme Blueprint states that our Information Systems will be *"based on an agreed architecture that minimises data replication and interface requirements, built around an eBusiness suite approach"*, whilst the current Corporate Strategic Plan 2006-2011 refers to: *"a number of significant process and information system projects...will include an E-Business suite approach to the implementation of information systems, thus providing the integration necessary for management by process and fact"*.

This eBusiness suite approach was originally based around LJMU's investment in the Oracle eBusiness Suite; however, as Oracle have progressed in their acquisition strategy and in their SOA approach based around their Fusion Middleware, it has become increasingly clear that the successful exploitation of this investment also mandates the definition and implementation of an Enterprise Architecture approach.

- 1.2. To date projects completed under the aegis of the Systems Development Projects Programme have included: the rollout of the Oracle Student System (OSS); the Ex Libris Aleph Library System; Oracle CRM for Recruitment/Clearing; the Blackboard VLE; the Scientia Syllabus Plus Timetable Scheduler; the Red Dot Content Management System; WPM Education for on-line payments. Projects currently in progress/rollout include: Oracle CRM for Business-to-Business, welfare case management and a further rollout for recruitment; Eportfolio developments based on the Blackboard Content Management system; continuing in-house development of a Product Catalogue as the definitive source of programme/module information; a Digital Repository based on Aleph and associated products; a Learner Centred Services project to provide portal-based access to services for staff and students; Microsoft Sharepoint for Workgroup Collaboration.
- 1.3. As the various systems were rolled-out it became clear that there were two key areas still to be addressed. First, the integration of information at the systems level i.e. using the OSS as a single-source of truth from which student data would be replicated into the VLE, Library System etc. This meant that we had to ensure that institutional processes supported timely and effective data entry. Secondly, that a number of the systems that we were implementing, whilst possessing discrete core functionality, also had other overlapping functionality. This requirement for effective information management mandated the definition of an enterprise/service-oriented architecture for LJMU.

1.4. In 2005 we initiated an integrative project to examine the ways that processes and information systems operated across departmental boundaries and began the development of an enterprise architecture, establishing which systems would support which services and identifying the associated processes needed for effective and efficient information management.

1.5. The initial objectives of the project were stated as:

1.5.1. "The aim of the Information System Architecture project is to define how the multiple JMU systems and processes interrelate to provide the overall Managed Learning Environment (MLE).

The two key authoritative sources of person and course-related data are PWA (for staff) and OSS (for students). Activities within these systems (such as create / delete / modify person records, programme and module enrolment / completion, progression, graduation, etc.) trigger events in multiple other systems (such as Computer Account generation, module membership in Blackboard, Patron records and rights with the Library system, Card issue etc).

The Data Exchange System (DES) deals with the transfer of appropriate data between systems.

The Information System Architecture project defines the rules governing this transfer and ensures that the processes undertaken on each discrete system are appropriate and timely in the provision of key data required for the operation of all other systems in the MLE"

(see Appendix A, ISA Terms of Reference, Appendix B, ISA Project Initiation Document).

1.6. This initial brief has been completed but also extended into additional work on a subset of our overall systems infrastructure, to begin the process of identifying which systems will deliver which service:

1.6.1. "A number of University systems appear to have potentially overlapping functionality but each in fact has a very distinct and well-definable role. This document defines the principal purpose of the various systems concerned with resource/document management and delivery".

(see Appendix C, Content Management and Repository Systems).

1.7. It should be noted that the ISA, as an enabling rather than delivery project, was not strictly in line with the Programme Vision as referenced above; however our Governance structure at the time the project was initiated did not allow for any other location.

1.8. The ISA project within the Systems Development Projects Programme has now been closed and the work will be handed over to the remit of another part of a new Governance structure currently being implemented (see ii.below)

The Information Systems Governance Project

- 1.9. In Summer 2006 LJMU were invited to take part in the JISC project to pilot the Information Systems Management and Governance Toolkit. This involvement catalysed a full review of our Governance structures which we were already aware were incomplete and in need of revision.
- 1.10. As a result of applying the toolkit, LJMU have adopted a Governance structure based on that described in 'IT Governance' by Weill and Ross (Harvard Business School Press 2004). This approach appeared to provide the best fit with LJMU's strategic objectives, with the focus on people and behaviour rather than 'hard' systems and processes being particularly attractive. Governance is defined by Weill and Ross as:

"Specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT"
- 1.11. This approach focuses on the need to have a structure that enables effective decision-making by the right people in relation to five key Information Systems/IT areas: Principles; Architecture; Business Applications; Infrastructure; Prioritisation and Investment.
- 1.12. At the point at which we embarked on the Governance project the only part of the structure clearly in place was the Systems Development Projects Programme Board which was responsible for Business Applications but also addressed other areas as necessary, such as the ISA Project referenced above.
- 1.13. We have now put in place an IT Steering Group which will cover the Infrastructure area, and Prioritisation and Investment jointly with the Systems Development Projects Programme Board through shared membership.
- 1.14. The overarching Information Management Steering Group (IMSG) which will oversee IS/IT Principles and Architecture will conduct its initial meeting in November 2007.
- 1.15. Each of these Boards/Steering Groups is chaired by a member of and reports back to the Senior Management Group; the Systems Development Projects Programme Board and the IT Steering Group by the Pro-Vice Chancellors Development and Infrastructure respectively, and the Information Management Steering Group by the Finance Director.

(See Appendix D, Information Systems Management and Governance Project)

Enterprise Architecture

- 1.16. The ISA project will be referred to the Information Management Steering Group for further progress. As noted above it is clearly recognised that there is a need for a well-defined Enterprise/Systems-Oriented Architecture and it is already the intention that the Information Management Steering Group will commission a sub-group to build on the ISA Project and carry out this work.
- 1.17. We believe that the ISA and Governance work that LJMU has already completed, and the existing intention to carry out further work in this area, puts us in an ideal position to contribute to the Enterprise Architecture Group Pilot. It will allow us to provide benefits to the sector in building on work to date and disseminating current and future developments.
- 1.18. Whilst the ISA project provides a more obvious initial basis for Enterprise Architecture work, the implementation of an effective Governance structure is widely recognised as an essential precursor of successful SOA implementation:

"In 2006, lack of working governance mechanisms in mid size to large post-pilot SOA projects will be the most common reason for project failure" (0.8 probability, Gartner)

- 1.19. LJMU's participation in the pilot would enable the sector to benefit not only from the direct outputs of the pilot, but also from our experience in implementing the Governance structures essential for effective Enterprise/SOAs.

