

FIT2002 IT Project Management

Assignment 2

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Deliverable 1 - Project Integration Management - Integrated change control

Task 1.1 - Justification memo

PROJECT MEMORANDUM

Date: 1st October 2022

From: Hiu Lam Lau (Project manager)

To: FIT's senior manager

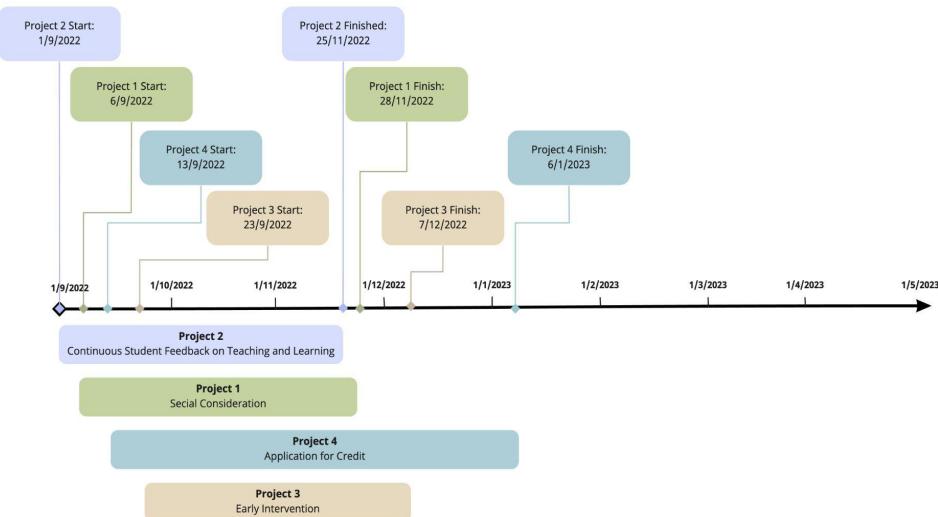
Subject: Integrated change control in project management

Portfolio projects schedule table (before the change)

Project	Start date	Finish date
Project 1 Special consideration	6/9/2022	28/11/2022
Project 2 Continuous Student Feedback on Teaching and Learning	1/9/2022	25/11/2022
Project 3 Early Intervention	23/9/2022	7/12/2022
Project 4 Application for credit	13/9/2022	6/1/2023

(Project memorandum will be continuous in the next page)

