# Programme Information Project

## Project Initiation Document

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Introductory Note

This project will be managed following PRINCE standards. A key document produced in the initiation stage of a project is the “Project Initiation Document” (PID). The PID shows the “what, why, who, how and when” of the project and is produced to obtain approval of the project by key stakeholders and then for guidance and information for all those involved in the project.

The use of the term programme throughout this document is taken as an umbrella term to covers programmes and all components of a programme eg courses.
1 Background

This project has been initiated because it has been recognised that an integrated university-wide system to support all processes and information requirements relating to programme and course management would deliver substantial benefits.

Programme and course management is central to the core business of teaching in the University. Information on programmes and courses is used extensively across the University, by virtually the entire University population including academic staff, administrative staff, existing students and applicants. The information is used for -

- Maintaining academic standards, including the programme approval and scrutiny processes
- Support for all student-related business processes, eg. to establish a graduating curriculum, to determine the level of tuition fees, to provide a record of assessment and results, degree validation and graduation.
- Communication with customers, both current and prospective students eg providing teaching and learning information to existing students, course handbooks, the prospectus, the UG course catalogue.
- University-level management information eg staff/student ratios, determining the distributed load/fee information to support resource allocation in the RAM
- External reporting requirements eg programme specifications to SFC.
- Operational issues such as course timetabling and exam timetabling

As a result the processes by which new programmes and courses are created and maintained is vitally important. There is currently no unified system managing this important area of the University’s core corporate information.

Problems with the existing programme & course approval system (CCIMS) are well recognised and widely accepted and there is demand for change. Although the system is web-based it is not easy to use, it is not integrated with standard desktop software such as excel or word, it is inflexible and it is a very poor fit against the requirements of the academic and departmental administrator involved in programme administration. As a result it is not maintained properly and procedures are circumvented. It is viewed as a “nuisance” amongst users and presents a “second layer” of mandatory work that is undertaken solely to obtain approval of programmes. It compares very poorly with the tools and technology that are now available to support business administration processes.

This system has a narrow focus, supporting only the programme and course approval process. The two key new areas are programme development and a central repository for all programme data to support the wide range of corporate information requirements. System solutions at a local level currently exist in these areas.

A group was initiated to review CCIMS in 2005. This group, “The CCIMS Review Group”, convened by Professor David Watt, concluded that the existing system should be replaced and that both programme approval procedures and programme structures should be reviewed.

The implementation of a new program information management system is part of the Teaching and Learning Strategy of the University

A project proposal, to introduce a new system was produced for review and approval by IPSC in March 2006. This proposal produced an outline scope for this project through consultation with academics and administrators representing all Faculties in the University. (The Outline Scope Report is Appendix A)
2 Project Definition

2.1 Project Objectives

The aim of this project is to provide efficient procedures and an integrated solution to support all aspects of the management and delivery of programmes throughout their life cycle.

The main objectives are –

- To implement procedures that support efficient data capture at source, with data available to all related processes and outputs.

- To provide university-wide systems to support all business processes and remove the requirement for local systems, and their inherent duplication of data and effort.

- To provide a central single data source for all programme information that will –
  - support the management information requirements of all stakeholders,
  - support data-sharing with other admin systems

  and hence will deliver -
  - reduction in duplication of effort and data,
  - improved data quality
  - improved security of corporate data,
  - improved access to corporate data.

- To utilise the latest technology available in commercial document management systems to support requirements of document development, data sharing and workflow.

- To provide efficient access to corporate systems and data through -
  - delivery of web-based processes.
  - delivery of key corporate publications on the web

- To streamline business processes and achieve efficiency gains, while recognising that valid differences in business needs across departments and Faculties do exist and require to be supported.

- To provide procedures and supporting systems that promote timely and accurate data maintenance and system integration, in recognition of the wide range of interdependencies in business processes supporting programme management, course administration and delivery and student-based administration.

- To deliver a product that is sufficiently flexible to support future changes in business needs.
2.2 Defined Method of Approach

2.2.1 Project Scope

The project will cover all business processes and management information requirements relating to programme and course management.

It is required to address the needs of all stakeholders, namely academic staff, administrative staff at departmental and Faculty level, relevant central administration offices, University committees that have a role in the approval process, students and potential applicants as customers and other individuals or bodies external to the University eg. external examiners.

The main programme management processes are development, approval, delivery, administration, change and withdrawal. This covers all events in the life-cycle of a programme or course, from the point of initiation through the stages of approval and thereafter administration of a “live” course.

The project will deliver a central repository of all data relating to programme and course information. This information will be available to all stakeholders and there will be a range of methods of accessing this data eg web, download, printed documents.

The project will be responsible for delivery of a corporate level comprehensive course catalogue. This will be available in a web-based format, providing the facility to link from departmental websites.

The project will provide systems and new business processes to support the programme and course approval procedures (currently under review) and all programme management procedures. The system will be designed to provide flexibility that will support future changes to the approval procedures.

The project will enhance integration with administrative systems by improving the existing interfaces eg Student Records (including WebSURF), Central Room Bookings and VLEs (Moodle) and develop new interfaces, where efficiencies can be achieved eg Library and External Examiners system.

The scope of this project is significantly wider than merely a replacement of the existing CCIMS, which currently supports the programme & course approval process. It includes processes that are currently supported locally, eg programme & course development, and the provision of a definitive, comprehensive central information source on programmes, where currently data is held locally and in a variety of versions and formats.

By providing a comprehensive and integrated system that addresses all stakeholder requirements, the project aims to support a cultural shift from using local course information systems to faith and reliance on a central system.

The context diagram, which follows, shows the new programme and course information system and how it interacts with other student information systems. The new system will be fully integrated with the existing student record system’s components, such as the examination and the direct admissions. Additional interfaces will be developed with other, related systems eg room bookings. Output from the system will include publications to websites, such as WebSURF and VLEs. A substantial number of these interfaces will be facilitated by the use of a document management system that will complement the database management system technology and will support a managed repository for documents and workflow for business processes.
2.2.2 Project Deliverables

The main deliverables are –

- New programme information management system that -
  - is web-based.
  - includes an integrated document management system for content and workflow management.
- Revised business processes to support programme and course management procedures, including approval procedures.
- A central repository of programme information that -
  - Provides comprehensive, high quality data
  - Supports a single web-based catalogue of programmes and courses.
  - Supports the wide range of corporate management information requirements.
  - Supports automation of student-based processes in SR.
- Efficient data-sharing mechanisms with other corporate systems.
- To effect cultural change and move from reliance on locally developed systems to a central system.

