The University of Melbourne
School of Computing and Information Systems
SWEN90016 Software Processes and Management Semester 2 – 2021

Assignment Two

Learning Outcomes:

The students will demonstrate the ability to:

- Choose an appropriate Software Development Lifecycle (SDLC) model for a given project brief
- Plan the activities involved in the chosen model and develop a Project Management Plan (PMP)
- Execute, monitor and control processes to achieve a desired outcome
- Work effectively in a team

Note: Each member is expected to spend 30-40 hours on this assignment as per handbook. Therefore, the group assignment is projected to take 100-120 hours.

What your team is expected to do:

Your team is required to:

1. Develop a prototype (working software which includes a web user interface and persistent data storage) of the software system described in the case study in Appendix C (Included as a separate document).

2. Develop a Project Management Plan (template provided in Appendix A), that demonstrates that you have planned the activities required to develop the software system in item 1.

3. Demonstrate that you have executed, monitored and controlled your plan; you must document progress in the relevant sections of the PMP as per specification.

   Note: You may choose any type of SDLC (Formal, Agile); your PMP must justify why you chose the SDLC in Section 5.4 of the PMP

4. When you submit the assignment please clearly state the SDLC in the title
   For example
   T22_06_Agile
   T05_01_Incremental

Important Notes:

- Your team may use any language/technology/framework to develop the web-based system; you can choose a simple web development platforms such as WordPress (https://wordpress.com/create-website/) or more a complex web development framework which requires full-stack development. Please ensure that you adequately research your choice, for instance many teams choose a certain web development platform last semester and discovered halfway through the project that they had to pay for most of the functionality.
- The team (not a single member) must research available frameworks and decide on the framework the team is going to use, before the first submission. The rationale for the choice of the framework must be documented in Section 6.4 of the PMP. If the team has problems choosing a framework (or reaching consensus within the team) before the first submission please ensure that this is documented in the minutes as this is part of the process.
- When choosing the framework please consider the programming skills of the team and the learning outcomes your team wants to get from this project – for example, your team may choose a complex web development framework, which requires technical development skills (which may require you to spend extra time on it), if your team believes that this knowledge is useful for you in the future, hence worth spending the effort although the marks may not justify the time you spend.
- Please remember that the final product is only worth 7% of this assignment i.e. 2/30 marks; >90% of the marks will be for how well you plan, manage and execute the process and how you work as an individual in a team.
- A *guideline* for word count, 5 points ~ 200-250 words; 10 points ~ 1 page (500 words). This may not apply for some questions

Key Deliverables and Marks:

ID	Artefact	Submission	Date	Marks
1	Project Management Plan (PMP) Version 1.0 Sections 1-6 completed	Canvas – team submission	End of week 7	15
2	Project Management Plan (PMP) Version 1.1 Updates to the PMP (Section 1-6) as needed. Section 7	Canvas – team submission	End of week 11	13
3	Individual Reflection Use the Peer Assessment form in Appendix B to assess your team member's contribution. If you do not divide the money equally, you will need to reflect on the contribution by you and your team members (300 words approximately).	Canvas – individual submission as a single report	Week 12	

	Please note: **Staff reserve the right to assess students individually based on their contribution to the team.** If the reflection flags non-contributing members, staff has the discretion to award a reduced mark (to the total of 30 marks for this assessment) to such members.			
4	Final Product – Software System	Group demonstrate to a tutor	Week 12- Zoom demonstration	2

Submission and Feedback

- Your tutor will create a group for your team on Canvas
- All submissions and feedback will be via Canvas
- This is a professional document for a business audience and will be marked on content, structure and expression of your responses. (Quality -2)

Penalty for Late Submission

Late submissions without an approved extension will be subject to a penalty of **10% per day**. No assignment will be accepted more than one week late.

Warning about plagiarism

It is University policy that cheating by students in any form is not permitted, and that work submitted for assessment purposes must be the independent work of the student concerned (or, where joint work is permitted, of the students concerned). The University Policy and Procedures for Academic Misconduct can be found at: https://academichonesty.unimelb.edu.au/#policy. Plagiarism, or copying of another's work without proper acknowledgment, is not permitted. Nor is it permissible for anyone to allow another person to copy their work for the purposes of assessment. Assignment aims to evaluate a case study from a risk management perspective.

Team Dispute Resolution

You are expected to resolve disputes within your team as a standard component of team communication. If unresolved concerns over the level of contribution from each team member occur, you should alert your tutor early and submit an individual reflection to flag this. Team marks **may** be reduced for non-contributing team members as explained in the key deliverables.