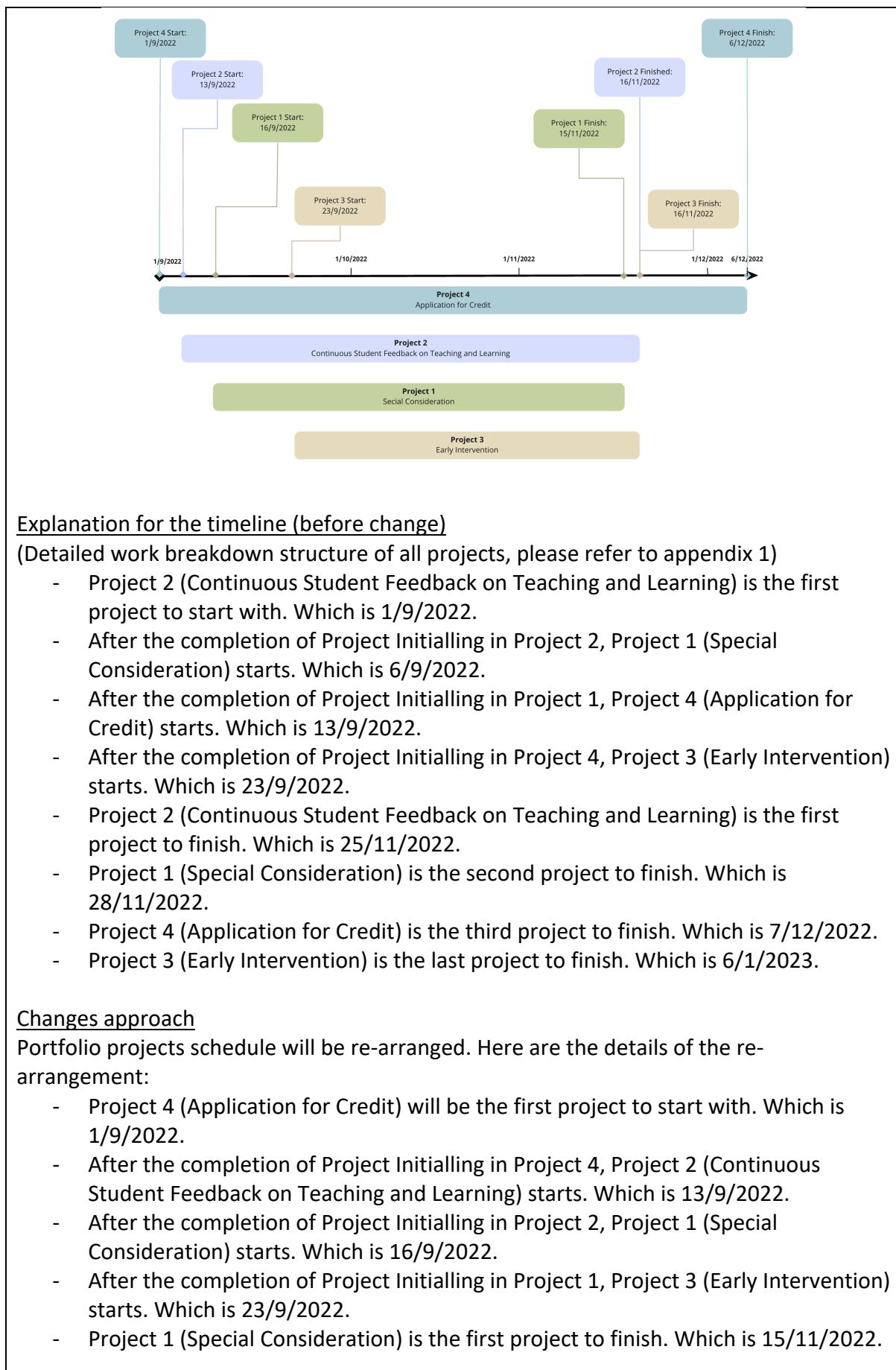
Portfolio projects schedule timeline (before the change)



Portfolio projects schedule table (after the change)

Project	Start date	Finish date
Project 1 Special consideration	16/9/2022	15/11/2022
Project 2 Continuous Student Feedback on Teaching and Learning	13/9/2022	16/11/2022
Project 3 Early Intervention	23/9/2022	16/11/2022
Project 4 Application for credit	1/9/2022	6/12/2022

Portfolio projects schedule timeline (after the change)



- Project 2 (Continuous Student Feedback on Teaching and Learning) and project 3 (Early Intervention) got the same time to finish. Which is 16/11/2022.
- Project 4 (Application for Credit) is the last project to finish. Which is 6/12/2022.

Other than the re-arranged the schedule for the portfolio projects, the reduction of the project duration time is required for project 4. That project 4 will reduce the project duration time about 4 weeks.

Recommendation

There is one recommendation for the integrated change control in the portfolio project.

Here are the details:

- Outsourcing

To speed up the projects schedule and ensure the quality of the project, extra resources are required for the project execution. For example, hiring the professional for participate in the projects. To ensure the projects can finished on time with keeping the high standard quality.