2.2.3 Exclusions

There are a number of items that are closely related to this project but that do not fall within the remit of the project.

- Procurement of a Document Management System

Central to the provision of a system to support the programme development and approval processes is the use of a document management system. The procurement of the document
management system is not within the scope of this project, but is to be managed as a separate project.

- New Programme Approval procedures

The approval procedures for programmes and courses are currently being reviewed by a subgroup of the Academic Standards Committee (ASC). This review is not part of this project. The outcome of this review will inform the required business processes. The aim of this project is to provide a flexible, future-proofed system to support programme approval procedures thus the system will be designed with a high level of flexibility around the concept of an approval process. It will then be configured to support the approval procedures in place at the time of implementation.

- Academic structures

There is a review currently being undertaken on the academic structures in the University to determine if these can be streamlined and simplified. This review does not form part of this project, but will inform the requirements of the project.

- Final reports / documents.

The aim of this system is to provide a comprehensive single-source of data on programmes and courses. Responsibility for production of all final reports/publications does not fall within the remit of the project. The aim of this project is to provide the data source, with appropriate enquiry tools or data extracts to support report production. The exception to this is provision of the corporate level course catalogue.

- Student Record system processes

The aim of this project is to provide a central data repository. The provision of this data will allow greater automation of processes in SR. It is not in the remit of this project to provide the revised processes in SR.

2.2.4 Constraints

- Academic department staff resource

There are a number of roles in programme management that are undertaken at academic department level. As a result this project will involve both academic and administrative staff in all academic departments. It will be necessary to work with these staff throughout the project for the purposes of consultation, approval, communication, training etc. The engagement of staff at department level is vital to the success of the project. There will be limitations on the availability of staff time in academic departments and this must be recognised and managed appropriately.

- Faculty staff resource

A similar situation to the above will also exist at Faculty level. The availability of Faculty staff time will be limited and this must be recognised and managed appropriately.

- Annual cycle

The majority of the processes and reporting outputs relating to programme management follow an annual cycle. This will have an impact on the identification of all requirements, as it is more difficult to capture requirements that are only undertaken annually compared to those that are undertaken on a more regular basis.
2.2.5 Identification of Stakeholders

All individuals or groups of individuals who have an interest in the project are identified as stakeholders at the outset of the project. Stakeholders are defined in terms of their role in the project, with individuals then linked to roles. As a result individuals may have more than one role in the project.

The stakeholder listing will be used to ensure consultation, requirements gathering, communication, information dissemination and training are appropriately directed. It will also be used to manage risks associated with stakeholders and in particular manage their expectations.

All stakeholder roles in the project have been identified in Appendix B – Stakeholder roles.

There are a wide range of stakeholders in this project, from academics who generate ideas for new programmes and courses, to Academic Scrutiny Groups and students viewing course information on the web. A significant number of the roles are in academic departments. The diversity and volume in stakeholders impacts the project. In addition the focus on cultural change means that stakeholder engagement with the project is critical to the success of the project.

As a result of these factors significant effort will be required in tasks associated with user consultation, information dissemination and training.

The project is closely linked with two other projects, SRIP and the Electronic Document and Records Management System (EDRMS) Project.

The implementation of a document management system is fundamental to achieving the deliverables of this project. The links are technical and project management & planning. The plans for each project require to be produced in tandem, as many tasks in the initial stages of requirement gathering and analysis are to be undertaken by members of both project teams. The development teams in each project will also work closely together in the analysis and development stages of the project.

The same individual is to undertake project management of both this and the EDRMS Project, which will ensure the projects are fully coordinated.

The link with SRIP requires a coordinated approach to any interdependencies between projects. No major issues have been identified at this stage. The link will be maintained through –
- Business interest - Andrea Nolan, as Convenor of this PB and a member of the SRIP PB,
- Technical link - Helen MacPherson on the PB for this project and a member of the SRIP project team and
- Project management and planning – liaison between the Project Managers of this project and SRIP.

A group has been established, “The Academic Structures Group”, to review academic structures. Professor David Watt convenes the group whose aim is to provide recommendations for simplifying academic structures. The recommendations from this review are planned for implementation in session 2007/08. This will impact the requirements for this project. It will be important for this project to work alongside the other administrative functions involved in the implementation of the new structures. The Convenor of the Group, Professor Watt will be a member of the Project Board and will be required to approve the solutions provided by the project team to support the academic structures.

The Academic Standards Committee (ASC) has established a sub-group to review the programme approval procedures. The relationship between the sub-group and this project should be clarified as part of defining the project. Three groups will be involved in determining
the new procedures - the ASC sub-group, the project team and a group of user representatives (the users team). The ASC sub-group will provide high level requirements for the approval procedures and the user representatives will provide information on operational issues. The project team will use this information and knowledge of the systems options to produce proposed business processes. These processes must be formally approved by the Convenor of the ASC Sub-group.

Additional roles may be identified during the analysis stage of the project because the scope of this project extends beyond the boundaries of the existing system. The stakeholder listing will be reviewed at the end of the analysis stage and updated as necessary.
2.2.6 Production of Requirements

2.2.6.1 Requirement Gathering Stage

Requirement gathering is a very important phase of any system development project, since it determines the final products to be delivered. For this reason the approach and those involved must be given careful consideration.

In this project there are a wide range of roles and a large volume of stakeholders who will be users of the final system products. Consultation with a large number of users at this stage will be important to ensure users engage with the project and appropriate resources and planning must be allocated to this phase of the project.