Appendix A – Project Charter and PMP Template

First Submission

0. Title Page *<This should include your choice of SDLC>*

1. Executive Summary (10 points)

<Give your stakeholders a concise preview of the project's plan, purpose and approach. Consolidate the main points of the document to explain why the project is being undertaken, who will be responsible for implementing it, how much it is likely to cost, the desired outcomes and benefits it is likely to produce, and how long it will take to complete. An executive summary should be organised according to the sequence of information presented in the document. Use plain English and ensure all acronyms are fully expanded out the first time they are used. Keep the executive summary as succinct as possible and contained to a single page.>

2. Table of Contents

3. Introduction (5 points)

    1. Purpose of document
    2. Audience of document
    3. Evolution of document <Please ensure that you continually update this section. It will be checked for both your **first** and **second** submission.>

Version	Individual Responsible	Date created	Comments
		Click here to enter a date.	

4 Project Information

1. Key Stakeholders (10 points)

<From the project brief identify the key stakeholders for the project>

Scope

2. What is in-scope? (10 points)

    <Detail the scope of the project. A formal SDLC project requires a clear and complete scope using defined requirements and Use Cases. Agile requires a groomed Product Backlog. Clearly state what your team is planning to deliver in the project.>

3. What is out-of-scope? (5 points)

<It's equally important to list what the project team isn't responsible for delivering. This section provides the project team with the opportunity to clearly indicate what is not in scope of the project where there may be any doubt or confusion.>

4. Delivery approach / SDLC - Formal or Agile (20 marks)
   ☐ Waterfall ☐ Agile ☐ Incremental
   *<Provide a **justification** as to why the chosen lifecycle is suitable for the case study. This should include a comparison to at least one other SDLC to justify your argument. We will not accept a Hybrid or Wagile approach.>*

5. Business Value (Financial & Non-Financial Benefits) (5 marks)
   <Provide a qualitative description of the business value for all the stakeholders, (quantitative dollar amounts not expected). Discuss how your IT project adds value and why it should be done.>

6. Constraints (5 marks)
   <State any constraint you can identify, if there exists any.>

5 Project Governance

1. Roles and Responsibilities (5 marks)

*<Identify the roles and responsibilities of the team. **Example** project roles:*
Waterfall: Business Owner / Project Manager / Senior User / Technical Subject Matter Expert
Agile: Product Owner / Scrum Master / Dev Team Members / Subject Matter Expert>

***If you are a team of 6, one of your team members will take on the role of User Experience professional.** This will require doing some research and providing a good description of what this individual will contribute to the project. (Please ignore this if you are a team of less than 6 members. Teams of 5 or less **should not** have a dedicated User Experience professional).*

2. Communication Plan (5 marks)
< Include a communication plan for your team, i.e. how your team plans to communicate during this project. Think about what your regular plan is, what is a contingency plan if the regular mode of communication does not work? >

3. Risk Management -specific risks (20 marks)
<Show 5 key risks in the Risk Impact Analysis Table; ordered from highest to lowest priority. Please choose risks that are specific to this project. Generic risks such as time, cost and scope will not be allocated marks.>

Risk ID	Risk Type (Business/Project/Product)	Description	Probability	Impact	Justification *< why your team chose this as a key risk>*

<Show the Risk Register for the risks that are in the control of the team. This risk register is based on the risk table>

Risk ID	Trigger	Owner	Response	Response Strategy type	Resources Required

4. Risk Management -generic risks (10 marks)

<Show 5 generic risks in the Risk Impact Analysis Table and Risk Register; ordered from highest to lowest priority. Please indicate clearly that this is a generic risk. The first 5 risks in the table will be specific risks and the 5 last risks in the table should be generic risks and it will be marked with this assumption.>

5. Technology (15 marks)

< Summarise your research into the language/technology/framework for the software product, and state what language/technology/framework your team has chosen to use with a justification for the choice. Include at least one other language/technology/framework in your discussion.>

6 Project Planning

1. Project planning (20 marks)

< A formal SDLC project requires a Project Schedule which shows the Work Breakdown Structure, dependencies, resources required, a project timeline on a Gantt chart, including weekly milestones for at least weeks 9, 10 and 11.
An agile SDLC requires a Sprint Plan for the first sprint, with a Sprint Goal, a Sprint Backlog, an initial Sprint Swimlane board and an ideal Burndown Chart and Velocity. Choose appropriate feature-level User Stories from the Product Backlog for the Sprint Backlog and decompose them into low level Sprint User Stories. Sprint-level User Stories may have with tasks associated, and task may be estimated in hours. Sprint Burn-down chart should have (business value) Story Points on the y-axis. >