In the same way that involvement in the JISC Information Systems Management and Governance Toolkit Pilot gave us sufficient headroom to focus effectively on this area, and provided a structure within which to work, we believe that participation in the Enterprise Architecture Group Pilot, and the use of the TOGAF approach, will provide similar benefits.

Stakeholder Analysis

- 1.20. Whilst a full stakeholder analysis has not yet been carried out in relation to the emerging Enterprise Architecture initiative, such analyses have been carried out in the past in relation to the Systems Development Projects Programme and individual projects within the Programme portfolio. In addition, piloting the JISC Information Systems Management and Governance Toolkit, and in particular the adoption of the Weill and Ross approach, necessitated giving full consideration to the range of stakeholders who should be involved in IT decision-making. This work would form the basis of stakeholder engagement in the Enterprise Architecture project. *(See Appendix D, Information Systems Management and Governance Pilot Case Study).*

Supporting Projects

- 1.21. It should also be noted that in association with the top-down approach described above, a service-oriented approach is being taken at the technical level in the Learner Centred Services Project within the Systems Development Projects Programme. We are developing the use of a Portal as an information aggregator, and web services to provide data from Oracle Ebusiness Suite, the Oracle Student System, and other relevant applications. This work is taking place at the lowest Initial Services level of the SOA Maturity Model (see www.omg.org/soa/Uploaded%20Docs/SOA/SOA_Maturity.pdf) and we are clear that we need to do further work at the Architecture level before we can make further progress towards maturity, reference the need for Architecture group leadership at level 2. Architected Services.

e. Evidence of Senior Staff

2. We propose that the lead role on the project would be taken by a Senior IT Manager, John Townsend, Deputy Director (Corporate Information Systems).
- 2.1. John has worked in IT since 1986 and has been in a senior position in Higher Education since 1992. He has been both overall Head of IT at Edge Hill University, from 1993-1998, and senior IT manager with responsibility for Corporate Information Systems at LJMU since 1998.
- 2.2. In addition to management of operational service delivery, whilst in these positions he has carried out activities including:
 - playing a major role in the introduction of structured Programme and Project Management approaches to IS development and implementation, currently as Director of the LJMU 8-year Systems Development Projects Programme referenced above
 - making a significant contribution to the development of Information and other strategies
 - engaging in various programme and change management activities including the delivery of structured workshops and the use of various techniques such as scenario planning, affinity diagramming, force field analysis etc
 - taking the lead role in the introduction of an 'eBusiness suite' approach to IS at LJMU, an initiative which is now developing into a Systems/Enterprise Architecture approach

- contributing to the development of the Governance model currently being introduced at LJMU

2.3. In addition he plays a significant external role, including:

- senior liaison with Oracle senior management both in the UK, EMEA and the US, and including representation on major Oracle user groups
- as a long-standing member of the UCISA-CISG committee of which he has been chair since November 2005, which has involved him in sector representation in activities with bodies such as the JISC, UCAS, and HEFCE
- as a presenter at a range of conferences in the UK and abroad (EDUCAUSE, EUNIS, Oracleworld) on subjects ranging from systems implementation and programme management to change management and IT governance

2.4. He has an MBA (Technology Management) from the Open University and is an accredited Programme Management practitioner under the Office of Government Commerce 'Managing Successful Programmes' initiative.

(See Appendix E, John Townsend – Curriculum Vitae).

2.5. He would be supported in this role by:

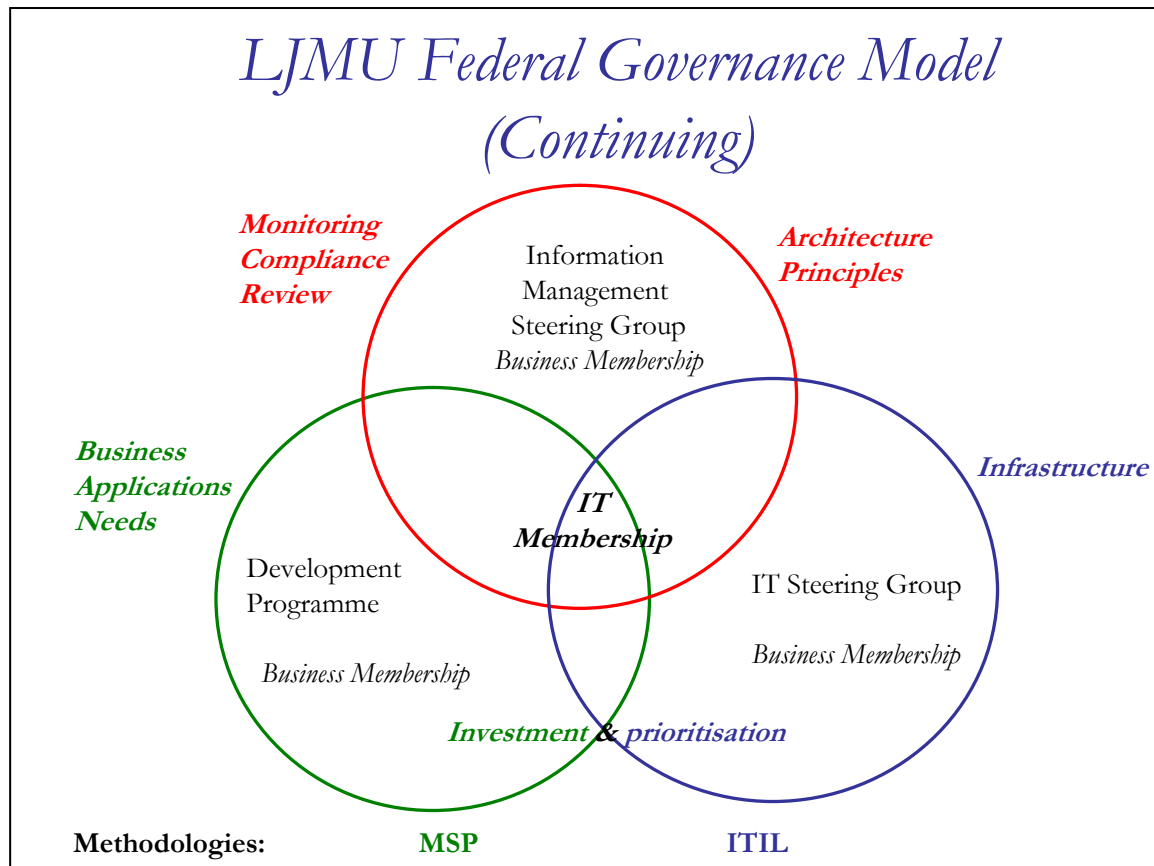
2.5.1. Derek Hendy, Corporate Applications Development Manager. Derek is responsible for senior technical input on all IS developments and is closely involved in the technical architecture aspects of the Systems Development Projects Programme and the implementation of the Oracle eBusiness Suite and associated middleware. He has also been involved externally in the working group that has developed the XCRI standard. Derek would provide all necessary detailed technical input.

