Exam: Software Processes and Management (SWEN90016_2021_SM1)

Started: Jun 9 at 15:01

Quiz Instructions

Academic Integrity Declaration

By commencing and/or submitting this assessment I agree that I have read and understood the **University's policy on academic integrity.** **(https://academicintegrity.unimelb.edu.au/#online-exams)**

I also agree that:

1. Unless paragraph 2 applies, the work I submit will be original and solely my own work (cheating);
2. I will not seek or receive any assistance from any other person (collusion) except where the work is for a designated collaborative task, in which case the individual contributions will be indicated; and,
3. I will not use any sources without proper acknowledgment or referencing (plagiarism).
4. Where the work I submit is a computer program or code, I will ensure that:
   a. any code I have copied is clearly noted by identifying the source of that code at the start of the program or in a header file or, that comments inline identify the start and end of the copied code; and
   b. any modifications to code sourced from elsewhere will be commented upon to show the nature of the modification.

Question 1	**0.5 pts**

What topic falls outside the scope of a well-run daily stand-up meeting?

- ○ Current obstacles
- ⦿ Planning out an iteration or sprint
- ○ What everyone worked on the day before
- ○ What everyone will work on today
- ○ Recently completed tasks

Question 2
0.5 pts

Considering the work allocation of tasks in an Agile Team, which of the following is **true-**

○ The Scrum Master allocates tasks to the members of the Dev Team to test their abilities.

○ The most challenging tasks are allocated to the most experienced team member.

○ The Product Owner allocates tasks to the members of the Dev Team.

◉ Members of the Dev Team select tasks among themselves.

○ The Product Owner and Scrum Master decide on task allocation for team members.

Question 3
0.5 pts

A medium sized software development company, ServiceAutomation Ltd, has three permanent Project Managers. One Project Manager recently delivered a poor-quality version of software to a major client. The client responded with an ultimatum for a quality improvement effort before they will accept another software delivery from ServiceAutomation Ltd.

Which of the following options will help in improving the software quality before the next delivery?

○ Accept that the quality cycle causes resentment and low morale in the project team.

○ Expand the role of Quality Assurance, and design effective new quality processes

○ Assign some debugging tasks to the project manager to help improve the quality of the project.

◉ Remove the automated quality tools for achieving timely high-quality outcomes.

○ Expand the role of the Quality Assurance, and mandate training in existing quality processes.

Question 4

0.5 pts

A medium sized software development company, BigDataAnalysis Ltd, is transitioning one of their Scrum SDLC software development projects to an offshore, outsourced Dev Team. The Product Owner attends all daily stand-ups via Zoom, and the Dev Team use the online Kanban Trello tool to monitor progress.

The Sprint Reviews demonstrated rapid product increments. In a later Sprint, the product was rebuilt from scratch for the "Disaster Recovery" User Story. In this later Sprint, the Product Owner discovered the project had hidden dependencies on unlicenced third-party products.

What **disadvantage** of outsourcing is demonstrated in this instance?

- ○ Security issues keeping Intellectual Property secret

- ○ Disengagement between Product Owner and Scrum Master

- ● Loss of control over the development process

- ○ Cultural differences.

- ○ Time Zone inconvenience

Question 5

0.5 pts

A large IT system for a financial institution has recently starting using the git version control system. The production code exists on the git branch called Main. A high-profile upgrade project is in its final phase of testing on a git branch called Upgrade. A showstopper software bug has been found in an existing production file outside the scope of the upgrade project. What workflow should git use to manage the bug fix code? Choose the **best** answer-

- ○ There is no need to fix the bug, just ensure that it is fixed in the upgrade project.

- ○ This should not be done using the versioning system.

- ● git clone, git checkout -b Foo, git commit, git push

- ○ git init, git add filename, git commit, git pull

- ○ The developers can fix the code directly in production.

Question 6   0.5 pts

"Update the website to allow customers to purchase merchandise"

Which of the following statements is a **correct** statement about the User Story above?

