

ASSIGNMENT 2

MODULE: CPT202

WEIGHT: 50%

LECTURER: Soon Phei Tin

SUBMISSION DATE: Friday 17:00, Week 14

DELIVERABLES: Group Report, Individual Reflective Report

SUBMISSION ARRANGEMENTS:

Each group must submit one group report in PDF format via Learning Mall by the above deadline. Any additional material, in particular code, should be synchronized to the Git repository. **The report should clearly explain how to access the source code.** Note that files in proprietary or non-standard file formats may not be readable and so are likely to be ignored.

In addition to the group report, each individual must submit one individual reflective report by the above deadline. The report should be in PDF format and it is expected to be submitted via Learning Mall by the above deadline.

TITLE: Software Engineering Group Project Final Report

This assessment contributes 50% to the overall module marks. Group report contributes 50% of the assignment's total marks, and individual reflective report contributes 50% of the assignment's total marks.

LEARNING OUTCOMES ADDRESSED:

1. An understanding of working as part of a team;
2. Improved personal, interpersonal and communication skills;
3. A more in depth understanding of the software development process;
4. An ability to specify the requirements of a software system;
5. Experience in the design of a software system;
6. An awareness of project management issues;
7. **Understanding of the process and role of software documentation;**
8. Experience in the writing of a sizeable report on a software project

FEEDBACK:

Formal feedback will be provided as soon as possible.

INSTRUCTIONS

The group report must describe the final solution to the software development problem completed by the group. The contents depend on the project. The report should be factual and can assume that the reader is familiar with the previously submitted documents and presentations. The report should be around 15 pages. It must in particular address the following, based on the work executed:

- An introduction providing an overview of the report's contents and cover, as necessary, refinements and modifications of the requirements. Provide justifications for any changes or your insights into problems. Also state clearly what your solution to the problem does and justify that your approach shows overall major progress towards addressing the problem.
- Multiple sections detailing your work on the project. The sections and their contents depend on scrum ceremonies, and the work you have actually undertaken. You are expected to compile and submit the Sprint Backlogs, the related PBIs, the capacity allocation, and the meeting minutes for Sprint Review and Sprint Retrospective for all sprints that you have completed. You should describe the overall software system as designed and implemented, and the testing and evaluation of the implemented solution.
- Use suitable diagrams, based on appropriate standards such as UML, that clearly expose the static structure of the system (e.g. class and component diagrams or ER diagrams) and its dynamic behaviour (e.g. sequence or other interaction diagrams, use cases) on various detail levels (from the high-level architecture to the detailed design). The overall structure of your software must be clear from this.
- Core implementation tasks may be described using pseudo code, activity or state machine diagrams. The complete code implemented to solve the problem must be provided in Git repository and the access to the repository must be provided.
- For testing, explain the approaches used to ensure good quality code has been developed. Clearly describe how the software has been tested from a user's as well as a developer's perspective. Include test reports and discuss what of the system is working and where issues still exist.
- A justification and evaluation of the presented software system. Ensure your report contains justifications for your design and implementation decisions and evaluates the resulting software system based on the data obtained in the tests. Clearly state any choices and assumptions that were made. Identify strengths as well as limitations of your software system and the potential risk in the software development. Discuss how well your solution meets the requirements and realises the intended functionality. Your report should also highlight where you have considered or been influenced by legal, social, ethical and professional issues.
- Complete your report with a clear set of conclusions and a statement on future work. Furthermore, the code for the final software must be included in an archive with the report.

The individual reflective report must contain a discussion of the following issues from your perspective. The report should not be more than 5 pages. It must in particular address the following, based on the work executed:

- **A personal perspective of the problem addressed by the project.** This may include discussing the aims of the project, the benefits the project might offer and to whom if it were successfully carried out, and the main benefits that pursuing the project would offer the team members.
- **A critical appraisal of the methods applied to address the problem and**

manage the project. This may include an evaluation of the methods used from the your perspective, a discussion of how effective the selected approaches were and if, in hindsight, alternatives might have been better, a discussion of how changes in the project plan and execution have been handled and if the project execution progressed as initially expected, an evaluation of how successful the project was and whether the results could be used to continue the work, and suggestions for improving the approach to solving the problem and the project management. Write this from your personal perspective focusing on specific issues relating to the requirements gathering, design, implementation, testing, evaluation, management you have been involved in or feel particularly strongly about, but relate this to the overall project.

- **Reflections on your contributions to the project.** Discuss which parts of the project you carried out/contributed to, how you approached these tasks and how you interacted with other members, both in sharing your results and in organising the team's activities. Also consider how your personal experience of the project compared to your expectations and experience before you started the project, how well your existing skills were utilised and what new skills you have learnt. Justify why you should get the full percentage of the project marks.
- **Lessons learnt and advice for the future.** Discuss what lessons you learnt from executing the project about your discipline, project management and team work. Consider how and where you might apply this in the future.

Marking Scheme

Group Report (50%)

A. Overall quality of the solution to the software development problem

- Does the report clearly state the functionalities implemented by the software and shows that the individual understood the problem and produced an appropriate solution?
- Does the software seem reasonable given the overall system and effort available?
- What is the quality of the software architecture, detailed design, implementation, testing, reported as suitable for the chosen development methodology and the fact that this is the final report on delivering the solution (see assessment criteria in the coursework description)?
- Is there evidence that the work has been implemented as a team showing efforts of how to integrate the various work components?

Score: /20

B. Justification and evaluation

- Did the team provide appropriate justifications for their design and implementation decisions and clearly state any choices and assumptions that were made?
- Did the team identify strengths and limitations of their complete software system with clear acceptance criteria and suitable evidence?
- Did the team identify the potential risk of the software development?
- Did the team consider legal, social, ethical and professional issues to justify their choices and evaluate their results?
- Is there a discussion of an initial business plan/case as suitable for the project context?
- Is there a discussion of how well the software meets the requirements and executes the intended functionality with clear evidence?
- Are the conclusions well justified?
- Are the suggestions for future work concrete, practical and reasonable and do they arise from the evaluation?

Score: /20

C. Report writing

- Does the report provide a coherent and detailed view of the software, focusing on the major challenges and issues of the particular project?
- Is there a discussion of how well the software meets the requirements and executes the intended functionality with clear evidence?
- Did the report provide evidence of testing and evaluation with a clear statement of what the system is capable of, and what not?
- Did the demonstration provide sufficient evidence that all the functionalities claimed to be implemented are present?
- Was the software demonstrated suitably showing its main functionalities, strengths and weaknesses?
- Was the report logical in structure and content?
- Is the report well presented (including writing style, grammar and use of figures)?
- Is the report clearly structured?
- Is there evidence that the team and individual is using relevant literature and other resources with clear references?

Score: /10

Individual Reflective Report (50%)

A. Personal view on the project implementation and management

- Discuss constructively and critically on the problems addressed by the project and the approaches applied to address the problems.
- Provide personal perspective on the development process.
- Suggest improvement to the process

Score: /20

B. Role in the team

- Report includes comprehensive review of activities/roles within the team
- Detailed examples have been provided which clearly show contribution to the team

Score: /20

C. Learning and Professional Development

- Discussion of key learning experience is provided
- Examples have been provided to illustrate each of the learning experiences
- A clear understanding is provided of how knowledge and skills obtained through undertaking a team project are likely to contribute to the student's professional development

Score: /10