2.5.2. Sara Rioux, Business Change Coordinator. Sara supports the business analysis and user engagement side of systems implementations, in particular in support for process and project management. She has a background in the use of various modelling tools including Visio etc and would support the project in the application of such tools where necessary, and as a trained PRINCE2 practitioner would also provide general project management support.

f. Institutional Commitment

3. Governance

3.1. As described in section d. above, LJMU already has in place a Governance structure described in the following illustration:



- 3.2. It should be noted (see d.1.9 above) that each of the groups within this structure is chaired by a member of the LJMU Senior Management Group. Within this Governance structure the Information Management Steering Group has responsibility for Architecture and Principles. As part of this remit, the Steering Group will be commissioning a working group to build on the outcomes of the Information Systems Architecture project and develop an Enterprise/Systems-Oriented Architecture model for LJMU.
- 3.3. The clear business need that has arisen through work on the portfolio of projects that make up the LJMU development programme has led to recognition at a senior level that the development and maintenance of an Enterprise Architecture is essential for effective and efficient operations and management both now and in the future. This recognition, coupled with the new Governance structure, will ensure that continuing effort is placed in this area both during and after the currently proposed project.
- 3.4. Participation in the TOGAF pilot will provide the necessary focus and additional resource to complete this work in a rigorous and timely fashion and will provide the basis for LJMU's future planning in implementation of the resultant Enterprise Architecture, which will inform the composition of the Systems Development Projects Programme Project Portfolio, and be overseen by the Systems Development Projects Programme Board and the IMSG.

3.5 It is estimated that work on the initiative on a continuing basis would involve c.0.5 FTE from the same personnel engaged in the initial project in maintenance and development of the Enterprise Architecture model, with other/additional resources clearly required for the technical implementation and rollout of the Service Oriented Architecture.

g. Risk Assessment

Risk	Probability 4. (1-5)	Severity 5. (1-5)	Score 6. (PxS)	Action to prevent/manage risk
<i>Staffing:</i> unavailability of key project staff	2	5	10	Initially high impact as project heavily dependent on one individual; can be mitigated by involvement of other staff, embedding of approach within Governance structures
<i>Organisational:</i> change in institutional support for project/EA approach	2	4	8	Continued marketing of approach through Governance structures
<i>Staffing/ Organisational:</i> Underestimated resources required for full adoption emerging during initial project	2	5	10	Restatement of institutional commitment to approach & associated application of additional resource, see previous item
<i>Technical:</i> Failure in the application of the TOGAF/EA approach in an HE context	1	5	5	Should this prove to be the case, little effective mitigating action. LJMU would investigate alternative approaches to satisfy identified need.
<i>Technical:</i> Major changes in thinking on TOGAF/EA etc e.g. emergence of 'next new thing'	3	3	9	Unlikely during initial project; continuing engagement with the Open Group, SURF etc should enable the institution to take advantage of rather than be threatened by new developments

h. Budget

	Directly Incurred Staff	April 07– March 08	April 08– March 09	TOTAL £
4	Total Directly Incurred Staff (A)	£10,799	£33,538	£44,337
5	Non-Staff	April 07– March 08	April 08– March 09	TOTAL £
6	Travel and expenses	£	£	£
7	Hardware/software	£	£	£
8	Dissemination	£	£	£
9	Evaluation	£	£	£
10	Other	£	£	£
11	Total Directly Incurred Non-Staff (B)	£0	£0	£0
12	Directly Incurred Total (A+B=C) (C)	£10,799	£33,538	£44,337
13	Directly Allocated	April 07– March 08	April 08– March 09	TOTAL £
14	Staff	£	£	£
15	Estates @ .9 FTE (all staff included)	£1,253	£3,760	£5,013
16	Other	£	£	£
17	Directly Allocated Total (D)	£1,253	£3,760	£5,013

18	Indirect Costs (E) @.9 FTE (all staff included)	£5,543	£16,630	£22,173
19	Total Project Cost (C+D+E)	£17,595	£53,928	£71,523
20	Amount Requested from JISC	£10,557	£32,357	£42,914
21	Institutional Contributions	£7,038	£21,571	£28,609
22	Percentage Contributions over the life of the project	JISC 60%	Partners 40%	Total 100%

Note: whilst the contribution requested from the JISC for this Group Pilot Call is less than the total Directly Incurred costs, this amount would not represent the JISC's actual contribution to the project as (reference section D28 of JISC Circular 02/07: Appendix D) significant costs that would normally be included in the budget above are being met directly by the JISC.

4. Summary Benefits to Lead Institution

4.1. Qualitative:

the ability to focus resources over a shorter timescale on production of the Architecture definition that LJMU views as essential for our future information management requirements. the opportunity to participate in a community of interest and to receive support and guidance from other agencies e.g. the Open Group; SURF

4.2. Quantitative:

JISC funding for the activities referenced in the second bullet point above i.e. TOGAF training, participation in Open Group conferences, SURF meetings etc.

Appendix A
Information Systems Architecture
Managed learning Environment

Terms of Reference

- 1) To undertake appropriate actions to ensure that the systems and processes that comprise the MLE provides a seamless, appropriate and timely activation of events and transfer of data between systems; such that users see a single consistent “version of the truth” across all systems, which accurately reflects the entirety of their status within JMU, and which meets the business needs of the University by meeting the operational requirements of each system.
- 2) To approve proposed changes to systems, processes, processing methods and timescales, and the use of data items that have been identified as being intrinsic to the operation of the MLE.
- 3) To identify, and rectify where possible, those processes, processing methods, use of data items or timescales that have an adverse impact upon the operational requirements on other systems within the MLE.
- 4) To identify future areas of activity related to the overall development of the MLE to be undertaken within the ISA project.
- 5) To identify areas of IT-related activity or processes for which a co-ordinating project under the general umbrella of Information Systems Architecture could potentially benefit the University.