A combination of the following techniques will used to gather requirements:

- **Interviews** Individual or small group interviews are useful but it must be recognised that the information gathered is the viewpoint of one (or a small number) of individuals.
- **Document Analysis** Existing guidelines and procedures notes, where available will be analysed.
- **Brainstorming** Brainstorming will be used for encouraging original thinking and unusual ideas.
- **Requirements Workshops** Requirements workshops will be used to encourage consensus concerning conflicting requirements. Senior users with a good understanding of the business needs will be asked to facilitate the requirement workshops.
- **Use Cases** A use case is a picture of actions a system performs, depicting the actors, accompanied by a narrative description. These are a useful tool, showing the proposed sequences of events and providing a common language for end users and the technical team. This technique will be used towards the end of the requirements analysis stage to confirm the understanding of requirements between the technical team and the users.

It is anticipated that there will be a diversity of approach in current processes given that local systems are currently utilised. One of the aims of this project is to streamline procedures where possible, in tandem with recognition of valid differences in business needs across departments and Faculties that must be appropriately supported. All of the above techniques will be employed in this project, however the benefits of using requirements workshops are very relevant to this project.

Planning for the consultation stage has started. Around 40 interviews will be undertaken to support identification of all stakeholder requirements and 4 requirements workshops are planned to follow the interviews.

2.2.6.2 Finalise the Scope

The Project Board will study the Project Scope already produced for the project proposal, if required amend it, and formally approve it.

2.2.6.3 Identify the needs of each group of stakeholders

Using the requirement gathering techniques described above, the needs of each stakeholder will be identified.

- Identify and describe current system(s) used by them. These systems are likely to be a combination of computerised and manual systems
- Identify problems with the current system(s)
- Identify requirements not addressed by the existing system
- Produce the overall requirements to be addressed by the new system (this must cover current functionality as well as additional requirements). This is known as the Stakeholders’ Listing of Requirements. These will be produced for each group of stakeholders.
- The user team will approve the Stakeholder Listing of Requirements.
• Each requirement will be given a priority rating of low, medium or high. All high priority requirements will be treated as essential.

2.2.6.4 Consolidate Requirements

• Combine and rationalise all stakeholders’ lists of requirements.
• Conduct a gap analysis of the Project Scope and the Combined Requirement list.
• If required amend the requirement list and produce the Consolidated Requirements Listing.
2.2.7 Preparation of Business System Options

The aim of producing business system options is to determine an agreed set of business processes to be supported by the system. This provides the boundary for the system and determines the requirements to be addressed by the system. It follows the requirements gathering stage.

A set of business system options will be produced, which will provide a number of possible solutions each of which would satisfy the user requirements to a greater or lesser extent. All business system options produced will fulfill the essential requirements and a range of additional requirements. Information will be provided on the impact each option will have on the development and implementation phases of the project. These options should be evaluated from the business perspective. It is unlikely that there will be radical differences between the individual options.

Business System Options will be narrative documents supported by diagrams to illustrate the processes to be supported by the system.

2.2.8 Selection of Business System Option

The set of business system options (BSOs) will be presented to the user team for selection of the preferred option. Reasons for adopting the preferred BSO and rejecting the other BSOs will be recorded. This information will be provided to the Project Board, which will be required to ratify this decision. In the event of the user group being unable to reach a consensus decision on the preferred BSO the issue will be referred to the Project Convenor.

2.2.9 Preparation of Technical Options

Technical Options (TOs) show the possible solutions, each of which would satisfy the user requirements. Each alternative Technical System Option presents a high-level system design, and is evaluated from the technical aspects. The documentation provides management with information:
- on the project's way ahead, shape, timing, costs, implications and timescales
- relating to the potential functionality of the system.

In parallel with the Business System Options preparation the Project Team will examine the potential technical solutions to address the needs as described in Business Systems Options.

Potential solutions could be categorised into:
- One or more third party package(s) addressing all needs of programme information management as an integrated entity, or
- A mixture of in-house developed software and third party package(s).
In each case the potential solution must integrate/interface with all related systems identified in the scope of the project.

The approach taken in this project is to assume that a commercial document management (DM) system is going to provide solutions, as a minimum, to the document creation and management requirements and the workflow requirements. It is not known at this stage where the boundaries between the DM system and other potential system solutions will be.

As a result the key issues regarding the technical solution options are what requirements are to be satisfied using –
- the document management system
- another 3rd party component
- in-house development
- and what are the implications for data interfaces and data integration of each possible solution
Prior to identifying potential solution the overall system will be partitioned into a number of coupled components with clear communication protocols between them.

The standard approach to identifying appropriate third party tools is:
- Review the market for products addressing the approved requirements.
- Reject products that do not address essential needs or cannot integrate / interface with other products.
- Identify approximate costs involved.
- Initiate package tender and evaluation processes.

The standard approach to deliver an in-house developed solution is:
- Produce high-level description for each component of the overall system.
- Produce high-level description for the communication protocol between components.
- Assess resource requirements.
- Plan development work.

2.2.10 Selection of technical option

The approach to be undertaken in this project will be:
- Identify components of the system that could be addressed by the document management system.
- Identify requirements relevant to each remaining component and determine if there is, potentially, a third party solution.
- Initiate third-party software evaluation for each component.

If there is a potential need for in-house development then:
- Identify those components that there is no viable third party solution.
- Produce detailed specification including communication protocol.
- Produce various scenarios, if possible.
- Initiate development.

The preferred option is selected based on the assumption that third party solutions will be subject to evaluation and if none pass the evaluation an in-house solution will require to be developed.

If there are possible options in terms of what components of the project are delivered using the document management system and other system solutions, then these options will be documented as TSOs.

Each TSO will be evaluated in terms of fit to user requirements, impact on interfaces and integration and implications for project resources, timescales and risk factors. A preferred TSO will be identified.

The preferred TSO will be presented to the Project Board for approval.

The selected TSO will have a significant impact on project plans from this point inwards, hence selection of a TSO represents the end of one stage of a project and is the basis for the design and development stages.

A high-level product flow diagram of the analysis stage of the project is in Appendix C – High Level Product Flow Diagram.

2.2.11 Design and Development Stages.

The design and development stage follows the selection of a business system option and a technical system option, which form the basis of the system solution.
The following are the main products of this phase –

- Specification of in-house developed components.
- Specification of third party procured components.
- Specification of systems interfaces.
- In-house developed software
- Third party products.

