Bournemouth University

SCHOOL OF DESIGN, ENGINEERING & COMPUTING

ASSIGNMENT – 2012/13

Course: **Computing Masters Framework**
Unit: **Process Oriented Requirements Engineering**
Unit Leader: **Professor Keith Phalp**
Issue Date: **11/03/2013**
Due Date: **tbc**

The unit specification notes that the main aim of the unit is to:

'produce graduates able to analyse business processes effectively and to reflect such analysis with appropriate requirements and specification'.

This assignment is intended to satisfy such aims, and form the entire coursework assessment for this unit, covering all of the learning outcomes, 1 to 5, described below.

1. Appraise critically approaches to the principal requirements engineering tasks; elicitation, analysis, specification and validation.
2. Demonstrate a comprehensive understanding of relationships among client business processes, requirements and software systems.
3. Evaluate, select, and produce appropriate models of business process scenarios or problem domains, and matching requirements and specifications.
4. Evaluate critically requirements methods and research.
5. Understand the impact of professionalism upon the requirements phase.

Marks will be given out of a total of 100, according to the deliverables and marking scheme set out below.

Deliverables and Assessment Criteria / Marking Scheme

You have been given a brief description of a particular application domain, and have been asked to produce a number of deliverables, for the final requirements document.

Models of Processes

Produce process models for the given scenario(s). You should produce two distinct models, one of the current (as-is) process, as described, and one to illustrate your suggested revised process (which will incorporate an IT system or systems). Aside from accuracy of the model marks will also be awarded for:

- Appropriate separation of problem into constituent parts.
- Sensible choices for logic of process & appropriate level of abstraction.
- Appropriate (and correct) use of notation, e.g., state, actions, interactions & control constructs.

(40 marks)

Analysis of Processes

- Analysis of process. Describe any ambiguities that you have discovered from your analysis, relating this to the models you have produced.
- Describe, as a process modelling professional, the changes that you have suggested, along with benefits, and potential risks, of such changes.

(20 marks)

Specification

You have been presented with a number of ways of aligning process models with specification (e.g., use cases). You should, therefore, attempt to use a systematic approach to ensuring alignment of the business process model (analysis descriptions) and IT (specification and design).

Produce a use case diagram for your process model. (10 marks)
Show at least one two use case descriptions, noting the mapping between activities in the process model and the description. (10 marks)

Reflections on Method

Discuss the issues and solutions encountered in moving from analysis (the process models) to specification and design, and mechanisms that you would use to ensure alignment of the business process model (and business needs) and the IT system.
(Maximum for Reflections on Method: 1000 words)

(20 marks)

Signature of Assignment Setter ……

Signature of QA ……

Enhancing the Student Journey in the Coastal Academy for Science and Technology (Problem Brief)

Following a successful process improvement initiative, which focused on Improving Course Design and Delivery, the powers that be at the Coastal Academy for Science and Technology (CAST), have now decided that improvements could be more wide-ranging and should apply to the student journey in general.

The course design and delivery improvements also used a small amount of IT, which was well received by the students, staff and management, and for the student journey project, the leaders of CAST are somewhat more ambitious in that they see IT as being something that could both enhance the student experience (and any reporting of student satisfaction) and bring efficiencies to their operation. However, they are aware, that, as before, they may not have a complete picture of the process, and that gaining process understanding and modelling the process is vital to ensuring that any IT systems either built, procured or installed meet their needs.

In order to understand the Student Journey more fully a number of key process areas have been identified and a process description of these has been made available (see below). This description, is, however, based on procedures documents that have evolved over many years, and this realisation, along with the previous process modelling experience at CAST leads all involved to recognise that the description may be incomplete and is likely to still have some inconsistencies, ambiguities or inaccuracies.