1. Information Systems Architecture

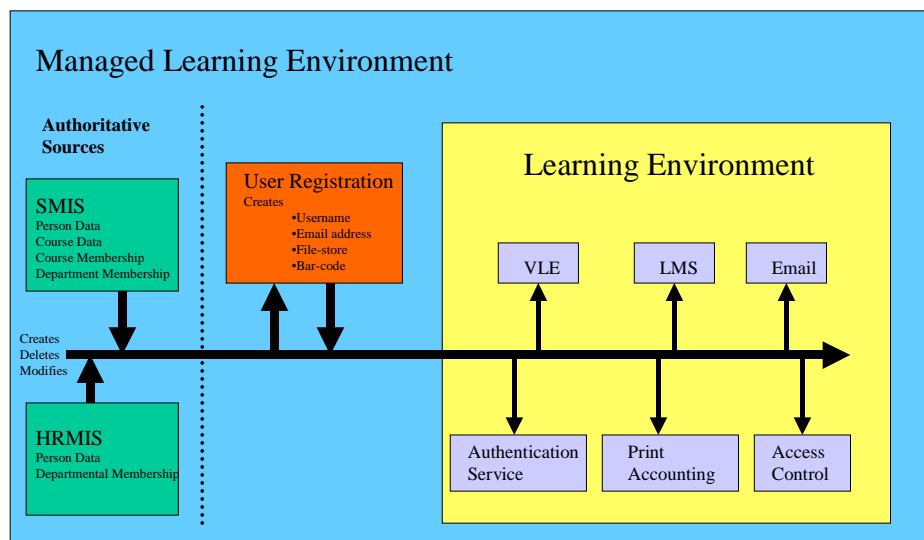
1.1 Overview

The Information System Architecture (ISA) defines how the multiple JMU systems and processes interrelate to provide the overall Managed Learning Environment (MLE).

The two key authoritative sources for person, department and course-related data are PWA (for staff) and OSS (for students). Activities within these systems (such as create/delete/modify person records, programme and module enrolment/completion, progression, graduation, etc.) trigger events in multiple other systems (such as computer account generation, module membership in Blackboard, Patron records and rights with the Library system, Card issue etc).

The Data Exchange System (DES) deals with the transfer of appropriate data between systems.

Data Exchange System



DES automatically propagates Create / Delete / Modify data from Student & Personnel Systems to all systems as appropriate - thus all systems have wholly consistent data.

The ISA project defines the rules governing this transfer and ensures that the processes undertaken on each discrete system are appropriate and timely in the provision of key data required for the operation of all other systems in the MLE.

1.2 Requirement

The teams managing each discrete system are continuously striving towards improving processes and the operation of the systems for which they are responsible. However changes that appear sensible from the perspective of an individual system can have an adverse impact upon other systems within the MLE; similarly changes to processes or the

time-scales within which processes are undertaken can also have undesirable consequences.

The identification and definition of the processes, events and data items that are key to the inter-reaction between systems will ensure that these factors and the associated implications are recognized and that a holistic view of dependencies across the MLE is taken.

Any change to a discrete system or process that affects the overall cohesion of the MLE will require to be approved by the ISA Steering Group. The ISA project will also identify and seek rectification of current practises and processes that have an adverse impact upon the operation and effectiveness of the MLE.

2. Objectives

The objectives of the ISA project are to ensure that the systems and processes that comprise the MLE provides a seamless, appropriate and timely activation of events and transfer of data between systems; such that users see a single consistent “version of the truth” across all systems, which accurately reflects the entirety of their status within JMU, and which meets the business needs of the University by meeting the operational requirements of each system.

3. Aims

The aims of the ISA project are:

- a) To define the:
 - Data items required by each system and the corresponding authoritative sources of these data items.
 - Events within authoritative source systems, which will trigger the propagation of changes to other systems.
 - Time-scales within which the processes that activate such events need to occur to meet the operational needs of other systems.
- b) To ensure that the custodians with responsibility for the source systems and processes are aware of the requirements of other systems within the MLE, and that these are fully taken into account in the design of their own procedures.
- c) To identify where the source system data or processes are inadequate or inappropriate for the needs of other systems.
- d) To rectify identified deficiencies, where possible.
- e) To foster a “plan-do-check-act” cycle of continuous improvement in the overall operation of the MLE.
- f) To identify future areas of activity related to the overall development of the MLE to be undertaken within the ISA project.

4. Scope

The scope of ISA Project includes all systems (and related processes) that provide data to or use data from other systems or which potentially might do so.

5. Mandate

Key to the success of the ISA Project is the authority to require that for any system within the scope of the project:

- a) Proposed changes to systems, processes, processing methods and timescales, and the use of data items that have been identified as being intrinsic to the operation of the MLE are approved by the ISA Steering Group.
- b) Processes, processing methods, use of data items or timescales that have an adverse impact upon the operational requirements on other systems within the MLE are reviewed and rectified where possible.

6. Steering Group

The proposed membership of the Steering Group is:

Gerry Kelleher (Chair)
Tracey Price
Julie Lloyd
Maxine Melling
Sue Thompson
John Townsend (DPSG)
Kevin Walsh (Project Manager)

7. Project Plan

7.1 Phase 1

The objective of Phase 1 of ISA Project is to initiate the Plan-Do-Check-Act cycle of continuous improvement to the cohesion and operation of the MLE. This comprises the following steps:

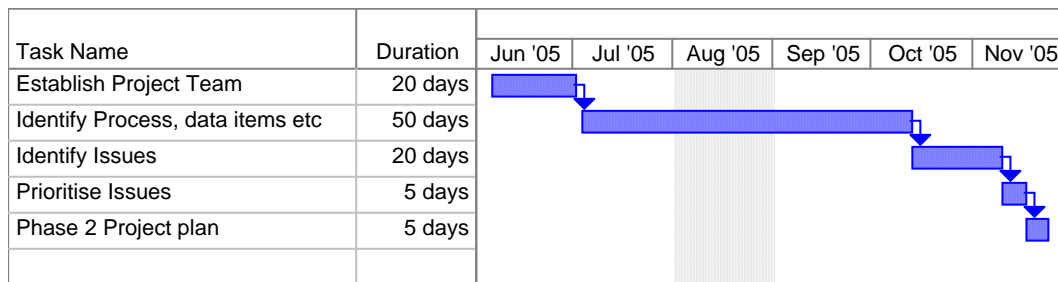
1. Establishment of Project Team
2. Identification of processes, data items, events, timescales and dependencies between systems within the MLE
3. Identify the factors which have an adverse effect on the operation of the MLE (Issue Log)
4. Prioritise the issues and devise project plan for addressing these (Phase 2)

7.2 Phase 2

This, and subsequent phases, will each comprise of the cycle:

1. **Plan:** identify how each issue needs to be addressed and by whom
2. **Do:** implement the changes
3. **Check:** have the changes had the desired effect?
4. **Act:** identify and prioritise issues

7.3 Phase 1 Project Time-Scales



8. Risks

Risk	Mitigation
The ISA Project will not have sufficient authority or recognition to be advised of proposed changes	Steering Group comprises Senior Managers with responsibility for key systems and processes
Discrete systems and processes will continue to have operational focus on local needs and not on the MLE as a whole	Peer pressure within Steering Group

Kevin Walsh, CIS
May 2005

Appendix C

LJMU Content Management and Repository Systems

A number of University systems appear to have potentially overlapping functionality but each in fact has a very distinct and well-definable role. This document defines the principal purpose of the various systems concerned with resource/document management and delivery.

Note: The following positional statements should be considered “as work in progress”; technological developments or the introduction of new systems may lead to a refinement of these definitions.

Microsoft SharePoint	
System Role/Purpose	Development / Institutional Administration
<p>Microsoft SharePoint is viewed as the system for development and storage of institutional documentation for mainly administrative purposes. It will enable staff working groups to develop and maintain collaborative documentation. Initial project work is being undertaken to provide support for the institutional Committee Structure, Faculty and Departmental workspaces, ad hoc meetings and for the collaborative development of shared documents.</p> <p>It is envisaged that SharePoint will provide the repository for key operational documents such as Governors & Academic Board Minutes and Policy & Strategy documents.</p>	

Blackboard Content System	
System Role/Purpose	Current Learning Content Delivery and e-Portfolios
<p>Blackboard is the LJMU virtual learning environment used to support student learning through the delivery of content and access to module communication/assessment tools. The Blackboard Learning System has been the medium where academic staff have uploaded current learning content for delivery to students enrolled on modules since 2001. The Blackboard Content System is a recent acquisition at LJMU, being implemented initially to support students in the development of e-portfolios (with links to associated student content files) for sharing with academic staff or others sanctioned by the student. The Content System will also enable current learning content to be shared across modules within Blackboard e.g. where a tutor teaches on a programme delivered at a number of different partner institutions. Other features of the Content System need to be investigated e.g. e-Reserves as a potential tool for LIS.</p> <p>Blackboard will continue to be the medium where current learning content is stored and made available to students. However, staff will be able to link to other LJMU repositories, such as:</p> <ul style="list-style-type: none"> • DigiTool - for access to archive materials, electronic key texts, etc • Video Streaming Service – for streamed video/ audio resources 	

ExLibris DigiTool	
System Role/Purpose	Archive / Repository for Digital Collections
<p>DigiTool is the LJMU Digital Repository; an open access repository for locally-managed digital collections that can also provide access to remote collections. It will provide an archive/repository of LJMU’s intellectual property that meets minimal criteria for quality of content and re-usability with inbuilt metadata, preservation standards, copyright restrictions, and access rights. Digital collections can be set up for LJMU users specifically or can be available by open access to the wider community. It will therefore provide a digital showcase for LJMU’s achievements e.g. in research.</p> <p>DigiTool also supports current research activity and will gradually build up a comprehensive archive of LJMU research outputs in the Research Archive.</p> <p>It will also provide a repository of high-value re-usable learning content (learning objects); however the delivery of any such objects will generally be via Blackboard although specific collections of learning objects may also be viewed within DigiTool.</p> <p>Appropriate learning content that is no longer required for delivery in Blackboard modules will be archived to DigiTool. Proposed institutional collections for archiving in DigiTool include:</p> <ul style="list-style-type: none"> • Research Archive • E-MASS • Electronic Key Texts – a collection of digitised documents for specific modules/courses • Postgraduate theses • Past examination papers • LIS Special Collections – records and digitised files from LIS’s rare/unique collections particularly popular culture • Digitised images for use in teaching • Collections of audio and video clips for specific subjects with links to the media streaming service where appropriate • High-value re-useable learning objects • University History: <ul style="list-style-type: none"> ○ Corporate communication/marketing publications ○ Estate development portfolio – architects plans, concepts etc ○ Building plans. 	

Media Streaming Service	
System Role/Purpose	Audio and Video Streaming Service
<p>This service provides an “instantaneous” delivery mechanism for audio and video media files the size of which prohibits conventional “down-load then play/open” content delivery. For files of this nature, the use of the “natural/logical” repository (Blackboard,</p>	

SharePoint, or DigiTool) as defined above is impractical; such files must be stored in and delivered from the streaming service. These resources should be indexed in and linked to from their “natural/logical” repositories but not physically located there.

SMG Portal	
System Role/Purpose	Executive Information
	<p>The SMG portal provides access to the Digital Dashboard for monitoring key performance indicators; additionally it is used as an information gateway to other information sources of particular relevance to SMG (e.g. CWIS pages, SMG committee papers and minutes).</p> <p>Currently SMG committee minutes are both managed and viewed via the SMG portal. It is envisaged that ultimately the management of such items will be handled within SharePoint (along with all other University Committees); however these items will continue to be accessible through the SMG Portal.</p>

Alice Bird, LID
Sue Hodges & Valerie Stephenson, LIS
Kevin Walsh, CIS
February 2007

Appendix D

Information Systems Management and Governance Project

Pilot Institution Case Study

Liverpool John Moores University

Institutional Context

Liverpool John Moores University (LJMU) is a large and well-established higher education institution with over 250 programmes of study at undergraduate and postgraduate levels. It grew from a range of specialist colleges (the oldest of which can trace its roots back to 1825) to become the Liverpool Polytechnic and, in 1992, one of the new generation universities. Student numbers in 2005/06 were 24,085 (19,905 undergraduate and 4,180 postgraduate). Staff numbers are currently approximately 2,580 (2,333 FTE). Annual financial turnover in 2005/06 was £132M.