The required system must be fully specified at the start of this stage. The project team must provide detailed information on how the completed system should operate and must approve the final specification. For in-house components technical tools such as class diagrams will be used to support the specifications.

Once the specification is complete, in-house software is produced and/or 3rd party software is configured to fulfill the project requirements. The development team will deliver any in-house components. 3rd party software needs to be installed and configured to meet our requirements, which may involve delivery of training in the product, by the software supplier and the use of consultancy services from the supplier to support the configuration work.

During this phase prototypes will be developed and presented to the project team user representatives for review and feedback. This is an iterative process, with feedback from users being used to inform the final products of the development stages. This will ensure the final system fulfills requirements and meets user expectations.

2.2.12 Integration / Interfaces with other systems

The following existing interfaces are included in the scope of this project –

- Student Record system
- Central Room Bookings
- Direct Admissions
- VLE - Moodle

The aim of the project will be to enhance these existing interfaces through provision of new data and through improved data quality. The interface with room bookings can be improved in terms of frequency of the data exchange and expansion of the data transferred possibly to include proposed courses and withdrawn courses. Data quality must be improved to support this interface. Eg withdrawn courses are not up-dated regularly on the current system.

The student record interface could be improved by the inclusion of more data that would support automation of student-based processes. Data quality is an issue and these benefits would only be generated by making maintenance of the required data mandatory.

The option of developing new interfaces with the following systems will be investigated in this project.

- External Examiners system
- Library system

The same approach will be used for documenting requirements and developing solutions for each interface as for all other specialist products of the project. The stakeholder for each interface has been identified in the Stakeholder listing. These individuals will not be part of the project team, but will be consulted separately regarding their requirements and acceptable solutions.

Development of interfaces is primarily technical work and will form a separate workstream in the project plan.
It is anticipated that, to achieve efficiency gains, it will be necessary for the document management system to be integrated with existing administrative systems (e.g., the SR system) and any in-house or third-party products implemented in this project. At this stage in the project, there is limited knowledge about the potential for integration, the development work required, and any problems that may arise. This issue has been included in the risk log.

### 2.2.13 User Acceptance testing

User Acceptance Testing (UAT) is a critical stage of this project's lifecycle and requires significant participation by the 'End Users'. To ensure appropriate testing is undertaken, an Acceptance Test Plan will be developed in order to plan precisely, and in detail, the means by which 'Acceptance' will be achieved. The final part of the UAT may also include a parallel run to prove the system against the current CCIMS system.

The testing will be planned in order to provide a realistic and adequate exposure of the system to all reasonably expected events.

The test cases developed will be based upon the Stakeholder Listing of Requirements and test procedures will closely resemble the real operational procedures. All test results will be recorded and reviewed.

In order to manage the responses to errors detected during the UAT, errors reported will be allocated a 'Severity Level'.

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<th>Severity Level</th>
<th>Description</th>
<th>Action</th>
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<tr>
<td>1</td>
<td>Show Stopper</td>
<td>It is impossible to continue with the testing because of the severity of this error / bug</td>
</tr>
<tr>
<td>2</td>
<td>Critical Problem</td>
<td>Testing can continue but we cannot go into production (live) with this problem</td>
</tr>
<tr>
<td>3</td>
<td>Major Problem</td>
<td>Testing can continue but this feature will cause severe disruption to business processes in live operation.</td>
</tr>
<tr>
<td>4</td>
<td>Medium Problem</td>
<td>Testing can continue and the system is likely to go live with only minimal departure from agreed business processes</td>
</tr>
<tr>
<td>5</td>
<td>Minor Problem</td>
<td>Both testing and live operations may progress. This problem should be corrected, but little or no changes to business processes are envisaged</td>
</tr>
<tr>
<td>6</td>
<td>Cosmetic</td>
<td>No impact on testing or live. e.g. colours; fonts; pitch</td>
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It is possible that the classification of errors may be the subject of disagreement between the user(s) and the development team. A process will be established to escalate any classification issues that cannot be resolved, to avoid the risk of lengthy and protracted exchanges over the categorisation of problems. Any issues that cannot be resolved between the user and the project team will be raised with the relevant Senior User on the Project Board.
Finally, it will be appreciated that no system is entirely fault free and for this reason End Users and the Project Manager will agree on the maximum number of acceptable 'outstandings' in any particular category, subject to approval by the Project Board.

The final product of the UAT is the completed UAT plan, supported by test cases signed off by users.

### 2.2.14 Implementation and Rollout

Two alternative options regarding implementation and rollout have been considered, namely full implementation in October 2007 or a pilot in 2007 with full rollout in 2008.

The implementation approach adopted must address a number of business related risks and issues to ensure that the project is successful in delivering benefits. These issues are -

- Acceptance of the system by users.
- Delivery of a system that addresses business needs.
- Adoption by all users of a set of streamlined business processes. This requires successful change management that would be achieved by encouraging users to use similar methods to address business needs and in doing so remove the need for parallel systems.

The initial high level project plan produced with the project brief was based on option 1. This plan has been developed further for this PID and forms the baseline for comparing the two options.

#### Option 1: Pilot in 2007

This approach would involve two Faculties and all related departments using the new system for a complete academic session. The focus would be on programme development, approval, administration, delivery and change processes. The implementation of the document management system would be an important aspect of the pilot. This will introduce very different ways of working for all users.

Existing interfaces would be maintained during the pilot, with new interfaces implemented at the point of full rollout. The web-based catalogue would not form part of scope of pilot.

The benefits obtained by undertaking a pilot would be:

- The delivery of a high quality final product, which is an improved fit to requirements.
- Robust and streamlined business processes that have been fully tested in a real environment.
- Longer timescales in which to address the issues of culture change.
- The adoption of a pilot phase will allow for a more imaginative solutions to be developed since there will be more time to explore different options. Full rollout without a pilot is a riskier approach to implementation and would result in low risk strategies being adopted for the system solutions.