Deliverable 2 - Project monitoring and controlling

Task 2.1 - Calculation (CV, SV, CPI & SPI, EAC, estimate time to completion)

BAC (Budget at completion/ Total budget) = \$600,000

EV (Earned Value) with 60% completion of the project = $\$600,000 * 60\% = \$360,000$

AC (Actual Cost) with 80% spent of the total budget = $\$600,000 * 80\% = \$480,000$

PV (Planned Value) = $\$600,000 * 2/3 = \$400,000$

Calculation

CV (Cost Variance)	EV – AC	\$360,000 - \$480,000	- \$120,000
SV (Schedule Variance)	EV - PV	\$360,000 - \$400,000	- \$40,000
CPI (Cost Performance Index)	EV/AC	\$360,000 / \$480,000	0.75
SPI (Schedule Performance Index)	EV/PV	\$360,000 / \$400,000	0.9
EAC (Estimate at Completion)	BAC/CPI	\$600,000 / 0.75	\$800,000

Estimated time to complete	Time estimate/SPI	3 months / 0.9	3.33 months

Task 2.2 - Justification memo and recommendation

PROJECT MEMORANDUM

Date: 1st October 2022

From: Hiu Lam Lau (Project manager)

To: FIT's senior manager

Subject: Status information of the project and recommendation(s)

Project Status

Project 2 (Continuous Student Feedback on Teaching and Learning) had completed 2 months with 60% completion in project works. There is 80% total spending at the point of the total budget.

Variance Status

The current cost variance (CV) of the project is - \$120,000. Which shows the project is over budget currently.

The current schedule variance (SV) of the project is - \$40,000. Which shows the project is behind schedule currently.

Performance Index

The current cost performance index (CPI) of the project is 0.75. Which shows the project is over budget with the index value less than 1. The budget of completion (BAC) is \$600,000 and the estimate at completion (EAC) is \$800,000. There will be a \$200,000 cost overrun at the completion of the project when the project continues without changing the direction of the project progress.

The current schedule performance index of the project is 0.9. Which shows the project is performing badly in scheduling of the project with the index value less than 1. The original plan for project completion is 3 months and the estimated time to complete is 3.33 months. Therefore, there will be an overrun in project time for 0.33 months.

Recommendation

For the over budget issues, project managers should create an action plan in tackling the issue. For example, conduct a meeting with the project team members and also the

stakeholder for reporting the current issue. After the meeting, the remaining budget for the project should re-organise and prioritise the budget spending for the remaining tasks of the project.

For the overrun in schedule issue, project managers should also conduct a meeting with the project team and discuss the issue. To avoid over-stressing the project team to speed up the project progress. A meeting is needed so that team members can express their ideas in re-organising and update the schedule.

Deliverable 3 - Project Risk Management

Task 3.1 - Risk Register

No	Rank	Risk	Description	Category	Root Cause	Triggers	Potential Responses	Risk Owner	Probability	Impact	Status
1	1	Database security	Data (feedback or personal information of students and teaching staff) may be exposed from the database. Therefore, there might be some trouble with the database security.	Software technology	Security structure of the database is not well-developed. That will lead to the security issues for the database.	Hacking activities for thiefing the data of user (student, teaching staff) personal information.	Project manager and the IT security specialist can hold a mock database hacking workshop. By inviting the other IT security specialists to participate.	IT security specialist	Medium	High	The mock database hacking workshop is going to be held to address the risk of database security next week.
2	3	Server stability	Server may shut down due to the overloading and lead to the unstable operating for the feedback providing system. Which	Software technology	The capability of the server for the feedback providing system is not able to afford a high amount of usage at the	If too many students use the feedback providing system at the same time, the website server	Develop a spare server. Therefore, when a server shutdown issue happens, the spare server	IT team	Medium	High	The spare server development is scheduled to begin after the completion of the main

			affects the server stability.		same time.	stability may be affected and lead to the server shut down problem.	can be used in an urgent case.				server development. To address the risk of server stability.
3	2	Extra resources are needed for improving the efficiency of the project	Extra resources in any format (financial, human resources, etc.) may be required during the project process. That aims to improve the efficiency of the project.	Financial and people	With better the process of the project, we may need extra resources to better the efficiency of the project progress.	When we want to speed up the process or improve the quality of the project, extra resources are needed for the project.	Project manager should hold a meeting with the stakeholder to explain the situation.	Project manager	High	High	This risk has not yet occurred, but the risk response plan completed.