LJMU is based on two large campuses in the city centre and a third in south Liverpool. Academic staff are grouped into 6 Faculties, each managed by a Dean. The Deans together with 6 Pro Vice Chancellors responsible for support functions form the core of the university's Executive, the Strategic Management Group (SMG), chaired by the Vice Chancellor.

Formal university committees are very few in number following a fundamental review of the committee structure in 2003. Prior to this, large numbers of groups met regularly but it was found that decision-making responsibilities and accountability of many were unclear, the routes followed by issues were long and complex, and many groups had outlived their usefulness. A new small-scale structure was introduced with clear terms of reference while attention was also focused on the decision-making responsibilities and personal empowerment of managers and staff. It remains the position of SMG that senior functional managers should consult as necessary to progress issues and to act wherever possible without the requirement for a formal committee separately to ratify decisions. Major policy items will still be considered by SMG however.

LJMU does not have an Information Strategy Steering Group. The university's Information Strategy was developed originally by a task group convened for this purpose and agreed by the university Executive once complete. This has been viewed as an occasional rather than a continuing responsibility, to be reviewed at regular intervals to ensure that it remains aligned with the Strategic Plan.

The most recent university IT Strategy was also prepared by a task group and agreed by SMG. Prior to the committee review in 2003, there was an ICT Committee which met regularly to monitor annual investment plans against development priorities, to agree policies and regulations, and to monitor service standards. This group was disbanded in the review. Informal groups have met since 2003 but the absence of a formal overarching IT Steering Committee was noted in a number of reports conducted since then by the university's internal auditors who recommended that a successor body should be convened. The opportunity to validate the need for such a group and to position it clearly in an overall IT/IS governance framework was a major factor in the university's decision to become a pilot site for this project.

A formal body has met regularly to steer Information Systems developments, however. LJMU has embarked on a series of inter-related information systems projects, managed as a single programme, all of which address priorities in the current Strategic Plan. In October 2002, the Vice-Chancellor confirmed that he had 'agreed with the Board of Governors and the Strategic Management Group to adopt the well-proven European Foundation for Quality Management (EFQM) 'Excellence' Model as the framework for our organisational development and strategic

planning processes'. A core element of the Excellence Model is the requirement to manage by process and fact; the portfolio of projects that makes up the Development Programme is designed to deliver both the process management framework, and the essential supporting information systems, that will enable this element of the Excellence Model to become a reality.

The great majority of IT services in the university are managed centrally. General purpose staff/student PC clients offer a consistent view of networked resources irrespective of geographical location within the university. A single university budget supports non-specialist open-access student PCs in IT suites and learning resource centres, network and server infrastructure investment and software licences for academic and administrative use. Devolved budgets support subject-specialist IT use, in areas such as Engineering, Computing and Art & Design.

Project Approach

LJMU became a pilot site for the project several months after most others and it was therefore necessary at an early stage to identify an approach which would allow the preparation, self-assessment and concluding stages to be completed in a relatively compressed timescale.

Personnel

A small project team, consisting of the Director of Corporate Information Systems, Director of Computing & Information Services and Deputy Director of the School of Business Information, supported by a Business Support Analyst, was convened for this purpose. Although small in number, the group had extensive experience of the university's information systems both professionally and through current managerial responsibilities, together with a background in quality assurance and enhancement and QAA institutional audit/review. It was accepted that the findings of this group would need to be validated with others once the analysis was complete but that this was preferable to convening a much larger task group and potentially slowing progress in the earlier phases.

Method

After a preliminary planning meeting and individual familiarisation with project documentation and the Toolkit, the group scheduled four half-day sessions, one for each of the major sections of the self assessment. The intention was to be able to work through the various questions and to have in-depth discussion about the issues raised without time constraining debate. After each session, our discussions were summarised by the Business Support Analyst and circulated to members for comment. The group proceeded through the self-assessment in the published order (Governance, Resources, Organisation, Services) and completed each section in a single meeting.

Given the organisational structure and the university-wide nature of many LJMU activities (e.g. the University Modular Framework [UMF] the structure which underpins all undergraduate and taught postgraduate programmes) little time needed to be taken in selecting which information systems to include in this exercise. Those included were those already classified as 'corporate', acknowledging that manual as well as electronic elements were equally relevant. As a general rule the team assumed that, irrespective of any university's organisational structure, policies would already be in place differentiating 'corporate' and 'local' systems and that a governance framework would incorporate all 'corporate' systems.

The group did not limit its consideration of issues to the approach contained in the Toolkit, however. As well as working through all of the questions posed in each section, discussions focused on the assumptions which appeared to underpin each and the degree of 'goodness of fit' of these to the university's current circumstances. Other governance models were also explored alongside these issues.

After the four themed sessions, members met again on three further occasions to agree priorities for improvement, to consider different structures which would enable these improvements to be delivered in practice, and to consider change management issues, including the consultation process which would be necessary to secure the commitment of members of the Executive to the proposed changes. Members met on one final occasion to reflect on the process which had been followed and to evaluate strengths and weaknesses of the approach adopted.

Experience of Conducting the Self-Assessment

Three issues were identified by the project team at a relatively early stage as worthy of further consideration in evaluating the Toolkit in its present form.

1. A UK HE-Specific Framework - The starting point for the JISC-funded project is stated to be that “none of the IT Governance frameworks developed for the private sector provided a good fit for the requirements of HE”. (Toolkit Introduction, p.1) Team members questioned at the outset whether this would be equally true of public sector frameworks and whether there might be other models that could be evaluated at the same time. Amongst the alternatives considered were definitions provided as part of the CobiT (Control Objectives for Information and related Technology) approach developed in the 1990s by ISACA (Information Systems Audit and Control Association) and the ITGI (IT Governance Institute). A more recent model and one which was found to be particularly helpful by the project team is provided in IT Governance (Weill and Ross, Harvard Business School Press, 2004)

2. Assumptions about Existing Structures - As has already been noted, LJMU has a very small formal committee structure. Developers of the Toolkit will want to ensure that it is as broadly applicable as possible in different sizes and types of institution and that no unnecessary assumptions are therefore made about the existence of particular structures or committees. Whilst this is generally true, the major exception is the Toolkit’s basic assumption that universities will have an Information Strategy Steering Committee. Questions in four of the twelve sections specifically mention this committee (in the Alignment section it features in every question) and a number of others mention the monitoring of progress of the Information Strategy.