In an ideal scenario one would wish to interview directly to check understanding, but CAST do not wish to disturb their staff, and, therefore allowed an internal interviewer access to key staff. Therefore, a set of interviews is also included. Although not all roles were available these interviews are with administrative staff who have a good overview of process and have experienced interactions with the majority of other stakeholders. Nevertheless, it is likely that some ambiguities remain and you will have to make process assumptions (using your own knowledge of the sector) to produce complete models. It is vital, in such cases that all assumptions / ambiguities are documented clearly and explicitly.

(Negotiations are in progress to try to allow some further contact, perhaps directly, with a representative of CAST, so that some key questions could be asked of them in order to validate understanding. However, this would be later in the process, and, therefore for pragmatic reasons, notably that of looming deadlines, it is necessary to commence modelling based on the documentation that is currently available).

As has been noted, the previous process modelling went well. In fact, CAST were so pleased with the Business and IT Alignment approach used in the previous project that they want to make sure that the same steps are carried out again for this larger project. Therefore you must:

A) Produce Models of the Current Process and for your Proposed (Revised) Process.
B) Describe Ambiguities and Inconsistencies (see above) and Suggest or explain Process Changes or Revised Processes.
C) Produce a Specification for the IT System (NOTE that the assignment only requires reflection on moving from process model to specification not actual specifications).

PROCESS DESCRIPTIONS

Although full process descriptions follow, CAST understand that it might be better to start with taught courses, and, perhaps, see research supervision as a possible additional project.

Admissions

When interested in pursuing one of the faculty's degrees, the student requests an Application form, fills it in and submits it, with the requested documents, to the Admissions Officer (AO).

The required admission documents include: Copy of ID/passport, Application form, two Photos, Copy of certificates and an Ethical clearance letter.

The delegated (AO) performs the tasks of reviewing the documents and checking that they are complete. In the case of missing items / information the AO contacts the applicant in order to rectify the information shortfall. The AO creates a student data file which is used throughout the application process and the remainder of the programme of study.

The PAO then sends the documents to the Vice Dean(VD), who appraises the student with respect to their qualifications to ensure that the student makes an informative decision. The process ensures that the candidate meets the admission requirements as published in the students' guide through reviewing all the supported documents. Once the student fulfils the admission documents, the AO sends a copy of the application documents to the admission and registration department in order to create a Student Registration Number.

Registration

After receiving the student registration number from the Admission and Registration Department, the AO confirms the registration of the student and provides them with the student guide.

The AO issues those students registered in the second semester and higher a student registration card and a pay slip for payment using the on-line registration system, while students registered in the first semester are registered through the Admission and Registration Department.

After the payment is completed the student will have to provide a copy of the payment receipt to the department as a proof of their payment, and this will then be kept in the student's data file record.

Timetabling and Loading

Using the detailed programmes structures and the student data file record, the Course Controller (CC) will prepare student and lecturers timetables and for the programs and the courses.

The VD controls the individual staff loading, ensuring that it is according to the lecturers and Institutes's requirements and reports any discrepancies to the Dean. The VD shall rectify and adjust discrepancies within the departmental resources and reports unresolved problems to the Dean without delay.

The CC prepares the class attendance list and distributes these to relevant lecturers. Afterwards, Timetables are distributed by the CC to the students and lecturers. Finally, each lecturer is issued an assignment letter for their course.

Course Delivery
Lecturers receive course assignment information from Timetabling and check the contents of the Course Specification. The lecturer informs the Technical Assistant of the Educational Aids required for the lecture/workshop. The Technical Assistant shall ensure that Educational Aids are available and in working order in the assigned room or laboratory.

The lecturer shall complete the Attendance Register and present and explain the contents of the Course Description during the first lecture. On the completion of each course, the lecturer shall pass a course evaluation form to students to complete a set of Course Performance Indicators..

The lecturer shall pass the Course Evaluation to the VD for review and approval.

Student Appeals
Written appeals may be made by the student, but will not be valid if submitted after the end of the first week of the current semester when appealing against grades in the previous semester.