Consultation on the pilot approach was undertaken. The outcome was:

- Consultation with users has resulted in overwhelming support for a pilot phase. This support came from a range of stakeholders including administrative departments such as Registry and Senate Office, administrative staff in departments and also Faculties and academic staff. Users strongly believe that logistical issues related to not using a pilot phase will derail implementation, resulting in a repeat of the CCIMS experience.
- The focus of users was on the requirement to provide a flexible system that supported requirements across all Departments/Faculties and provision of a solution that provided support for activities in academic departments and the Faculties and did not add to workload. Support from the project team for establishing revised business processes will be important in ensuring departments adopt efficient procedures with the new system.
The success of WebSURF is attributed to a successful pilot and appropriate time spent on consultation, review of Faculty procedures, central support for developing new procedures, system demonstrations, communication & training, which the extended implementation period allowed. Users indicated that they wished to see a similar approach adopted in this project.

The aim of this project is to support a much broader range of processes than current CCIMS system supports, which are currently determined locally. Adoption of a similar process of consultation, central support, demonstration, communication etc will be required. The system will also introduce new interfaces eg to VLEs.

The user base for the new system will be much wider than the current user base. The system is to be used by academics, dept admin staff and Faculty admin staff (with many more academics as casual users) The volume of consultation, training, support etc will be much higher than that of WebSURF.

The pilot approach also addresses some of the risks to the project:

- A high risk to this project is lack of system acceptance and a successful pilot would improve the quality of the final product.
- The problems and resulting lack of popularity/fit of the existing system arose as a result of the system being rushed to implementation. A pilot could have avoided this. Adoption of a pilot phase will demonstrate to users that lessons are being learned from previous mistakes.
- The processes that are to be supported are part of an annual cycle. There is concern that there is high risk of not identifying all requirements unless a pilot phase, covering the full cycle, is undertaken. It is difficult for individuals to identify all tasks/ requirements that are only undertaken once per year.
- There is a need to address the existing cynicism for the CCIMS system and central systems. A successful pilot, proving that the system works and provides benefits may be a solution to this.
- There is a risk that, by not acknowledging the feedback received from users regarding the use of a pilot, that the academic community will view this implementation as yet another system being imposed by the centre to a timescale that suits the centre but not the departments.

The implementation of a document management system also supports the pilot approach:

- The approach advised by software companies offering Document Management systems is to undertake a pilot prior to full rollout.
- Experiences at other HEIs have supported this view.
- This is partly based on the requirement to have very full and precise information on required business processes prior to implementation of a DM system.
- In addition the culture change and amendment to working practices involved in a DM system mean that a successful pilot provides additional support for achieving this change.

The disadvantages of the pilot are:

- Delivery of system to all users is full academic session later
- Interim arrangements required to support two systems and data integration requirements arising from this.

**Option 2: Full Rollout in 2007**

This approach would involve delivering a new system, including new interfaces, to all Faculties and Departments in October 2007. To achieve this it would be necessary to increase resources allocated to some phases of the project, replace piloting with a higher volume of testing and deliver standard core business processes –
• Increase the resources allocated to analysis stage of the project

Additional resources, obtained on a contract basis could undertake part of the analysis stage. This could reduce the timescales involved and support earlier completion of the analysis stage. However it is already going to be necessary to use consultancy or contract staff to meet the original deadlines set in the Project Brief for the analysis stage as a result of the lack of dedicated project resources available at the start of the project.

• Replace pilot with increased level of testing

The quality level required for delivery of a system to a pilot audience would be lower than that required for full rollout to all users. The level of testing would need to be increased to ensure the final product reaches the required quality level for full rollout. This will increase the testing phase of the project, and the resource input by the development team and by users.

• Deliver standard core business processes

A key deliverable of the project is the introduction of a set of streamlined business processes, with the aim that all users will utilise a sub-set of these processes, as appropriate, to address their business needs. It is recognised that currently there are a large number of different working practices in Departments and Faculties because these have been determined locally. The new business processes must replace these current business practices (where appropriate) and interact with a number of local business processes (which are outwith the scope of this project).

An extended implementation phase is included in the project plan to provide sufficient time for the project team to support Departments and Faculties in replacing existing processes with the new set of business processes and to integrate these efficiently with any local business processes. This work will be undertaken with the pilot sites prior to implementation in October 2007, and for all other departments and Faculties prior to full rollout in October 2008.

If the task (of provision of support for replacement of existing processes and integration of local business processes, with the new set of business processes) was removed from the project plan, with only a set of standard core business processes provided to users, then the implementation phase could be reduced.

Impact on the initial project plan

To deliver full rollout in October 2007 rather than a pilot in 2007 and full rollout in 2008 significantly increases the work to be completed by October 2007.

The plan is based on delivery of a pilot in October has an initial implementation phase of 7 weeks. This will provide support for integrating existing and new business processes in the two pilot Faculties. This would need to be replaced with provision of training for the standard core business processes across 100+ departments and 10 Faculties. Training would be undertaken over the summer and this could be restricted by availability of appropriate staff in academic departments. This would extend the implementation phase in the plan. In the pilot option, there would be more flexibility regarding the timing of training.

The increase in both testing stages and implementation stages will impact the time available for the design and development stage. This would need to be completed much earlier than planned, however this is restricted by the timescales for procurement of the document management system. This will require to be advertised in the European Journal and follow the appropriate timescales for this process. Procurement is not expected to be complete until the end of April.
The feasibility of achieving full rollout in 2007 is questionable given the very tight timescales for procurement of the document management system already established.

Summary and Recommendation

When comparing the two approaches, option 1 provides many advantages in addressing the issues of culture change that are central to this project (both in terms of use of a single university-wide system and the use of new technology), the risk of lack of system acceptance and the requirement to maximise the quality of the final deliverables. Option 2 is a high risk approach that will deliver benefits on a shorter timescale.

The pilot approach was selected by the Project Board on 27 June 2006, as the approved approach for the Project. The remainder of the PID reflects this decision.
2.2.15 Post Implementation Strategy

In the long run the real success of this project can only be measured by the sustainability of the solutions it delivered. This will not happen without the introduction of coordinated and effective post-implementation support procedures for the products of this project prior to closure of the project.