Different institutions will operate in different ways and it might therefore be beneficial to rephrase some sections to remove these specific references and instead focus on the intended activity of such a body.

3. Order of Sections - Having decided to proceed through the self-assessment in the published order, one basic question remained unanswered during the first few sessions. Members felt that it would have been helpful at the outset to include an assessment of the clarity of the institution’s overall business strategy to which the Information Strategy and all other supporting strategies must be subservient. Later sections (Decision Making onwards) do make some linkages to broader institutional developments but an additional item in the first section might help to put all later sections in context.

Other feedback that members wished to record as they worked through the sections is as follows:

- Alignment – The lack of an Information Strategy Steering Group does not mean that an institution is unable to implement its strategy effectively. A group with a monitoring remit, whether formal or informal, could discharge this responsibility. The precise nature of the group needed could be expected to emerge from the self assessment and planning improvements process.
- Assurance – Members welcomed the introduction of a focus on how clearly the Executive but also the Governors scrutinise Information Strategy developments.
- People – Although the self assessment does focus on the numbers and the skills of staff using information systems, members could not find here or in other sections the need for a critical awareness of resource deployment for systems. Members questioned whether

sufficient emphasis was put on the 'people' and 'manual' side of information systems resource consumption and whether best value could be shown to be being achieved.

- **Structure** – LJMU is an institution which has invested heavily in process reviews in recent years and which has operated under a number of different organisational structures. A fundamental review of student administration is being completed as this case study is being written and may well result in further structural changes. The project team felt that 'processes' captured the intention of the questions better than 'systems', and that 'centralised' and 'devolved' did not fully represent the possible models. (An alternative distinction between 'corporate' and 'local' systems was drawn above.) The main concern of the group was how processes were mapped on to existing structures and whether structures were appropriate for the direction in which the Strategic Plan was headed.
- **Structure** – The project team wanted to make questions 3 and 4 less staff-centric bearing in mind that many systems are now incorporating substantial self-service elements for both employees and students.
- **Policies** – Greater emphasis could perhaps be placed on the fact that this refers to information systems generally, not simply IT systems. All questions apply equally to non-IT elements and highlight more general university responsibilities which perhaps attract less attention than their IT equivalents.

Planning Improvements

The main output for LJMU from the self-assessment review and subsequent discussions has been consensus about a new IS governance structure for the university. We have identified the need for a transitional phase, to take the opportunity to revise the Information Strategy in the light of a newly-published Strategic Plan and meanwhile to preserve the existing System Development Projects Board. An IT Steering Group will be convened shortly to oversee investment priorities as well as decisions about architecture and policies. During this transitional phase, we propose to validate the need for an Information Management Steering Group – this has no parallel in the existing or previous structures but directly addresses a concern of SMG that the value of systems investments is clearly understood and that benefits from development projects and process reviews are realised – and to revise the membership and terms of reference of the three related groups to ensure that remits are clearly differentiated and membership is appropriate.

A related development within LJMU has made the introduction of these improvements much more straightforward. The Vice Chancellor remains firmly of the view that the formal committee structure must remain small and that managers should continue to implement changes without the need to refer to committees unless it is essential. A number of 'special interest groups' have been convened this year, however, chaired by SMG members, to progress issues which do not fit neatly into the formal committee structure. Such issues might relate to short-term developments, projects or current concerns. It is already accepted that such groups will include one to revise the Information Strategy and another to oversee IT investment priorities, and so the connection to the outcomes of this project are already made in two major areas. It is hoped that the new structures will be fully in place during the academic year 2007/08.

Conclusions

Participation in this project as a pilot site has provided a most welcome opportunity to address a known development requirement within the university and to critically evaluate the Toolkit. Formal involvement in the project ensured that time was safeguarded for this task, perhaps more easily than would have been the case otherwise. Although team members were aware at the outset of certain shortcomings in the university's management and governance structures, the real benefit of working through the issues as we did was to appreciate the many positives that were already in place and to develop a coherent overview of all issues that new structures would need to address.

As recorded above, the project team felt on occasion that the toolkit was perhaps too specific (or made assumptions about structures that would be in place). There may be benefit as the toolkit is further developed in broadening the scope to incorporate aspects of other approaches – not HE specific – to allow individual institutions to assess which approach fits their particular

circumstances best. There may also be benefit in introducing a preliminary assessment of corporate strategy against which subsequent judgments about systems strategy can be measured.

The project team were of the opinion that the toolkit's greatest strength is perhaps that it provides busy staff with the opportunity to meet and discuss the issues surrounding IT Governance in a semi-formal setting. Given the comments made earlier on possible improvements to the sequencing and content of some of the sections, it provided a clear framework which ensured that the group were able to deduce quickly the current status and then move smoothly forward to develop a range of plans and options. The speed with which the project was progressed could not have been achieved without the constant thread of the toolkit.

May 2007

Appendix E

John Townsend - Curriculum Vitae 2007

Office Address:
Computing and Information Services
Liverpool John Moores University
JMU Tower
24 Norton St
Liverpool
L3 8PY
Tel 0151 231 5543

E-mail j.w.townsend@ljmu.ac.uk

Education	1996 - 1998	Open University
	MBA (Technology Management)	
	1971 - 1974	Liverpool Polytechnic
	BA General (External London) Upper Second in English Literature, History, Geography	
	1963 - 1970	Merchant Taylors School, Merseyside
	GCE 'O' Levels English (2), History (1), Geography (1), Latin (5), Physics (4), French (4), Chemistry (4) GCE 'A' Levels English Literature (B), Religious Knowledge (C), Geography (E), General Studies (B)	
Other Relevant Training	Between 1986 and 1993, wide variety of IT-related training courses with various providers in various areas e.g. database management, operating systems, networking, programming, systems analysis and design, structured approaches (SSADM), project management etc. From 1993 to date range of in-house management development training e.g. Conducting Appraisals; Equal Opportunities; Pro-Active Stress Management; Cultural Diversity etc May 2002, accredited Programme Management training course (Office of Government Commerce 'Managing Successful Programmes'), leading to Programme Management Practitioner qualification.	
Professional memberships	Professional member of British Computer Society Chair of Universities and Colleges Information Systems Association Corporate Information Systems Group	

Personal Profile

An experienced Information Systems manager with thirteen years in senior roles in Higher Education, including management of up to forty staff delivering a range of services to a variety of constituent bodies in large and complex organisations. Excellent communication skills, including preparation of management reports, bids, strategic plans and business cases, and delivery of same and other presentations to a range of audiences internally and externally and up to Board level. Experienced at negotiation and liaison with a range of suppliers of ICT goods and services, both within and above OJEC limits. An experienced and qualified project and programme manager, with a sound background in change management techniques and the application of appropriate technologies.