Task 3.2 - Rationale (methodology of determined the probability and impact for each of the risks)

Continuous Student Feedback on Teaching and Learning

Probability

Technological limitation:

In terms of technological limitation, risks may happen because of the lack of technology knowledge in developing the Continuous Student Feedback on Teaching and Learning system. In project 2, the technological requirement standard is high to build up a system and ensure the system can process without difficulties. Therefore, any risks related to the technological condition should be considered in the estimation of the probability.

Impact

Consequences of not meeting schedule estimation:

In terms of not meeting schedule estimation, risks might lead to extra requirements of the time in tackling the risks and problems. Which will extend the time in finishing the project and the schedule planning and estimation, that was conducted in the beginning of the project. Schedule estimation may not be meet.

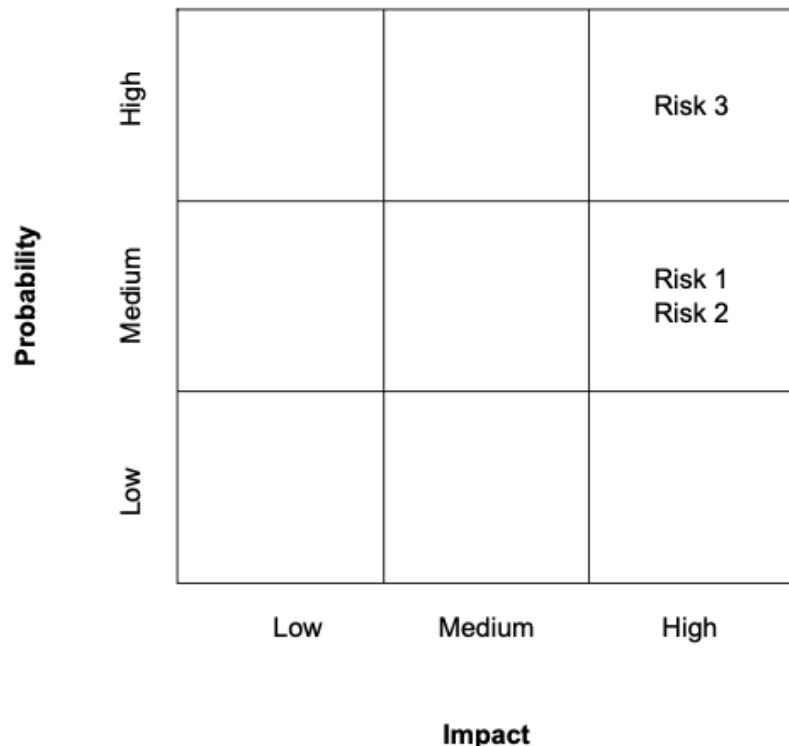
Consequences of over budget:

In terms of over budget, risks might lead to the increase of the cost for the project, which will affect the planning and uses of the budget. Over budget will then happen due to the cost increasement.

Consequences of not meeting requirement:

In terms of failure in meeting the requirement, risks might affect the project in meeting client's expectations and requirements. For example, risk in system data analysis structure in this project may affect the format of the feedback output analysation. That may not meet the requirement from the clients.

Task 3.3 - Probability/ impact matrix



Task 3.4 - Response strategy for each risk in task 3.1

Risk 1: Database security (Negative Risk)
Response strategy: Risk avoidance

Mock database hacking activity can be conducted by the Project manager and the IT security specialist. To evaluate the security level of the database and find out if there are any problems for the database security. For the situation if there are any security risks in the database, IT specialists should take action in eliminating the potential database security risk by reviewing the security execution progress.