In the past many of the University corporate projects did not recognise the importance of establishing proper post-implementation support mechanisms. For this reason not all potential benefits anticipated from these projects have been realised and in some cases frustrated users stopped using these systems altogether.

As part of the final stage of this project the project manager will develop a post implementation support strategy describing the approach to customer relationship management including day to day support issues (e.g. advising in use of the system, training, bug fixes, etc), tackling new requirements identified by users (e.g. a new report) and addressing new requirements initiated as a result of changes to the business environment (e.g. introduction of new course/programme approval procedures). The strategy will also define roles and responsibilities and the level of resources required. Following approval of the post implementation support strategy by the Project Board, post-implementation support procedures will be developed and implemented. The post implementation support strategy will not cover system support issues as well established procedures already exist in this area.

2.2.16 Project Closure

End Project Report

It is important to formally close a project. The main tasks to be addressed in this phase are –

- Obtain agreement that the final products of the project have been completed and accepted by users.
- Obtain agreement that all required operational procedures are in place, with documentation and training completed.
- Allocate responsibility for implementation and operation of approved support procedures.
- Identify any follow-up actions from the Issues Log and allocate responsibility for these items to the relevant individual.
- Produce a Lessons Learned Report for use across the Institution to inform other projects of the experiences of this project. This Report should be developed on an ongoing basis throughout the lifecycle of the project to capture the successful and less successful procedures and approaches undertaken during the project.

An “End Project” Report should be produced to document the outcomes of the above tasks and used to formally close the project.

Post Project Review

In many cases the benefits (or unexpected problems) of a project can’t be assessed until the change has been in place for some time. The review process is therefore incomplete without a post project review and evaluation. This is required to check whether:

- outcomes are those expected
- projected benefits have occurred;
- operational working is as planned;
- costs are as expected.

The “Post Project Review” would be produced with reference to the Project Initiation Document where these items were originally defined for the project.
3 Assumptions

- The approach adopted is valid and accepted by the Project Board
- Current goals and objectives remain valid for the duration of the project.
- The scope of the project remains as stated at the initiation stage.
- All identified project risks are managed appropriately.
- Project Management actively engage in identification of risks to the project for the duration of the project.
- Resources will be available to support the plan.
- The plan is based on usage of existing technologies and methodologies.
- It is assumed that a commercial document management system will be available to fulfil requirements relating to document creation & management and workflow.
- The document management system will be available per the timescales indicated in the plan.
- The document management system will be able to be integrated with separate administrative systems, with the link between the system(s) driven two-ways.
- The plan has been produced based on the assumption that a pilot will be undertaken for academic session 2007/08 with full rollout in academic session 2008/09. (See Section 2.2.13)
- Sufficient information on integration facilities for document management system software will be available to support initiation of the design and development stages of the system in mid-November. If this is not the case the design stages of the project will be delayed until procurement is complete. This will invalidate the current plan.
- Staff resources identified but not yet recruited will be available by the summer to support delivery of requirements listing to ERDMS suppliers per ERDMS project plan.
- The detailed stage plans are based on the assumption of 190 man days per year.
4 Business Benefits and Costs

4.1 Benefits
The introduction of a comprehensive programme information system and revised procedures will bring many benefits in improved efficiency and service.

Tangible

- A reliable and user-friendly central system would reduce duplication by removing the need for local systems.
- Improved data quality will be achieved by gathering information at source and having it easily available to all concerned.
- A streamlined programme & course approval process and user-friendly system to support it will save considerable resources.
- A comprehensive Web catalogue would save money by reducing the need for publications in faculties and departments, such as printed course information sheets.
- Cleaner data will reduce the amount of staff time in departments and central administration spent on support.
- More accurate course information will give savings in space utilisation.
- Improved security and accessibility of corporate data

Intangible

- Improved data quality and access to data will improve service to students.
- A reliable web catalogue of courses and programmes, which is accessible to the public, will potentially increase applications.
- Improved data quality will enhance the quality of other related systems.
- Perceived ownership of data encourages good practice in maintaining it.
- The system will support the strategic aims of the University by encouraging new programme development with an improved course/programme approval process.
- Better programme & course information facilitates the analysis of student progress and validation of graduating curricula.
- Ease of access will encourage collaboration and improve the operation of the approval process.
- The University’s reputation and public standing will be enhanced by improved quality in its public data.

4.2 Costs
Based on the project level plan the total costs for additional staff resources for the project would be –

<table>
<thead>
<tr>
<th>Role</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyst Programmers (2) for 2 years</td>
<td>200,000</td>
</tr>
<tr>
<td>Consultancy</td>
<td>40,000</td>
</tr>
<tr>
<td>Project Manager for 2 years</td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340,000</strong></td>
</tr>
</tbody>
</table>

The cost of the document management system is not included in this project.

The internal cost of resources supplied by project team members, system users and other stakeholders for consultation, analysis, testing and training has not been estimated. There will be a requirement for a large input of time from some groups of stakeholders.
5 Project Organisation Structure

The project management structure reflects the standard PRINCE approach, with all roles identified and assigned to appropriate individuals. A set of standard project roles has been developed by the Project Office as part of the Project Management methodology.

Programme Board

The role of Programme Board is undertaken by IPSC, which has the responsibility of ensuring this project fits in with the strategic objectives of the University.

Project Board

The project is directed by the Project Board, which contains representation for the business needs, user requirements, the technical support and supplier (if applicable). There will be representation on the Board for Academic Departments, Faculties and the relevant Administrative Offices.

The Convenor of the Project Board and Project Sponsor is Professor Andrea Nolan, Vice-Principal for Learning and Teaching.

Project Manager

The Project Manager is responsible for ensuring that the project produces the required products, to the required standards, within the timescales and costs agreed. The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board.

The project manager is Joan Shearer (MIS).

Project Team

The Project Team is responsible for executing tasks and producing deliverables as outlined in the project plan.

There will be two groups in the project team –

- a development team responsible for conducting analysis, requirement gathering, development, etc that will consist of staff from relevant internal departments and if required suppliers of third party packages.

- a user team consisting of a number of individuals representing a range of stakeholder roles. Responsible for identifying business needs and ensuring that the delivered solutions address those needs. The membership of this team is very important, as this group will be required to undertake a quality assurance role and approve products of the project.