Present Employment

May 1998 – date **Liverpool John Moores University**
Deputy Director (Corporate Information Systems)

DUTIES AND RESPONSIBILITIES

- Overall responsibility for delivery of Corporate Information Systems services in support of management and administration of the University
- Management of the Corporate Applications Group (seventeen staff: technical, project and business analyst)
- Development of the University's Information Strategy in liaison with a number of senior colleagues
- Senior level management of major University information systems projects, including: business case preparation; procurement and contract management; implementation; financial control; risk management; alignment with business processes and staff capabilities
- Management of process reengineering initiatives and associated management development activities
- Programme Manager for the Universities £5,000,000, eight-year development portfolio, including implementation of the Oracle E-Business suite and associated supplier liaison, and associated change management activities
- Representing the University on relevant external bodies
- Liaison with a range of external bodies including central government agencies and commercial suppliers

ACHIEVEMENTS

- Introduction of the PRINCE2 project management methodology as a standard across the University
- Introduction of a structured methodology for Process Review and facilitation of a number of high level reviews
- Successful implementation of the CODA Finance system utilising PRINCE2
- Successful acquisition and implementation of the Oracle Student System, including extensive liaison at all levels across the University to ensure effective implementation across diverse communities
- Management of the development partnership with Oracle for the implementation of the Oracle E-Business suite, including extensive liaison with Oracle UK and US
- Introduction of Programme Management as a structured approach to managing change and coordination of development projects
- Adoption by the University of an eight-year integrated Development Programme including the introduction of an E-Business Suite strategy and a Balanced Scorecard approach to managing change
- Management of the procurement and contract negotiation in the Universities major software and services investment in the Oracle Student System, Campus Licence and E-Business Suite (total value of contracts c.£5,000,000).
- Delivery of presentations on various information systems and change management related topics both internally and at external conferences in the UK and abroad
- Contribution to the development and adoption of a new Governance framework for Information Management and associated Enterprise Architecture approach

Previous
employment

January 1993 – April 1998
Head of Computer Services

Edge Hill College of Higher Education

DUTIES AND RESPONSIBILITIES

- Overall responsibility for the provision of an effective and high quality Information and Communication Technology (ICT) service to staff and students
- Management of twenty-two full-time and up to twenty part-time staff
- Strategic development of the service and of IT within the College, routine operational management, and management of central IT budgets up to £3m per annum. Also as a member of the College's Senior Management Group, involvement in corporate strategic planning and policy making.

ACHIEVEMENTS

- Development of an effective integrated service
- Negotiation and implementation of Service Level Agreements for delivery of ICT services to the College's diverse constituent groups
- Development and implementation of the Information Strategy and alignment of ICT strategies with business direction
- Successful bidding for central government funds for major local and wide-area networking projects and contract negotiation and senior level management of delivery
- Representing the College on a DfEE working group on HE futures
- Delivery of presentations on change management and systems development both internally and at various external conferences.

May 1991 – December 1992
Head of MIS

Edge Hill College of Higher Education

DUTIES AND RESPONSIBILITIES

- Overall responsibility for development and support of administrative computing facilities
- Management of four staff involved in MIS development, support and training.
- Management of a variety of MIS-related projects

ACHIEVEMENTS

- Development of the MIS department into an effective development and support team.
- Introduction of an integrated networked service

January 1990 – April 1991
Systems Development Analyst

Edge Hill College of Higher Education

DUTIES AND RESPONSIBILITIES

- Support and development of administrative computing facilities

ACHIEVEMENTS

- Introduction of an effective support service for administrative users.

October 1988 – December 1989 **Department of Health
Medicines Control Agency (MCA)**

Technical Support Analyst

DUTIES AND RESPONSIBILITIES

- Provision of technical support and project management in relation to major IT projects
- Management of up to four staff engaged in projects.

ACHIEVEMENTS

- Successful conclusion to negotiations on the MCA Adverse Drug Reaction On-Line Information Tracking (ADROIT) system, a £2,000,000 contract to supply a system involving integration of relational database and optical storage technologies.
- Successful project management of the first phase of a £750,000 office automation project, up to selection of a structured cabling supplier and identification of software and hardware platforms.

November 1986 – September 1988 **Department of Health (MCA)**
Senior Systems Administrator

DUTIES AND RESPONSIBILITIES: Administration of the MCA minicomputer system,

April 1986 – October 1986 **Department of Health (MCA)**
Applications Programmer

DUTIES AND RESPONSIBILITIES Maintenance programming of Cobol applications accessing the main MCA database.

April 1985 – March 1986 **Department of Health and Social Security**
Data Processor

DUTIES AND RESPONSIBILITIES General data processing duties.

December 1983 – March 1985: Career review; investigating IT training opportunities; travelling

1974 – November 1983 **Inland Revenue**
Tax Officer/Tax Officer Higher Grade

DUTIES AND RESPONSIBILITIES: Operation of all aspects of the personal taxation of employees and company directors

References

Mr Steve Kenny
Pro-Vice Chancellor (Development)
Liverpool John Moores University
2 Rodney Street
Liverpool
L3 5UX

Tel. 0151 231 3510

Email: s.a.kenny@ljmu.ac.uk

Dr Jim Wrightson
Director of ICT
Liverpool John Moores University
JMU Tower
24 Norton Street
Liverpool
L3 8PY

Tel. 0151 231 5541

Email: j.r.wrightson@ljmu.ac.uk