Risk 2: Server stability (Negative Risk)
Response strategy: Risk acceptance

Spare server can be developed for the urgent uses when there are server shutdown issues

due to the server unstable risk. To ensure the system can still process even when the server usage capability exceeds the maximum usage level or any contingency issues, spare server development will become the backup plan in tackling the potential risk. Therefore, when the server stability is being threatened by the excess usage or contingency issues, the backup solution (spare server) can be taken and accept the occurrence of the risk.

Risk 3: Extra resources are needed for improving the efficiency of the project (positive risk)

Response strategy: Risk exploitation

A meeting with the stakeholder should be conducted by the project manager. To ensure the extra resources requirement can be accepted and approved by the stakeholders or clients, project managers should hold a meeting with the aim to discuss and analyse the potential benefit after adding the extra resources in the project. For example, adding the extra budget of the technology development for the project can improve the efficiency of completing the project by reducing the errors or problems appearing in the project. To better the development quality of the project, this risk should be ensured to happen in the project by holding the stakeholder meeting as a response towards this risk.

Deliverable 4 - Project Quality Management

Task 4.1 - 3 quality standards/ requirements

No	Quality standards/requirements	Description	Approach of measuring the progress on meeting those standards/ requirements
1	Front-end design accord to the W3C standard	This standard is to ensure all users, including disable users, can access the webpage or the system in providing the feedback without any limitation in using the system. Therefore, the front-end interface of the website should be designed and executed according to the WCAG 2.0 Guidelines under the W3C standard.	The approach will be promoting a tester of the feedback providing system for 2 to 3 months after the execution and testing stage of the project. Therefore, different users, including disable users can access the system and receive different feedback from the user. To ensure that different kinds of users can access the webpage without any obstacles. After the tester period of the system, a report should be completed in displaying the standards and guidelines that are achieved by the webpage.
2	System building in meeting the Web Application Security Standards	This standard is to ensure the backend server and front-end development of the feedback providing system is under the security standard. To provide a safe environment for the students to provide feedback or teaching staff to access the feedback. For example, web servers	The approach will be conducting a qualification of the system building for the feedback providing webpage meeting. That is held by the project manager and invites different qualified specialists or professional consultants. To ensure the system is under the

		should not be well-protected with avoiding the denial of service (DDoS) attacks. With forbidding the ICMP redirection, adopt the SYN attack protection and forbidding the IP source routing.	qualification of meeting the Web Application Security Standards are approved by the specialists and the consultants.
3	Data access security in meeting the Protective Security Policy Framework (PSPF) standards and requirements.	This standard is to ensure the data access is secure in meeting the Protective Security Policy Framework (PSPF) standards and requirements. In the continuous feedback providing system, personal information including student name, student id, staff name, staff id, address, etc, may be disclosed and spread out if there is no specific management in data accessibility method. Therefore, a standard requirement in managing the data access security with meeting the Protective Security Policy Framework (PSPF) standards is important.	The approach will refresh the dashboard login page for both student and teaching staff. Therefore, once students want to get into Moodle to reach the learning material or the teaching staff want to receive the feedback from the students, unique user identification and authentication can be adopted to identify the users. As a result, data access can be processed under the secure way with the monitor of the Protective Security Policy Framework (PSPF) standards.

Deliverable 5 - Project Procurement Management

Task 5.1 - One-page memo (pros and cons) of outsourcing

PROJECT MEMORANDUM

Date: 1st October 2022

From: Hiu Lam Lau (Project manager)

To: FIT's senior manager

Subject: Consideration of advantage and disadvantage in outsourcing

The purpose of this memo is to state my views of outsourcing of the project including the advantages and disadvantages.

Advantage 1 - Accessibility of specific skills and technologies

With accessing the specific skills and technologies, the efficiency and the quality of the continuous feedback providing system can be greatly improved. For example, outsourcing accessibility in system design (programming) technology can better the design in database or data transformation security. Other than the system design, different experts in particular fields may be required for some qualification checking and approval for the system design before the project execution. Which can improve the efficiency and quality of the project in terms of outsourcing.