The project management structure is reflected in Appendix D - Project Organisation Structure. At this stage individuals have not been identified for all roles. This will be addressed during detailed planning of the analysis stage of the project.

A copy of the standard project roles can be obtained from the project manager and will be available on the Project Office web site in the future.
6 Communication Plan

Communication with all appropriate parties in the project on a timely basis, by an appropriate method will contribute to the success of the project. A wide range of stakeholders have been identified, all of who are required to engage with the project for the project to be successful. Poor communication could, for example, result in a product that does not match requirements resulting in low adoption of the system by users.

The communication plan identifies stakeholders and records their information needs, the methods of communication to be used and the appropriate timing. Communication planning helps to ensure that everyone who needs to be informed about project activities and results gets the required information.

The initial communication plan is attached in Appendix E – Communication Plan.

This plan will be reviewed, and up-dated where necessary, as part of the detailing planning of each project stage.
7 Project Quality Plan

The Project Board has overall responsibility for quality assurance.

Quality is controlled through the identification of quality criteria for all products, both specialist and management, of the project on an individual basis. The method of assessing quality and whether the desired level has been achieved is also determined on an individual product basis.
The quality criteria and approval methods will be determined for each stage of the project and will be included in the stage plans.

In many cases the Project Board will delegate the responsibility for quality assurance to the appropriate stakeholder(s) eg the user team will approve the Stakeholder's Requirements Listing.

All products in this project are listed in Appendix F – Product Listing, with information on the proposed quality assurance approval required. This listing will be up-dated during the life of the project.
8 Initial Project Plan

An initial project level plan is produced as part of the PID to provide an overview of the whole project. The project level plan identifies the major milestones in the project and the main stages of the project. This supports management and control of the project by the project manager and the Project Board.

The initial project plan is in Appendix G – Project Level Plan.

The plan is based on delivery of both specialist and management products for the project.

At this early stage of the project, as in all projects where information is not complete, it is not possible to identify all tasks and required resources for each stage of the project. The work in one phase is based on the findings of the previous phase. The timescales and deadlines for the phases identified in the project plan may change based on the findings of each stage.

At this stage the project plan has been produced based on a deliverable date for a pilot of October 2007.

It is important that the pilot is undertaken for a full academic session and the beginning of the session is the appropriate point in the cycle to commence the pilot phase, hence this date represents a constraint on the project.

The plan reflects the key milestones of the ERDMS project. The initial stages of these projects, at least until the point of installation of the software, are closely linked. The milestones for the evaluation and procurement of the EDRMS have been produced to support deliverables of this project. The timescales for these are very tight and are dependant on the identified resources being available.

Additional resources of two analyst/programmers have been identified for this project. These resources are required to undertake the analysis phase of the project. However the staff have still to be recruited. It will be possible to begin the analysis phase by temporary redeployment of existing resources in MIS, however it will be necessary to have the dedicated project resource available from August onwards to support delivery of the project milestones and ensure the project team develop the required level of knowledge in the analysis stage.
Key milestones and product delivery dates are –

<table>
<thead>
<tr>
<th>Item delivered /completed</th>
<th>Approval</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PID</td>
<td>Project Board</td>
<td>16 June 2006</td>
</tr>
<tr>
<td>Selected Business System Options</td>
<td>User Team</td>
<td>23 Nov 2006</td>
</tr>
<tr>
<td>Analysis Stage</td>
<td>Project Board</td>
<td>30 Nov 2006</td>
</tr>
<tr>
<td>EDRMS Software selected</td>
<td>EDRMS Project Board</td>
<td>March 2007</td>
</tr>
<tr>
<td>Development / Alpha testing</td>
<td>Senior Technical</td>
<td>June 2007</td>
</tr>
<tr>
<td>User Acceptance Testing</td>
<td>User team</td>
<td>August 2007</td>
</tr>
<tr>
<td>Design and Development Stage</td>
<td>Project Board</td>
<td>August 2007</td>
</tr>
<tr>
<td>Pilot Implementation</td>
<td>Project Board</td>
<td>October 2007</td>
</tr>
<tr>
<td>Pilot Review</td>
<td>Project Board</td>
<td>May 2008</td>
</tr>
<tr>
<td>Full Rollout</td>
<td>Project Board</td>
<td>October 2008</td>
</tr>
<tr>
<td>Web catalogue</td>
<td>Project Board</td>
<td>March 2009</td>
</tr>
</tbody>
</table>
9     Project Controls

The main project controls are –

9.1     Plans

9.1.1     Project plan

An initial project level plan is produced as part of the PID to provide an overview of the whole project. The project level plan identifies the major milestones in the project and the main stages of the project. This supports management and control of the project by the project manager and the Project Board.

9.1.2     Stage Plans

The project will be managed through the use of stage plans. Detailed planning will be undertaken prior to each stage, producing a stage plan for approval by the Project Board. Risks and assumptions associated with stage plans will form part of the documentation on the plan.

9.2     Reports

9.2.1     Monthly Progress Reports to Project Board Convenor

Monthly Progress Reports will be sent to the Project Convenor that will report on progress, project issues, risk log issues and any other matters arising. These reports will be primarily for information but may include items to be approved by the Project Convenor. Once approved by the Convenor, these reports will be available to the Project Board.

9.2.2     End Stage Reports

At the end of each stage of the project a report will be provided to the Project Board containing –

- Report on completion of project stage
- Detailed stage plan for next stage
- Up-dated Risk log
- Up-dated Issues Log

The Project Manager is responsible for production of these reports. The Project Board will be required to approve these reports. At the end of each stage the project should be assessed for viability against the original business case. Approval of the detailed stage plans provides approval for the continuation of the project.

9.2.3     Exception Reports

The approach of management by exception will be used during this project. Reports will be provided to the Project Board at the end of each stage of the project to obtain approval for the continuation of the project. Any significant deviation from the current approved stage plan will be reported to the Project Board by an Exception Report.

