F27IP: Industrial Project: Software Development Methods
Coursework

System Configuration and Release Management

Deadline: Friday 30th July (**week 11**), 2020 at midnight

In this coursework, you will be managing a software development project, following a standard software development method and using GitHub as a tool to manage the development process. You may choose a part of an existing project within your company that you may be working on; or you may choose an industrial project that has been assigned to you by your academic tutor. (Note, it is possible that you choose to use an in-house system configuration management tool other than GitHub. If so, you need to provide adequate explanation of that in-house tool that you have used in part I, II and IV of your formal report, as appropriate.)

If you are concerned regarding commercially sensitive or confidential materials, please contact me directly to discuss.

There are five deliverables of this coursework:

1. Industrial project proposal: You need to consult and discuss your project idea with your work based industrial project supervisor first, complete the Industrial Project Proposal form (**Draft**) and then submit it via the link on vision under Assessments by **Friday 15th May**. Final proposal, upload your **FINAL draft form** for your Industrial Project Proposal via the link on vision under Assessments by (week 1), **Monday 25th May** (semester 3). (5% of the overall coursework mark).

2. An activity log: **Your activities such course material study** and those documents activities you have carried out on a weekly basis in an effort to manage and facilitate the process of system development, configurations and re-configurations. D**raft** to be checked in **week 4**, and **final** due in **week 11**, the **activity log template** file is *available* on vision under assessments (10% of the overall coursework mark).

3. Project progress check point: You need to upload your work (as a draft) via vision in **week 5**, maybe your academic supervisor (course leader) call you from Teams/Skype in **week 6** to discuss your project progress with you if needed (10% of the overall coursework mark).

4. The actual management of the software system, including its components and commentaries, stored in GitHub. This site should be indicated in a brief document containing an URL pointing to your work. You should also include this URL in your written report in deliverable 5 and provide access, (15% **of** the overall coursework mark, **due in week 11**).

5. A formal written report (final report), that provides background knowledge needed to carry out this coursework and a description of the work that has been carried out. More details are provided below regarding the final report structure and format. (6-10 pages) (60% of the overall coursework mark, **final submission due in week 11**).

   Note: It is better to follow the standard of **Academic Writing** that you learnt/learned in the Industrial Praxis course.

Components of the formal written report (deliverable 5):

Part I: Introduction, aims and objectives of your project:

15% of the written report mark

In this part of the report, you should describe the aims and objectives of your project. This may include the background information of the software system to be developed and why system configuration and release management are important techniques for that software project. You would then specify objectives of your work. Examples of these may be, e.g., to identify baseline and core/foundation system components, to differentiate alternative system components and how a combination of them may lead to different system compositions, or to identify how certain components may work with each other but not with others, to provide clear documentation, etc.

Part II: Background on Software System Development Lifecycle, Software System Configuration and Release Management

25% of the written report mark

Briefly describe the theoretical background of the software development lifecycle and its significance. List and explain risks and pitfalls, if one does not follow suitable software development processes. Explain what system configuration management is. Explain the relationships between software development lifecycle, system configuration and release management. It is encouraged to provide references to support your statements.

Part III: The Implementation of System Configuration Management

40% of the written report mark

In this part of the report, you should describe the approach and processes that you have taken to accomplish the project. You should also describe your work as implemented in GitHub, including a description of the different types of system components, e.g. core and alternative components, and why you have divided the system in a certain way, and how the different combination of components may deliver different system functions, etc. Explanations alongside screen shots of your work in Github are required to enable readability. You should also provide an URL pointing to GitHub where your work is stored, with appropriate access to your work.

Part IV: Evaluation of your project

20% of the written report mark

Based on project objectives as specified in Part I, you would justify in details how you have met them in your work; and if not, you would then need to explain why you have not met them. If there are many detailed objectives, you may prioritise them and work on the higher priority ones first. This is important especially if these objectives are ambitious and unlikely to be accomplished all in time of the project.

Coursework Submission, Industry Review and Marking Scheme:

1. Review form from Industrial Supervisor:

The industrial supervisor's review form will be used to assist the learning of the student and may provide input contributing to the final marks of the coursework (Due week 6 and 12).

2. Report length:

Please see page 1 (all length excludes references but includes diagrams and graphs)

3. Report marking criteria:

Reports that use clear structure, provide good logical flow of arguments that are written by yourself/oneself, provide good insights and include recent and proper citations, if any, will earn higher marks.

All of the good practice listed above will contribute to the higher quality of your report. As an estimate, good report structure and high readability will probably contribute something between 5%-10% mark for each of the questions above.

On the contrary, poor structured, logically flawed, and less-supported (e.g. claims not supported by reasoning or references) and poorly cited report, will greatly decrease the readability and credibility of the report.

For the rest of the report, it would be evaluated based on the criteria of self-written/originalities, self-initiative, self-direction, project management, insightfulness, and personal comprehension and judgements of the topics, etc.

4. Submission and Deadline

You are required to submit via VISION your final report all in one (one PDF/Word file). Your report (including all parts I, II, III and IV) no later than the **deadline data and time**.

The standard penalty for the late submission of coursework will be applied unless evidence of Mitigating Circumstances is provided (see Undergraduate Programme Hand- book for details).

Additional Information:

(1) Regarding whether external references will help the mark: This is a hard question to answer, as the mark depends on the quality of the report. Obviously, by using good external citations, it will strengthen the quality of your report and support your arguments, so it is often useful to include them in your report. However, if you are unable to use any external references, but use only material provided in the course, you may also obtain fairly good marks, if you provide sufficiently good explanation.

(2) Clear description of the problem, objectives of your work and details on how you have met these objectives will be very important in obtaining a good mark.

(3) Hand-in to be checked: You can submit a draft at any time to be checked, marks are not assigned when works are being checked. These are check-points for academic supervisor (and industrial supervisor where appropriate) to spot any early potential signs of problems and provide feedback, as appropriate. The actual marks are only assigned on the actual due date of the work in **week 11**.