The student shall initiate an appeal by raising a Student Appeal Form which is available from the AO.

The VD shall consult the lecturer for possible grade modification. The lecturer investigates the appeal and sends his decision back to the VD. The lecturer can either reject or accept grade modification. Afterwards, the VD sends the student appeal form to the Dean for signature.

If the student appeal is accepted the VD fills in a grade modification form which is sent to the Academic Adviser. The Academic Adviser shall send a copy of completed student appeals to registration in order to modify the grade.

Students who are dissatisfied with the outcome of an appeal may complain using the student complaints process.

Student Complaints
The Student may initiate a Student Complaint form for any complaints regarding the educational process and forward it to the VD.

The VD initially attempts to resolve the complaint locally. Complaints which cannot be resolved locally are sent to the Dean, who assigns it to a competent member of staff for resolution. The responsible person shall investigate the complaint and complete the Student Complaint form then return it to the Dean.

The VD shall return the Student Complaint to the student for acknowledgement. The VD shall periodically review Student Complaints and student appeals looking for trends or repeat problems.

Research Supervision

Research supervisors are allocated by the VD in consultation with the AO and the CC. They should ensure that:

- The library and other ancillary resources are sufficient for the research task
- The supervisory personnel have the correct skills and expertise .
- The resource capacities are sufficient.

Any shortfall and constraints together with contingency solutions and proposals for the future is reported to the Dean without delay.

The CC creates the supervision plan and informs the relevant staff and students. The student prepares a research proposal, and presents it to the Research Committee for approval. The Research Committee can make one of the following decisions:

- The proposal is accepted.
- The proposal is accepted, pending minor corrections
- The proposal needs major revisions and should be re-submitted for approval to the Postgraduate and Research Committee.

After changes are made (if there) the Research committee shall issue supervision letters for both supervisors and students. The Research Committee sends the proposal to the AO and this is kept in the student's file.

Each research supervisor completes the student semester evaluation report with respect to progress. Once the supervision is complete the supervisor completes the thesis validation report on the research.

For of viva-voce examinations the VD organises the panel membership. Either the student or the supervisor informs the postgraduate admissions officer of the intention to submit the thesis/dissertation at least three weeks prior to submission. The Research Committee appoints the examiners and the AO communicates with the nominated examiners to confirm their acceptance.

The VDPS arranges a viva date and the AO contacts the examiners. After the viva, the examiners may recommend one of the following:

- The thesis is accepted unconditionally.
- The thesis is accepted subject to minor technical errors being corrected by the student to the satisfaction of the examiner.
- The thesis is accepted on condition that the student to the satisfaction of the examiner corrects certain shortcomings or technical errors.
- The thesis is not accepted in the current form and referred back to the student for revision or expansion after which it should be submitted for re-examination.
- The thesis is failed.

Once the corrections have been made, a letter attesting to this and confirming the eligibility of the student for graduation should be sent to the Admission and Registration Department.

Postponing
The AO shall complete the postponing form for students who wish to postpone their studies. The AO shall keep a copy of the postponing form in the student file and send the original form to the AASTMT admission and registration to take the necessary action. Student who was postponing out of study for any of the reasons shall complete the re-entry form.

Withdrawal Process
A student wishing to withdraw requests a withdrawal form from the AO. After completing the form the withdrawal form is sent to the VDPS requesting approval for the withdrawal of study.

The VDPS shall investigate the student situation and then can submit the approval or disapproval to the request.

After approval the AO shall send the original form form to the admission and registration to take the necessary action and keep a copy of the form in the student file. In case of approval the AO shall send the form to the admission and registration to take the necessary action.

Feedback
At end of each academic semester, the AO issues the student teaching and learning feedback forms and staff satisfaction survey. The returned forms are collated, analysed and the analysis reported to the VD.

The VD compiles an executive summary and a set of recommendations, adds this to the analysis and submits the full report to the Dean.

Note: Interviews with the AOs are available as separate documents