○ This is a User Story of 3 Story Points.

◉ This User Story is a Feature User Story

○ This User Story was added by the Scrum Master.

○ This is an Epic User Story

○ All of the statements are correct.

Question 7   1 pts

DevCo are taking on a new project for ElectLTD. The project is to create a workflow for customers to view their queries.

These are the different stakeholders at ElectLTD:

- Joanne is the CEO
- Matt is the Chief Information Officer,
- Aoiji is the head of Customer services.

As DevCo has had a surge in projects, they have decided to hire some employees to streamline the organisation and have clear defined roles for everyone. These are the employees at DevCo with their specified roles:

- Xaoitan is the account manager
- Sven is the project manager.
- Wentao is a scrum master for any projects that are using Agile.

Who is responsible for creating the business case?

○ Wentao

◉ Sven

○ Aoiji

○ Joanne

○ Matt

Question 8   1 pts

A big corporation has issued a "Request For Tender" for a new IT system to multiple software suppliers. The successful supplier will be chosen by the Chief Technical Officer (CTO) and Chief Information Officer (CIO). The CIO attends the same church as one of the suppliers. How should the procurement process be managed? Choose the **best** answer-

○ The standard procurement process allows for scenarios where personal connections are acceptable.

◉ The Manage phase can regulate personal connections using the rights & responsibly of the procurement process.

○ The CIO should award the contract to the supplier who attends the same church. It is good to have a relationship with the supplier as this will help during the 'Manage' phase of the project.

○ The Source phase of the procurement process would identify that there is a supplier with a personal connection to the CIO. This is an ethical consideration that requires further investigation.

○ The Plan phase of the procurement process can mitigate the risk of personal connections.

Question 9   1 pts

TASK ID	ACTIVITY	PREDECESSOR	DURATION (Days)
A	Perform market survey	-	3
B	Determine product specifications	A	6

C	Design architecture	B	2
D	Detailed analysis of core modules	C	6
E	Detailed analysis of supporting modules	C	5
F	Code core modules	D	3
G	Code supporting modules	E	7
H	Integrate modules	F, G	5
J	Quality control of modules	H	2
K	Testing, fixing, and release	J	6

Which of these statements is correct?

○ The duration of the project is 36 weeks.

○ Activities D and E have zero float..

● Activity C has 2 successors.

○ Activity H has 2 successors.

○ All of the statements are correct.

The following questions are short questions related to a number of different scenarios. Please ensure that all your responses are clearly based on the scenario and are not generic.

In November 1998, the United Kingdom (UK) passport department suspended the roll-out of a new computer system that was being implemented to streamline the

creation, processing and distribution of new passports. The reason behind the suspension was due to a delay as as one critical component was not working as expected (the component was on the critical path of the project). Assume you were appointed as the Project Manager for this Passport project, and the project was developed using a formal approach. You have identified the 'Public' as a external stakeholder.

Question 10   2 pts

The employees* working in the passport office are internal stakeholders. What do you think their <u>current</u> level of engagement is? Describe and justify the <u>desired</u> level of engagement of these employees. Propose a communication plan between the project manager and these employees if project milestones and deliverables are not met. (Note: the year is 1998).

*These employees are front-office. They are dealing with the public and are responsible for taking the passport applications and adding them to the workflow for processing. They also interact with the public when a person comes to pick-up their passport.

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The employees are the end users of this project as they need to use the system to handle the applications, they currenly know the exist of this project and neither supportive nor resistant, so they are **neutral**.

The desired level of engagement should be **supportive** as their feedbacks are important to the project.

The communication plan can be listen to their ideas by phone, email or a face to face meeting weekly.

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Question 11   2 pts

Describe and justify the <u>current</u> level of engagement of the **external** stakeholder - the 'Public', that was identified in the scenario. Describe and justify the <u>desired</u> level of engagement of this stakeholder. Describe and justify your communication plan to change the level of engagement between the current and desired level of engagement of this stakeholder. (Note: the year is 1998).