Advantage 2 - Flexibility in human resource management

With arranging extra staff working for the project, better flexibility in terms of human resources arrangement can be achieved. Especially during the period of the project design, the workload may reach the peak level that efficiency of the staff will be affected. Also, the performance might get degraded when the human resource is not flexible with applying the outsourced in the project.

Disadvantage 1 - Security issues

With the extra staff getting involved in the project, security in different aspects may get threatened and problems may occur. Within the project, there is a lot of data information that is sensitive and needs to be managed in a very secure way, for example documents in the design phase or data template for designing the system. However, the protection of the data or organisation property may threaten with the extra staff added in the project team. Therefore, outsourcing in terms of increasing the staff members in the project may cause security issues.

Disadvantage 2 - Policy and procedures issues

With the resources from outside getting in the project team, the policies and procedures are getting harder to be controlled. In the system designing phase, extra resources may contain different regulations when using it. For example, some software that is used for designing the system needs permission before using it. Also, extra resources may affect the procedures in the design phase of the project that may get harder for controlling the policies and procedures in the project design phase.

Deliverable 6 - Project Communication Management

Task 6.1 - Communicate management plan

Continuous Student Feedback on Teaching and Learning

Communication Management Plan

Project Manager: Hiu Lam Lau
1st October 2022

Stakeholder communications requirements

Stakeholders prefer meetings and reports as the type of communication. Details will be shown below.

Report

Agenda is required for all the formal meetings. It should be prepared before the meeting.

Meeting minus is required for all the formal meetings. It includes all the content and details that are being discussed in the meeting. Therefore, meeting minutes should be ready after the meeting and send it to all the meeting attendees by email.

Status report is required for the update, record the status of the project progress in the daily team stand-up meeting. Therefore, the project progress can be kept on track.

Communications Matrix (Communications summary)

Communication type	Objectives	Methods of communication	Frequency	Audience	Owner	Deliverable	Format
Project kick-off meeting	Project and project team members introduction	Online (Zoom), offline (meeting in conference room 1)	Once (In Project initiating stage)	Project clients, Project team members	Project manager	Agenda, Meeting minutes	Soft copy saved in Google drive
Daily team stand-ups meeting	Update the project progress status, requirements	Online (Zoom), offline (meeting in conference room 1)	Daily	Project team members	Project manager, Project team leader	Status report	Soft copy saved in Google drive
System design meeting	Conclude and review the progress in the system design	Online (Zoom), offline (meeting in conference room 1)	Once (In system design stage)	Project team members	Project manager, Project team leader	Agenda, Meeting minutes	Soft copy saved in Google drive
System execution meeting	Conclude and review the progress in the system construction	Online (Zoom), offline (meeting in conference room 1)	Once (In system construction stage)	Project team members	Project manager, Project team leader	Agenda, Meeting minutes	Soft copy saved in Google drive
System testing meeting	Conclude and review the	Online (Zoom), offline (meeting in	Once (In system testing	Project team members	Project manager,	Agenda, Meeting minutes	Soft copy saved in Google drive

	progress in the system testing	conference room 1)	stage)		Project team leader		
Project standards qualification meeting	Evaluate if the project meets the qualification of the standards and requirements	Online (Zoom), offline (meeting in conference room 1)	Once (before Project closing stage)	Project team members, professional consultants	Project manager, Project team leader	Agenda, Meeting minutes, Qualification approval document	Soft copy saved in Google drive
Project risks meeting	Workout how to solve the problems if the risks occurred in the project	Online (Zoom), offline (meeting in conference room 1)	As needed	Project team members and leader	Project manager	Risks strategic response plan	Soft copy saved in Google drive
Monthly project progress meeting	To update the project progress monthly	Online (Zoom), offline (meeting in conference room 1)	Monthly	Project stakeholder, Project team members and leader	Project manager	Update project baseline and project schedule, Project progress report	Soft copy saved in Google drive

