**The University of Melbourne
School of Computing and Information Systems
SWEN90016 Software Processes and Management
Semester 1 – 2019**

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

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 B.

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 the 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 or a combination of the two); your PMP must justify why you chose the SDLC.

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 Wix (https://www.wix.com/about/us), WordPress (https://wordpress.com/create-website/) or more a complex web development framework which requires full-stack development.
- 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 rational 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 send an email to your tutor (email addresses are available on LMS) with a copy to the subject coordinator (karus@unimelb.edu.au).

- 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 10%; 90% of the marks will be for how well you plan, manage and execute the process.

Key Deliverables and Marks:

ID	Artefact	Submission	Date	Marks
1	Project Management Plan (PMP) Version 1.0 Sections 1-6 completed	LMS – team submission	Wednesday 24th April 11.59 pm (Non-teaching week)	9
2	Project Management Plan (PMP) Version 1.1 Updates to the PMP as needed. Include Section 7.1 (The version history must show what you changed and why)	LMS – team submission	Saturday 11th May 11.59 pm (Week 9)	6
3	Project Management Plan (PMP) Version 1.2 Updates to the PMP as needed. Include Section 7.2 (The version history should show what you changed and why)	LMS – team submission	Saturday 18th May 11.59 pm (week 10)	6
4	Project Management Plan (PMP) Version 1.3 Updates to the PMP as needed. Include Section 7.3 (The version history should show what you changed and why)	LMS – team submission	Saturday 25th May 11.59 pm (week 11)	6
5	Individual Reflection (Optional) - Use the Peer Assessment form in Appendix C to assess your team member's contribution. Reflect on the contribution by you and your team members (500 words approximately). - If the reflection flags non-contributing members, staff has the discretion to award a reduced mark to such members.	LMS – individual submission as a single report	Sunday 26th May 11.59 pm (week 11)	0
6	Final Product – Software System	Demonstrate to the tutor	Week 12 workshop	3

Note: Although submissions 2 and 3 carry marks and must be submitted via LMS as evidence of process adherence and progress, they will only be marked after the final submission in week 11.

Submission and Feedback

- Your tutor will create a group for your team on LMS
- All submissions and feedback will be via LMS

Penalty for Late Submission

Late submissions without an approved extension will be subject to a penalty of **1 mark 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.

Appendix A – PMP Template

1. Title Page

2. Executive Summary

   <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.>

3. Table of Contents

4. Introduction

   4.1 Purpose of document

   4.2 Audience of document

   4.3 Limitations of document

   4.4 Evolution of document

Version	Created by	Date created	Location	Comments
		Click here to enter a date.		

5 Project Information

   5.1 Key Stakeholders
   <From the project brief identify the key stakeholders for the project>

   5.2 Scope

       5.2.1   What is in-scope?
   <Detail the scope of the project. The execution of the entire project starts with a clear and complete scope definition. Every other element of project planning will relate to scope and to the deliverables listed below. Clearly state what requirements your team is planning to deliver in the project.>

5.2.2 What is out-of-scope?
<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.>

5.3 Delivery approach / SDLC - Formal or Agile
☐ Formal   ☐ Agile   ☐ Hybrid

<Provide a justification as to why the chosen lifecycle is suitable for the case study.>

5.4 Business Value (Financial & Non-Financial Benefits)
<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.>

5.5 Constraints
<State any constraint you can identify, if there exists any.>

6 Project Governance

6.1 Roles and Responsibilities

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

6.2 Communication Plan

< Include a communication plan for your team, i.e. how your team plans to communicate during this project.>

6.3 Risk Management

<Show up to 10 key risks in the Risk Impact Analysis Table; ordered from highest to lowest priority.>

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.>

Risk ID	Trigger	Owner	Response	Resources Required

6.4 Technology

< 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.>

6.5 Project Planning

< If you chose a formal SDLC provide a Project Schedule for the chosen SDLC which shows the work break down structure, dependencies, resources required, a project timeline on a Gantt chart, including weekly milestones for at least weeks 9, 10 and 11.

If you chose an agile SDLC, provide a Sprint Plan for the first sprint, by choosing the appropriate feature-level stories, and breaking them into appropriate tasks estimated in hours. >

7 Project Execution, Monitoring and Control

7.1 Project Status: Friday Week 9

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager was reporting to the stakeholders.>

7.1.1 Process Related Artefacts

*< 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**), progress Gantt charts, updated schedules, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, images of Kanban boards, 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 with a reference from this section to improve readability of the document).>*

7.1.2 Product Related Artefacts

< Include all products related artefacts such as requirements, use cases, user stories, 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).>

<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

< 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?*

>

7.2 Project Status: Friday week 10

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager was reporting to the stakeholders.>

7.2.1 Process Related Artefacts

*< 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**), progress Gantt charts, updated schedules, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, images of Kanban boards, 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 with a reference from this section to improve readability of the document).>*