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The public can be a local community and they are not the users of this project. When they apply for passports, they still need to communiate with officers and cannot use the system like officers. They are currently **neutral** as they know the project exist and neither supportive nor resistant.

They should keep this level of engagement, so there is no need to cummunicate with them.

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Question 12   1 pts

The year is 2009 and the UK passport office (a government department) is looking to use biometric passports. A biometric passport is a traditional passport that has an embedded electronic microprocessor chip which contains biometric information that can be used to authenticate the identity of the passport holder. This would be an extension to the existing system.

Based on the negative publicity during the updated passport system project during 1998-1999, the Project Manager on this project is being very thorough and wants to manage the process better. The 'Public' has been identified as a stakeholder.

Describe the desired level of engagement for the stakeholder identified (the 'Public') and how your communication plan can help achieve your desired level of engagement. (Note: the year is 2009).

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Currently they do not know the exist of project, as the project is in planning phase. So they are unaware. The desired level of engagement should be supportive. As the public can be the end users of this project as they can apply for passports on Internet. So they are similiar to the officers in 1998. The communication plan can be listen to their ideas by phone, email or a face to face meeting weekly.

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Question 13   1 pts

The project manager is thinking of using an Incremental approach to complete this project, why would Incremental be a good choice for this development?

Remember to base your argument on the characteristics and risks of the project and use facts from the case study to justify your answer.

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Yes, as the timeline is tight, there should be a useable software before summer, incremental approach can provide a useable software each release.

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Question 14   1 pts

The project manager is thinking of using a Waterfall approach to complete this project, why would Waterfall be a poor choice for this development?

Remember to base your argument on the characteristics and risks of the project and use facts from the case study to justify your answer.

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The waterfall discourages change, as the users of this project is unknown and the number of application is unforeseenable, as a result, the requirment may varies even right before the release. Moreover, the user feedback is know later.

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Question 15	**1 pts**

The project manager is thinking of using an Agile approach to complete this project, would Agile be a good choice for this development?

Remember to base your argument on the characteristics and risks of the project and use facts from the case study to justify your answer.

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> Yes, as the time is tight, Agile is efficient and simple code, so there will be a useable application very soon.

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Question 16	**1 pts**

The project manager is thinking of using an Agile approach to complete this project, why would Agile be a poor choice for this development?

Remember to base your argument on the characteristics and risks of the project and use facts from the case study to justify your answer.

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Agile requires of working experiences. However, developing a online passport project is rare at that time.

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Question 17   2 pts

Is the government an internal/external stakeholder for this project? Justify your response. Conduct a stakeholder analysis for this stakeholder (with justification). (Note: The year is 2009)

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Yes, the government is sponsor of this project. The level of engagement is Champion / Leading, as the goverment leads the change of this project. The governemnt has high interest and high influence to the project. We should keep reporting the process of this project weekly to the government.

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Question 18   2 pts

Is the media a stakeholder for this project? Justify your response. Describe your communication plan with the media (with justification). (Note: The year is 2009)

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Yes, as public know this project via media, their attitude to this project mainly based on media.

Moreover, media is a part of public. So they should also be stakeholders. We should communicate with them to let them post the advantages of this project. The way to communicate can be via email, phone, face to face meeting monthly.