Communication Escalation Process

Priority	Definition	Decision Authority	Timeframe for Resolution
Priority 1	No negative impact towards the project team but able to further improve the intra-team communication.	Related team leader	Proposed in the daily team stand-ups meeting
Priority 2	Small impact towards the project. Minor issues in project scheduling or cost without negative impact towards the project completion and outcome.	Project manager and related team leader	Three business days
Priority 3	Medium impact towards the project. Issues in project scheduling or cost with negative impact towards the project completion and outcome.	Project manager	Two business days
Priority 4	Major impact towards the project. Issues in project scheduling or cost or even more serious with negative impact towards the project completion and outcome. Action needs to be taken to resolve the problems immediately.	Project manager	One business day

Communication Methods and Technologies

Project Scheduling

ProjectLibre will be applied by the project team in creating and managing the timeline of the project. Gantt charts can be generated as the main function under the usage of the ProjectLibre

software. Which can establish the timeline clearly of the project. As a result, team members can view, update and keep track of the schedule for the project using the ProjectLibre. To avoid the project being out of schedule.

Project Cost Calculation

Google sheet will be applied by the project team in calculating the cost or budget of the project. Google sheets can be shared among the team members using their staff's Google account for edit and update. Therefore, budget and cost calculation can be done with the online software of Google sheet.

Meeting

For the online meeting, Zoom will be applied by the project team in conducting the meeting call. Also, if there is any urgent situation for the project, a phone call or messenger will be used as the urgent communication method among the project team.

Report archive and delivery

Google drive will be applied by the project team in storing the report for the project. Therefore, team members can create, view, update, edit the report at any time. Team members can keep the record for the report using the online software using their staff's Google account for the Google drive. For the report delivery, email will be applied by the project team in sending the report to the stakeholders or clients.

Deliverable 7 - Project Stakeholder Management

Task 7.1 - Stakeholder register

Prepared by: Hiu Lam Lau (Project Manager)

Date: 1st October 2022

Name	Title	Project Role	Internal/ External	Power	Interest	Contact information
Hiu Lam Lau	Project Manager	Project Manager	Internal	High	High	hlau@monash.edu
Peter Walker	Senior Business Analyst	Business Analyst	Internal	Low	High	PWalker@monash.edu
Lucy Lee	Human Resource Manager	Human Resource consultant	Internal	High	High	Lucy.Lee@monash.edu
Brian Shaw	IT depart. Manager	IT team leader	Internal	High	High	bShaw@monash.edu
Dora Clark	Data Scientist	Data Scientist	Internal	Low	High	dClark@monash.edu
Sam Walker	Finance Depart. Secretary	Project financial consultant	Internal	High	Low	sWalker@monash.edu

Task 7.2 - Stakeholder management strategy

Stakeholder Management Strategy

CONFIDENTIAL

Project Title: Continuous Student Feedback on Teaching and Learning

Lucy Lee - Human Resource Manager

Position and office address

Lucy is the Human Resource Manager in Monash University. With the office address in Room 203, 1234 Administration Building, Clayton VIC 3168. The office hour for Lucy is from 9 a.m. to 5 p.m.

Level of power and interest

Lucy has a high power in the project with her position in the project as a human resource consultant. Therefore, for all the enquiry or issues that are related to human resource, Lucy will provide the professional solution or ideas to tackle with the enquiry or issues. That project will follow with the ideas provided by Lucy and may affect the whole development of the project. Lucy has a high level of interest in the project also. Although Lucy is not one of the members in the project team, she is taken as a consultant in providing ideas to the project team with her professional experience and knowledge. That she would like to demonstrate her profession in the field of human resource management. As a result, she has a high-level interest towards the project.

Special remainder from that stakeholder

Lucy may keep requesting the up-to-date information from our project team. To get familiar with the situation of our project and the project team. So, if any issues happen, she can provide us with a suitable solution based on her well-understanding of the situation of our project.