2. Group planning (5 marks)

< Create a group contract for how the team will work together>

Second Submission

7 Project Execution, Monitoring and Control

1. Project Status: **Friday Week 9** (10 marks)

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager/Product Owner was reporting to the stakeholders. This should be an accurate reflection of how the team progressed, not a generic update. Any changes need to be included to the 'Evolution of the Document' table>

7.1.1 Process Related Artefacts (15 marks)

*< Include all process related artefacts relevant to your process. e.g. agendas, minutes, a timesheet per member (**timesheet per member is required regardless of the chosen lifecycle**), **screenshots of communications* (e.g. whatsapp messages, wechat) or copies of emails;** progress Gantt charts, updated schedules, images of Kanban boards, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, and any other process related artefacts that will demonstrate to your markers how well you were executing and managing the process (you may include them in an Appendix in your submission with a reference from this section to improve readability of the document).>*
**Communications must be in English*

7.1.2 Product Related Artefacts (10 marks)

< Include all products related artefacts, designs, completed features lists, screen shots to show the status of the product and any other product related artefacts that will demonstrate to your markers how well you were progressing towards achieving the milestones you planned (you may include them in an Appendix with a reference from this section to improve readability of the document).>
If you are a team of 6, please ensure that your product related artefacts reflect what the User Experience team member has contributed.
<All other artefacts that show progress but cannot be included in the report, including code written by your team (if applicable), must be submitted as a .zip file through the submission link we provide for this purpose>

7.1.3 Risk Monitoring and Control (5 marks)

< Write a brief update on the risk status:

- *Did any of the risks originally identified occur?*
- *If the risks occurred did you mitigate the risk as planned?*
- *Did you identify new risks?*

With a focus on technical risks identified, explain how the risks identified in Section 7.1.3 were handled within your sprints if your chosen SDLC was Agile. If your chosen SDLC was a formal model, explain how did you minimize the impact of technical risks to your project and in which phases of the SDLC did your team account for this task?

7.2 Project Status: **Friday week 10** (10 marks)
< Refer to 7.1 description.>

7.2.1 Process Related Artefacts (15 marks)
< Refer to 7.1.1 description.>

7.2.2 Product Related Artefacts (10 marks)
< Refer to 7.1.2 description >

7.2.3 Risk Monitoring and Control (5 marks)
< Refer to 7.1.3 description >

7.3 Project Status: **Friday week 11** (10 marks)
< Refer to 7.1 description.>>

7.3.1 Process Related Artefacts (15 marks)
<Refer to 7.1.1 description.>

7.3.2 Product Related Artefacts (10 marks)
< Refer to 7.1.2 description.>

7.3.3 Risk Monitoring and Control (5 marks)
< Refer to 7.1.3 description.>

8. After the project – Project retrospective

8.1 Lessons learnt (10 marks)

<Report back to your manager on the project. Lessons learnt includes teamwork, technology choice, time/effort estimations, what worked well and what didn't work well (this is not an all inclusive list, there could be others.>
<Please also add to your individual reflection -optional submission, if you have lessons learnt that are private.>

Appendix B – Peer Assessment (optional)

Student Name: Student #: Team #:

Other Team Members Names						
General Aspect	**Specific Aspect**	**Self**	**Team Member 2**	**Team Member 3**	**Team Member 4**	**Team Member 5**
	Name					
Team Process	Attended team meetings					
	Maintained contact with other members					
	Contributed constructively in team discussion					
	Cooperated in team activities					
	Encouraged & assisted other members					
The Tasks	Complete assigned tasks on time					
	Contributed intellectual ideas and solved problems					
	Did their fair share of the work					
	Read and commented in a timely manner on report					
Overall	Based on your ratings, this student's overall contribution					
How would you divide $1000 among all the team based on their contribution to your project		**$**	**$**	**$**	**$**	**$**

Scale

1 – did not contribute in this way
2 – willing but not very successful
3 – average contribution to process or tasks
4 – above average contribution to process or tasks
5 – outstanding contribution to process or tasks

If you do not divide the $1000 equally among all team members, please complete the team reflection (compulsory).

Teamwork Reflection:
< Reflect on how well the group functioned, the quality of the teamwork and the communication principles and style.>