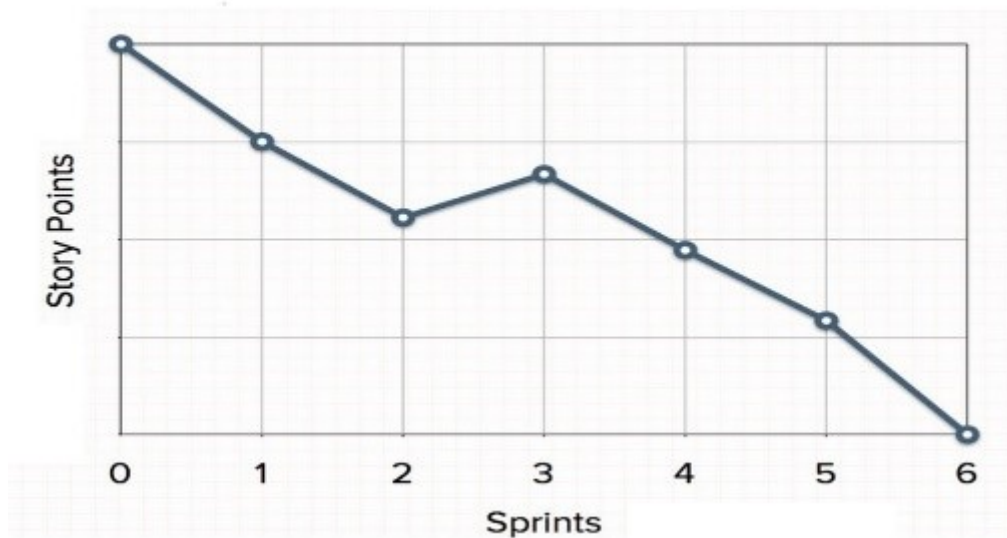p   ⌨   ⓘ | 58 words | </>   ↗   ⋮

Question 19   3 pts

A team at XYSol are working on a project. During the project initiation phase, a stable Scrum Dev team is selected. The Dev Team have an established velocity of 50 Story Points per 3-week Sprint. The Dev Team have estimated the Product Backlog's feature-level User Stories at 360 Story Points. The client would like to release the envisioned product in 18 weeks.
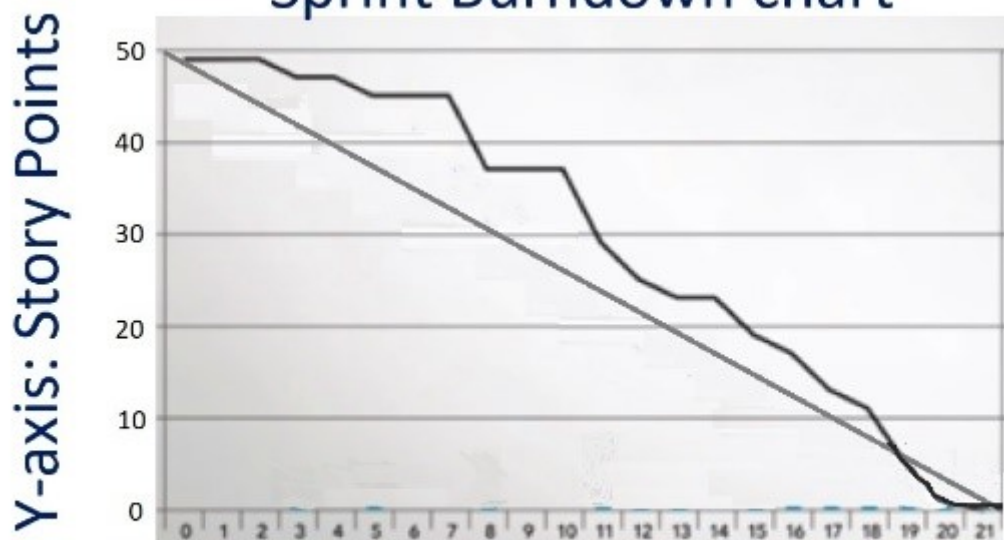
Below please find the

1. Release burndown chart (without values on the y-axis) for this release.

2. Sprint burndown chart (from a previous project and on which the 50 Story Point estimate is based).

Release Burndown Chart

Sprint Burndown chart

X-axis: days

Using the data and charts provided- answer the following 7 questions about the project.

Explain what could have happened in the 3rd sprint of this release. State any assumptions made.

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There may be new requirements which worth about 45 story points.

The assumption is, at 3rd sprint, the team meets a difficult when they are working on a task, all other tasks behind depend on the outcome of this task, which are finish-to-start dependencies.

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Question 20

2 pts

What would the Product Owner do at the beginning of this release?

