University of London International Programmes
CO3353 Software engineering project management
Coursework assignments 2015–16

Overview

Your coursework assignments are designed to enable you to apply some of the knowledge you have gained from this course and to allow you to extend your learning through two practical exercises. The coursework assignments focus on ways in which quality is managed in software engineering teams. The basic concepts are introduced in Chapter 3 and Chapter 8 of the **CO3353 Software engineering project management** subject guide but, for these assignments, you will need to do some more detailed reading about two specific aspects of quality management, which the coursework is designed to highlight.

In Coursework assignment 1 you will develop and demonstrate an understanding of the way in which estimates are refined through the use of 'Quality Gates'.

In Coursework assignment 2 you are required to bring together your knowledge of quality management techniques into a draft Quality Management Plan.

Note that, for all work, the guidelines on page 5 of the **CO3353** subject guide should be followed, and you should take careful note of the requirements below.

- The structure, clarity and organisation of your work will be assessed. Your submission must be well-presented in a coherent and logical fashion. It should be fully spell- and grammar-checked and you should make appropriate use of relevant diagrams, drawings, illustrations or images where suitable. Very short submissions are unacceptable and blank, incomplete or corrupted submissions will not be marked.
- The submitted coursework assignment must be your own individual work and not a copy of another person's or author's work. Copying, plagiarism and unaccredited and wholesale reproduction of material from textbooks or from any online source is totally unacceptable; all submitted coursework is scanned by a plagiarism checker. Any such copying will be extremely heavily penalised.
- You do not need to restate the question asked, or provide a table of contents or an index. Consider that your work will be read on a screen: assume a screen resolution of 1024 * 768, use a legible font designed for reading from a screen), do not overuse colours, capitals, italics, underlines etc. and ensure that images are of a suitable size and resolution.
- All books cited, reports referred to and any material used (including all online resources) must be referenced. Any text that is not your own words and which is taken from any source must be placed in quotation marks and the source identified correctly in the References Section.
- References should be in a listed in a Bibliography in a recognised standard format (i.e. Author surname(s), Year of publication, Title, Publisher, actual page numbers referenced or, for URLs, full URL and date of your last access).
- Be very careful about the validity of information on Internet sites and web sources. Be aware that many information sites are really commercial advertising, or simply repeat material copied from elsewhere. Check the date of all material and do not use out of date sites, websites which list student work or projects, or those which are simply personal opinions, blogs or comments. Be careful, critical and very selective in your choice of material.

  Follow instructions specified for electronic submission and make sure that what is submitted is clearly identified as your work: ensure that you include your full name, student number, course code and assignment number.

e.g. FamilyName_SRN_COxxxxcw#.pdf (e.g. Zuckerberg_920000000_CO3353cw2.pdf)

- **FamilyName** is your family name (also known as last name or surname) as it appears in your student record (check your student portal)
- **SRN** is your Student Reference Number, for example 920000000
- **COXXXX** is the course number, for example CO1108, and
- **cw#** is either cw1 (coursework 1) or cw2 (coursework 2).

Coursework assignment 1

The **CO3353** subject guide introduces Quality Gates as a mechanism for controlling the accuracy of projected costs (Figure 3.6: Controlling Estimation Error on page 42) during the early stages of the project. It says: 'One of the goals of the project manager is to reduce that variation, if not immediately then at least before the end of the elaboration phase.'

You are the selected supplier of a new platform for a commercial online gaming community and have agreed an initial budget for the project, which will be revised and refined at the end of the Inception and Elaboration phases of the project. Your task in this piece of coursework is to define three 'Quality Gates' appropriate for each phase (six in total), and to explain how they would help you to assess the accuracy of the budget estimates that are to be produced. You are NOT being asked to produce a budget for the project.

Note that there are no right or wrong answers for this coursework assignment. You will be assessed on the suitability and complementarity of the mechanisms you describe, and the approach you propose.

You should explore a variety of sources of information about quality gates (such as: http://www.techrepublic.com/article/how-to-use-quality-gates-to-guide-it-projects/, http://milestoneplanning.net/whitepapers/Quality%20Gates%20A%20Tutorial.pdf and http://www.ibm.com/developerworks/rational/library/09/qualitygates/) as part of your coursework assignment but be aware that these do not address your task specifically. Simply reproducing the examples found in those documents will not be sufficient to pass the coursework assignment. You should cite the range of references you use to develop your own approach and examples.

i. Provide one written page of A4 paper, which gives an overview and describes the rationale for your recommendations.

ii. Provide up to one written page of A4 for each quality gate, explaining: (i) the evidence you will use to assess the status of the gate; and (ii) the method and metrics you will use.

Assessment

The overall presentation, structure, coherence and clarity of your submission will be assessed. Marks will be awarded for demonstrating a good understanding of the problem given, for providing an appropriate, workable and effective solution and for producing well-presented professional-looking work. Marks are allocated as below:

Soundness of overview and overall presentation of the topic	*10 marks*
The appropriateness, feasibility and understanding of each of the 6 gate mechanisms	*15 marks each, to a total of 90 marks*
In total	*100 marks*

[END OF COURSEWORK ASSIGNMENT 1]

Coursework assignment 2

Table 8.1 in the **CO3353** subject guide identifies the best practice software development workflows and artefacts for which quality considerations need to be taken into account at different times in a project. As described in the PMI PMBOK, quality planning is about defining quality expectations and ways of monitoring compliance with those expectations. This is distinct from the way the plan is executed (quality assurance and quality control) which is out of scope for this coursework assignment.

Your coursework assignment is to produce an outline Quality Management Plan (QMP) for the software engineering project to build a new platform for a commercial online gaming community, as introduced in Coursework assignment 1. For each of the 10 elements of the project listed below, explain how the Project Quality Plan will define the expectations of the various stakeholders, and the procedures you would recommend to monitor compliance with those expectations.

Note that your explanations should be specific to each of the workflows and artefacts, as each may have different stakeholders with different expectations. You will not pass the coursework assignment by producing a single high-level QMP.

Provide approximately two A4 written pages addressing the workflows and artefacts listed under each of the three categories below (5 or 6 pages in total).

Requirements

- Business model
- Functional requirements
- Non-functional constraints and trade-offs

System design

- Static structure of system
- Dynamic behaviour of system
- Physical organisation of components
- Component and sub-system construction

Detailed design and implementation

- Component testing
- System testing
- Acceptance testing and rollout

Assessment

Soundness of overview and overall presentation of the topic	*10 marks*
Understanding of the quality management issues that are likely to arise under each of the 3 headings, the relevant stakeholders and their expectations	*30 marks for each section, to a total of 90 marks*
In total	*100 marks*

[END OF COURSEWORK ASSIGNMENT 2]