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< Write a brief update on the risk status:
- *Did any of the risks originally identified occur?*
- *If the risks occurred did you mitigate the risks as planned?*
- *Did you identify new risks?*

>

7.3 Project Status: Friday week 11

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager was reporting to the stakeholders. >

7.3.1 Process Related Artefacts

*< 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**), progress Gantt charts, updated schedules, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, images of Kanban boards, 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 with a reference from this section to improve readability of the document). >*

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< Write a brief update on the risk status:
- *Did any of the risks originally identified occur?*
- *If the risks occurred did you mitigate the risks as planned?*
- *Did you identify new risks?*

>

Appendix B – Case Study[1]

Business Case Background:

Alena is an owner of a small health-care centre in Geelong. She is a chiropractor and started the centre as she saw an opportunity to create a centre for health-care professionals. The idea is to grow the centre and have different types of health-care professionals all working in the same location for the convenience of customers. She is currently expanding the property to accommodate two more healthcare professionals: a podiatrist and a naturopath will be joining the centre. More health care professionals may join the centre, or the health care professionals may change, some may work part-time and share the rooms. On the centre's website there is key information for the health-care professionals that work in the centre (currently only Alena). This information includes name with a short bio, qualifications and dates and times that they are available (this is updated from the google calendar using an app). The centre does not have a receptionist, and instead uses an answering service where customers are asked to provide key information such as their name, appointment details including appointment date request.

As Alena is working all day, she listens to all the messages at the end of the day or during her lunchbreak and updates the google calendar and then emails the customers the confirmation of the booking. If a new customer called, Alena may have to follow up with a phone call to find out more information. Alena realises her current mode of operation is quite inefficient. Alena discusses her current business practices with her brother, Gregor, who is a student in business and IT at the University of Melbourne. Gregor suggests that a software system may be a good way to go to improve the efficiency of her business operations.

As Alena has spent most of the capital that was available for the business on renovating and expanding the centre, she does not have sufficient funds to spend on a software system and, therefore, she decides to have the software built by a group of students enrolled in SWEN90016 at the University of Melbourne, rather than paying a professional software development company.. She had heard about the good outcomes from such projects in the previous semester from her friend Tom, who has previously used a SWEN90016 team to build a similar software solution. Alena is convinced that this is the best approach to take given the current circumstances.

Your team is required to develop a web-based system for appointment management with the following functionality by the project due date.

Key Requirements:

1. The super user is the owner of the centre (Alena in this case). This user is referred to the *Admin*. The *Admin* has a pre-defined and system recognizable email username and a default initial password for login (you do not have to provide an interface to enter this).
2. The *Admin* user must be able to add *Health-care Professionals* to the system by providing the following information about them:

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[1] While this case study is hypothetical it resembles a typical IT project.

     a. Type: podiatrist, naturopath, chiropractor will be the only types supported in the first release

     b. Name

     c. Email address

     d. Charge for a one-hour consultation session (assume all practitioners provide one-hour consultation sessions)

3. *Customers* must be able to register in the system by providing the following *Personal_Information*:

     a. Name

     b. Home address

     c. Contact phone number

     d. Email address

     e. Initial password

4. *Customers* must be able to login to the system using their email address and password provided in requirement (3).

5. Logged in *Customers* must be able to update their *Personal_Information*.

6. Logged in *Customers* must be able create a booking request, referred to as an *Appointment_Booking.* When creating an *Appointment_Booking, Customers* must be allowed to:

     a. Select the type of **Health-care Professional** from a list of available types

     b. Select the preferred **Health-care Professional** (by name) from the selected type of professional in (a) above (the system must display to the *Customer,* the name and per-hour charge of each of the **Health-care Professionals** of the selected type to choose from)

     c. Select a suitable time for the appointment from a list of available times – you can assume that each **Health-care Professional** is available for consultation from 9 am – 5 pm daily (including weekends) unless some other *Customer* has already booked an appointment with them at the time.

     d. Enter an optional message to be sent to the Health-care Professional.

7. When the customer completes the *Appointment_Booking,* the system must send an email to the *Health-care Professional* with the following information regarding the booking:

     a. Name, phone number, email address of the *Customer*

     b. Date and time of the booking

     c. Message to the *Health-care Professional* as per requirement 6 (d).

8. Logged in *Customers* must be able to view or cancel their appointments. If a *Customer* cancels an appointment, an email must be sent to the *Health-care Professional* with information in requirement (7)-(a) and (7)-(b) and a message indicating that this is an appointment cancellation.

9. The *Admin* user must be able to view a list of all appointment requests.

10. *Customer, Health-care Professional* and *Appointment_Booking* information must be persisted in the system (stored in a database).

Notes:

- In the initial system, ***Health-care Professionals*** will not have the option to login to the system to view booking information.
- Some obvious requirements are not included in the requirements above to limit the scope for the first version of the system, but future enhancements to the system will be made to the system if the business is successful.

Appendix C – Peer Assessment

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**
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 t
5 – outstanding contribution to process or tasl

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