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Transfer product backlog into user stories, decides the user stories of each sprint, prepare project management plan. Decide on release date and contents and define the features of the product

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Question 21

2 pts

Based on the information provided in the release burndown chart, what estimated velocity would you use for further releases? Explain your estimate.

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60, as a total of 360 points delivered in 6 sprints, 360/6 = 60.

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Question 22

2 pts

How should the Dev Team manage risk for this release?

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Prepare a risk management plan. Identity, access and analysis each risk. Then decide the respond of each risk. During the development, monitor and control the risk.

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Question 23

0.5 pts

Using the sprint burndown chart, summarise how that sprint (in the sprint burndown chart) progressed.

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The sprint is progressed better than estimated. As 60>50.

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Question 24

0.5 pts

Is this release fixed-scope or fixed-date? Explain your choice.

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Fixed-date, as the number of sprints are fix, and the length of each sprint is fix.

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Question 25   1 pts

What is the status of the project? Explain your response.

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The project is finished,as the remaining points is 0.

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Question 26   4 pts

A company 'Lean2Go' has been tasked with developing a new mobile application that gives real time updates on your home gas, water and electricity usage. The project is being executed using an incremental SDLC. GIT is used for version control and management. The project deliverables encompass three core areas - database, logic and user-interface (front-end). These three areas have to be separately handled for development and version control. In addition, any high priority (or urgent) bugs that come after a milestone release, have to be addressed separately, without disturbing the current development activities. Finally, the project needs to support the 'integration testing' of all artefacts before a new milestone release (for example – Integration Testing of new electricity/gas/water provider).

Explain in brief how you would set up GIT branching to meet these project requirements?

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Database, logic and GUI should be in three separate GITs.

Each GIT should have four branches, one hotfix for fixing bugs, one for development, one for the release and the last one for master branch.

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Question 27   2 pts

In this subject, we have discussed the importance of quality and quality management. Discuss how this can be achieved in the 'Lean2Go Solutions' project described above.

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The team can set up a documentation standard frameworkwhich includes like the standards of coding and version controlling. The team can also set up a software quality plan. The team can have formal review before each release to decide whether accept to release.

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Question 28   2 pts

'Lean2Go Solutions' have a refined change control process. When there is a change required for production, certain documentation needs to be completed. Create a template and complete that template with data for a bug fix.

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Initiate the Change	There is a bug in the release. How important the bug is?
Evaluate the Change	The code need rewite, it will affect that line of code, the function and the file.
Making the Change	The author should correct the bug, and the change will be released in next version.

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Question 29   1 pts

Who at 'Lean2Go Solutions' do you think is responsible for giving the approval for any changes (such as the bug fix) to be made in production. Justify your choice. (1 mark).

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The reviewers who attented the formal review meeting. The reviewers can be 2-3 non-author stakeholders.

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Question 30   2 pts

The development team consists of the following team members-

Kan is a recent graduate with a very high WAM. This is her first job after finishing University.

Haoran has recently joined 'Lean2Go Solutions' as a senior developer specialising in data. We don't have any background on him.

Joanne is in her mid-30s and has 5 years development experience after changing careers. She is very technical and enjoys learning new languages. She has been working for 'Lean2Go Solutions' for 5 years and has 2 children.

Jinuo is in his mid-40s and has been working at 'Lean2Go Solutions' for almost 10 years. He is an expert developer and has many other skills and knowledge including hardware and infrastructure. During his years he has worked on many projects. Many people find it difficult to work with him as he is a dominating personality who thinks he is always right.

Explain how you would motivate each of the team members.

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Kan can be motivated by personal growth, as she has no working experience before and can gain working experience.

I should have a talk with Haoran to know his background and see what motivates him.

Joanne can be motivated by higher salary and work-life balance as she has kids to feed and can also has more time spending with her kids.

Jinuo can be moteived by improving co-working relationships, as he is difficult working with others. I can talk with other members and make them bear with Jinuo.

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