**The University of Melbourne
School of Computing and Information Systems
SWEN90016 Software Processes and Management
Semester 1 – 2020**

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 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 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 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.

Key Deliverables and Marks:

ID	Artefact	Submission	Date	Marks
1.1	Project Management Plan (PMP) Version 1.0 Sections 1-6 completed	Canvas – team submission	Saturday 2 May 11.59 pm	9
1.2	Individual submission- Team creation and bonding (please see page 13 of this document)	Canvas – individual submission	Saturday 2 May 11.59 pm	2
2.1	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)	Canvas – team submission	Saturday 23 May 11.59 pm	3
2.2	Individual submission- Communication (please see page 13 of this document)	Canvas – individual submission	Saturday 23 May 11.59 pm	2
3.1	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)	Canvas – team submission	Saturday 30 May 11.59 pm	3
3.2	Individual submission- Conflict resolution (please see page 13 of this document)	Canvas – individual submission	Saturday 30 May 11.59 pm	2
4.1	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)	Canvas – team submission	Friday 5 June 11.59 pm (week 12)	3

4.2	Individual submission- Group dynamics (please see page 13 of this document)	Canvas – individual submission	Friday 5 June 11.59 pm (week 12)	2
5	Individual Reflection - 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 and accordingly the marks associated with this reflection are allocated for your contribution to the team. (please see page 14 of this document)	Canvas – individual submission as a single report	Friday 5 June 11.59 pm (week 12)	2
6	Final Product – Software System	Group demonstrate to the tutor	Zoom demonstration	2

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 12.

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 **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.

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 Evolution of document

Version	Created by	Date created	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. This should include a comparison to at least one other SDLC to justify your argument.>

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. Think about what your regular plan is, what is a contingency plan if the regular mode of communication does not work? >

6.3 Risk Management

<Show at 4 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. This risk register is based on the risk table>

Risk ID	Trigger	Owner	Response	Response Strategy type	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 breakdown 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. This should be an accurate reflection of how the team progressed, not a generic update. >

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**), **screenshots of communications (e.g. whatsapp messages, wechat) or copies of emails;** 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. This should be an accurate reflection of how the team progressed, not a generic update.>

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**), **screenshots of communications (e.g. whatsapp messages, wechat) or copies of emails,** 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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<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>

7.2.3 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 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.This should be an accurate reflection of how the team progressed, not a generic update>

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**), <u>**screenshots of communications (e.g. whatsapp messages, wechat) or copies of emails,**</u> 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).>*

7.3.2 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>

7.3.3 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 risks as planned?*
- *Did you identify new risks?*

Appendix B – Case Study[1]

Business Case Background:

Jess and James own an organic fruit and vegetable store, *JJFresh*, in a suburb in Melbourne. The store is open weekdays between 7am- 4pm and weekends from 9am -2pm. They are busy in the mornings, however from around midday there are not many customers. Many of their customers have mentioned that although they prefer the quality of their produce (henceforth, would refer to fruits and vegetables), they often buy their fruit and vegetables from Coles and Woolworths during the week because they are open 24 hours. Most individuals work and then shop after hours, sometimes as late as midnight (when JJFresh is closed). On weekends, they will go to JJFresh if they have the time. Jess and James realise that in order to stay competitive they need to open later hours (which neither of them want to do) or provide some other way to sell their produce to their customers. Jess's sister is a student at the University of Melbourne and is enrolled in a Master of Information Technology (MIT) course. She suggests that they should get an online store, wherein they would showcase their produce box offerings (using nice pictures of the actual produce box and their contents), for customers to choose and make their orders. The online orders would then be delivered to the customer's address. She thinks they could get this software developed through a student group enrolled in the Software Processes and Management subject, at a fraction of the cost a professional company would charge. After meeting with their accountant, Jess and James realise that if they do not change their business model, they would need to close their store. They decide to decrease the opening hours of their retail shop, and use those hours to process the online orders, pack the items into a produce box, and get them ready to be delivered to the customer's address. As their shop is a community store, most customers are within 10 km. They decide to open the shop between 7am-12pm, and use their afternoons to handle the online orders. They each have a car, so they plan to spend their evenings delivering the online customer orders. The student team is required to develop a web-based system for online ordering of their produce box offerings, that has the following functionality.

Key Requirements:

1. Allow customers to login with an email address and a password.

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

2. Add and edit client information such as the name, home address, and upto three multiple contact phone numbers (e.g. mobile, home and work numbers)

3. Customers should be able to order produce boxes online. When ordering produce boxes, the customer should be presented with 3 different types of produce boxes:
   a. Fruit box - $20
   b. Vegetable box - $15
   c. Mixed fruit and vegetable box - $18

4. Select a size of the box namely:

   Small - which is suitable for a couple;

   Medium - which is suitable for a family of 4

   Large – which is suitable for a family of 6

   The prices mentioned above are for the small product box only. However, if the customer chooses *medium,* the cost will double, and if the customer chooses *large,* then the cost will be tripled.

5. Customers should then be able to choose a day and time for delivery. Delivery options are in hour blocks between 4pm and 7pm. For instance, 4-5pm; 5-6pm and 6-7pm. Bookings should be available for the next 7 days only. Only two bookings are allowed in a particular hour.

6. When the booking is final, the system should send a confirmation email to the customer with the date, time, type and size of box; along with the price of the box chosen.

7. The customers should have the option to cancel an order. When the customer cancels an order, an email of the cancellation should be sent to the customer.

8. If the customer needs to modify an order, they will need to cancel the existing order and then re-create the order.

9. The owners of JJFresh should have admin login where they can view the list of bookings.

10. The website should be accessible from a single URL with different roles.

Future Enhancements: (Students do not need to implement this functionality)

JJFresh would like the system to be able to:

● Add multiple bookings for the same time slot (so they can employ others to deliver boxes);

● Using AI, calculate delivery times that provide an optimal route for delivery.

● Initially it will be cash on delivery, in that JJFresh will be paid when they deliver the box. In the future this should be extended to allow for payment online.

ID	Individual submissions
1.2	Individual submission- Team creation and bonding [2 marks] Provide an artefact(s) e.g. emails, chats; from when you the team formed and discuss how your team came together. This should include the informal contract between the students. [300 words]
2.2	Individual submission- Communication [2 marks] Provide an artefact(s) e.g. emails, chats; and discuss communication styles e.g. non verbals between yourself and your team members. Look at the tutorial for examples. [300 words]
3.2	Individual submission- Conflict resolution [2 marks] Discuss a negotiation in your team e.g. how your team decided on which technology to use. Please include artefact(s), e.g. screenshots of emails in order to illustrate your answer . [300 words]
4.2	Individual submission- Group dynamics [2 marks] Identify the different roles (please see workshop on team roles) that you perceive that you and your team members played. Discuss based on your skills and background what role you played. This is your personal reflection on the team members. [300 words]
5	Individual Reflection (Optional) [2 marks] - 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.

Appendix C – Peer Assessment

Student Name: Student #:   Team #:

General Aspect	Specific Aspect	Self	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Other Team Members Names						
	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

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