CITS4401/3301 Software Requirements and Design

Semester 1 2024

Group Project Overview

- ~~Part 1 (requirements) of the project due in Week 7 (worth 15% of the marks)~~

- Part 2 (design) of the project due in (23:59 pm, 16th May) Week 11 (worth 15% of the marks)

- Each group member is expected to spend around 20 hours on each part of the project, including researching and background reading.

- All project deliverables (questions and final report) must be submitted in LMS as pdf files by the submission deadlines.

- Group member evaluation: To ensure that every group member contributes equally to the project, we will utilize Feedback Fruits for evaluating group member performance. Once the group member evaluations are completed, you will receive a Group Contribution Factor (GCF).

- **Calculate the final grade:** Multiply the student's project grade by their Group Contribution Factor to determine the final grade. For this project, the minimum threshold is 0, and the maximum threshold is 1.1.

$$Final\ Grade = \begin{cases} Project\ Grade \times GCF, 0 \leq GCF \leq 1.1 \\ Project\ Grade \times 1.1, GCF > 1.1 \end{cases}$$

- You can find more details about how Feedback Fruits works and how to evaluate your team members on the LMS (**Project (30%) ->Group Member Evaluation Information**).

Note:

* Ensure that the name and student number of all group members are included in the submission.

* Late submissions: the penalties for late submissions are described in UWA's Consequences for late Assignment Submission which is available from the LMS in the unit outline.

* All group members are expected to contribute equal effort to the project. Please maintain a simple spreadsheet and update it weekly. Each team member can summarize the tasks done that week, hours for each, the members responsible for each week.

Academic conduct

You are expected to have read and understood the university's guides on Academic Conduct which is available from the LMS unit outline. In accordance with this policy, you may discuss with others the general principle required to understand this project, but the work you submit must be result of your own group's effort.

Project help

Please take time to carefully read this project description carefully. Post any requests for clarification on Teams so that all the students may remain equally informed. Further information may be provided as required during the project.

- In this project, some of the requirements might not be clear or complete, leaving room for uncertainty. Your job is to carefully go through these requirements, spot any missing pieces or unclear parts, and then refine them into a clearer set of requirements. As a team of requirements engineers, you will use planned interviews with the right people to tackle these issues. These interviews will help you get the details straight, clear up any confusion, and make sure everyone understands what is needed for the project.

Group Members Evaluation

ALL students **MUST** evaluate group members (within your group) performance ***during the whole project (Phase 1 and Phase 2)***; the group contribution factor will be applied and adjusted the final total group marks.

Students who do not complete the evaluation will automatically receive a group contribution factor of 0.5.

The evaluation will be available on Monday (20 May) in Week 12.

The deadline for the evaluation is on Sunday (26 May) in Week 12.

You are required to evaluate your team members fairly and consistently. If you evaluate a team member with a low mark, you **MUST** explain your reasons and show convincing evidence.

Submission Guideline

Group Submission

- A PDF file contains Tasks 1 to 4.
- Submit a PDF file on LMS [Projects (30%) → Group Project Submission Points → Group Project 2 – Group Report]

Individual Submission

- Submit a PDF reflection report on LMS. [Projects (30%) → Group Project Submission Points → Group Project – Individual Reflection]

Group Members Evaluation

- Evaluate your team members on LMS. [Projects (30%) → Group Project Submission Points → CITS4401/3301 Group Project Team Member Evaluation (Graded)]

Phase 2 Tasks

In Phase 1 of the project, your group analyzed the requirements of the system, refined them through an interview with a stakeholder, and documented the results of the analysis.

In Phase 2 of the project, your group will be required to complete some parts of the system's design.

Phase 2 contains 2 parts, 50 marks total.

- Group part: Tasks 1 to 4, each task worth 10 marks, a total of 40 marks.
- Individual part: You are required to write a short reflection to reflect on the whole project, 10 marks.

Task 1: Decomposing the system into smaller subsystems. List the potential subsystems and briefly discuss each subsystem. (10 marks)

Task 2: Choose an **Architectural Pattern** to model the system. Explain why you have applied a particular architecture pattern, for example, advantages and disadvantages of using this architecture pattern. Draw a UML diagram to visualize the system, including the subsystems, key classes (only need class **name**) inside each subsystem, and basic relationships (we simplify it only association or dependency relationship) between subsystems and classes. (10 marks)

Task 3: Identity a potential issue of this system (e.g., scalability) when you analyze and design the system, and what is your design decision to address it. Document the design rationale, using the ***Issue, Proposal, Argument, Criteria, and Resolution*** format. (10 marks)

Task 4: Discuss two potential d**esign patterns** that could be applied to the system and briefly discuss the reasons. (10 marks)

Individual Reflection (10 marks)

Note: the mark of individual report will not be impacted by the group member evaluation factor.

You are required to write an individual project reflection of 300 to 350 words.

- You should answer the following questions in your reflection:
- What went well and why in the group project?
- What did not go well and why in the group project?
- What is one thing you will do differently when you attend your real project?