The Project Manager will determine when any area of the project has exceeded the level of tolerance set and an exception report is required. Generally this is set at 10% for any measurable aspect of the plan. Different tolerance levels may be set for different products, as part of the detailed stage plans.
A standard format for Exception Reports has been developed by the Project Office for reporting to IPSC. This format will also be utilised for reporting to the Project Board. The exception reports will provide an assessment of the impact of the deviation against the plan and a proposed course of action for approval by the Project Board.
9.3 Issues

9.3.1 Request for Change

A request for change is a request to change the specification of any of the deliverables of the project after the stage in the project when the specification for the item has been approved. Requests for change will arise during the project and it is necessary to have a formal change control process to manage them. Request for change are managed under the general process of managing project issues.

9.3.2 Issues

A project issue is any item, which arises that, may affect the outcome of the project. It can be a request for change, a concern arising regarding achievement of deadlines or quality criteria for a product of the project (generally called "off specification") or any question raised regarding the project (for which there is no straightforward answer).

9.3.3 Issue Log

An issue log should be maintained that records details of the issue, its owner and progress up to final resolution. The owner of the issue is normally the individual in the project team or project board most able to progress the issue to resolution. Issues must be appropriately managed and controlled. The following change control procedures will be established for management of project issues -

- Log the project issue, a name, description and unique reference number.
- Allocate a priority (1 = must; 2 = important change, 3 = nice to have, 4 = cosmetic, 5 = does not involve a change)
- Assess the impact to identify what would have to be changed, effort required, viability of the business case and risks.
- If required, obtain the authorisation for the implementation or rejection of the project issue.
- The project manager is responsible for the preparation and recommendation of the course of action. Any dispute between the individual raising the issue and the Project Manager in terms of the recommended course of action would be referred to the Project Convenor for a final decision.
- The Project Manager can approve implementation of any issue that falls within the tolerances set (See Section 10) If tolerances are exceeded then implementation approval by the Project Board is required.
- If the change is approved then all products must be up-dated to reflect this change and subject to configuration management (see Section 9.4) where necessary.

The Issue Log will be included in the End Stage reporting to the Project Board and the monthly Progress Report to the Project Convenor.
9.4 Configuration Management Plan

9.4.1 Overview

This plan documents the Configuration Management (CM) activities that will be used by the Project Team during the life of the project. Configuration management establishes the version control procedures that are applied to the deliverables of the project. This plan defines scope (what will be put under configuration management control), roles and responsibilities (who will be involved in the configuration management process) and the processes and procedures to be used.

9.4.2 Scope

Configuration management plan will cover the main specialised and management products of this project including:

- Project Level Plan
- Stage Plans
- Risk Log.
- Configuration Management Plan.
- Project Scope.
- Consolidated Requirements Listing.
- Selected Business Systems Option.
- Selected Technical System Options.
- Specification of in-house developed components.
- In-house developed software
- Specification of third party procured components.
- Third party products.
- Specification of systems interfaces.
- User Acceptance Test Plan.
- User Acceptance Test Cases
- Training Needs Analysis document.
- Software Test Report.
- User guide.
- Technical guide.
- Implementation Plan.
- Contracts with third party suppliers, if applicable.

These are major products of the project and are a sub-set of all products that will be delivered.

9.4.3 Roles and Responsibilities

- Configuration Manager

The Configuration Manager is responsible for maintaining the project filing structure and project documentation. The Project Manager will fulfil this role.

- Development Team

Development Team will ensure proper version control for all products that are subject to CM. Development Team will also ensure that the proper baselined version for all products are available prior to testing and final delivery of products of the project.
9.4.4 Processes and Procedures

- Baselining Project Products

A project product is baselined once it is approved by the appropriate authority (e.g. Project Board, User Team, etc.) and delivered to CM. To rebaseline a project product the above process is to be followed with the addition of a modification description to explain or justify the need for rebaselining. A Baseline product can only be changed under formal Change Control.

- Baseline Repository

CM will place all baselined material in protected environment.

- Access to Baselined Documents

Working drafts of all documents will be maintained in project files, under the project filing structure. In addition members of the Project Team will have access to, as appropriate, baselined products.

9.4.5 Change Control Approach

A baseline product will only be changed under formal change control.

9.4.6 Change Control Steps

All changes to a baseline product will be treated as a type of project issue and will go through the established project change control process (see Section 9.3.3)
10 Risk Log

Risk management is one of the most important parts of the Project Manager’s and Project Board’s roles within the project. The success of the project will be jeopardised by a wide range of risks. These risks need to be identified and managed appropriately.

At the beginning of the project risks are identified and recorded in the risk log. However thereafter the project manager and other members of the project management structure should be aware of the importance of risk identification and should actively consider potential new risks arising for the duration of the project.

The risks initially identified are recorded in the risk log, Appendix H – Risk Log.

The risk log will be formally reviewed and updated at the end of each stage of the project. At this point risks associated with the next stage of the project will included in the risk log.

The risks identified in the risk log must be managed appropriately. The risk log will be reviewed on a regular basis and a review of the risk log and counter measures actioned will form part of the monthly report to the Project Convenor.

The risk log will be reported to each meeting of the Project Board. The Project Board has responsibility for ensuring the owner of each risk is taking the appropriate action in relation to management of the risk.
11 Contingency Plans

Since projects involve uncertainty and risk it is necessary to develop contingency plans for key areas. The project plans support implementation in October 2007 and rollout in October 2008. It is appropriate at this point to identify a contingency plan if these targets dates are not met.

Currently no external business or technical issues are dictating replacement of existing systems hence the existing system solutions remain viable and would continue in use if the implementation dates were not met. This would require continued support and bug fixes for the current system.

This contingency plan should be reviewed at the end of each stage in the project to ensure it remains viable and to identify if any changes in external or internal circumstances have arisen that would affect this plan.

Detailed contingency planning will be undertaken when planning the implementation stage of the project.
12 Project Filing Structure

Project files, documents etc are important resource generated throughout the life of the project. It is important that this resource is appropriately managed and accessible to all individuals involved in the project.

The project team will agree a project filing structure. The project manager will be responsible for ensuring the project filing structure is maintained correctly.

The main location for project files will be a shared drive, accessible to project team members. This provides backup and security for the information.