Project team should invite Lucy to join the monthly project progress meeting and send the project progress report to her through email after the meeting. Therefore, she can keep the up-to-date information on her hands.

Sam Walker - Finance Department Secretary

Position and office address

Sam is the Finance Department Secretary in Monash University. With the office address in Room 508, 1234 Administration Building, Clayton VIC 3168. The office hour for Sam is from 9 a.m. to 5 p.m.

Level of power and interest

Sam has a high power in the project with this position in the project as a project financial consultant. The advice provided by Sam can affect the direction of the project with the financial aspect of the project. Sam has a low level of interest in the project. It is because

he does not belong in the project team and he got a high workload for his original job, which is the financial department secretary. Therefore, he may not have much interest or time to focus on the project. As a result, he got low interest in the project.

Special remainder from that stakeholder

Sam is busy with his work in the original position. Therefore, he may not have enough time to organise the information and data that is provided by the project team. Therefore, the project team should make sure all the data and information are well-organised before sending it to Sam.

Appendix

Appendix - 1

Portfolio projects WBS

Appendix - 1.1 (Project 1 WBS)

	Finish	Name	Duration	Start	Predecessors
1	28/11/22 09:00	0.0 Special Consideration	59 days?	06/09/22 09:00	
2	13/09/22 09:00	1.0 Initiation	5 days	06/09/22 09:00	
3	08/09/22 09:00	1.1 Scope Evaluation	2 days	06/09/22 09:00	
4	09/09/22 09:00	1.3 Project Charter	1 day	08/09/22 09:00	3
5	13/09/22 09:00	1.4 Kick Off Meeting	2 days	09/09/22 09:00	4
6	13/09/22 09:00	Initiation Completed	0 days	13/09/22 09:00	3;4;5
7	27/09/22 09:00	2.0 Planning	10 days?	13/09/22 09:00	6
8	15/09/22 09:00	2.1 Scope Specification	2 days	13/09/22 09:00	6
9	19/09/22 09:00	2.2 Project requirement	2 days	15/09/22 09:00	8
10	21/09/22 09:00	2.3 Team Charter	2 days	19/09/22 09:00	9
11	23/09/22 09:00	2.4 Project Milestone	2 days	21/09/22 09:00	10
12	27/09/22 09:00	2.5 Deliverable Discussion	2 days	23/09/22 09:00	11
13	27/09/22 09:00	Planning Completed	0 days?	27/09/22 09:00	8;9;10;11;12
14	22/11/22 09:00	3.0 Execution	40 days?	27/09/22 09:00	
15	11/10/22 09:00	3.1 Design	10 days?	27/09/22 09:00	
16	29/09/22 09:00	3.1.1 Application Logic	2 days?	27/09/22 09:00	13
17	05/10/22 09:00	3.1.2 Student SC View Prototype	4 days?	29/09/22 09:00	
18	03/10/22 09:00	3.1.2.1 Student SC Screen Layout	2 days?	29/09/22 09:00	16
19	30/09/22 09:00	3.1.2.2 Student SC Status Screen Layout	1 day	29/09/22 09:00	16
20	05/10/22 09:00	3.1.2.3 Student GUI Prototype	2 days	03/10/22 09:00	18;19
21	07/10/22 09:00	3.1.2 Teaching Staff SC View Prototype	8 days?	27/09/22 09:00	
22	03/10/22 09:00	3.1.3.1 Teaching Staff Screen Layout	2 days?	29/09/22 09:00	16
23	05/10/22 09:00	3.1.3.2 Teaching Staff GUI Prototype	2 days?	03/10/22 09:00	22
24	04/10/22 09:00	3.1.3.3 Machine Learning Model for PDF	5 days?	27/09/22 09:00	13
25	07/10/22 09:00	3.1.3.4 Teaching Staff Response Logic	2 days	05/10/22 09:00	23;24
26	06/10/22 09:00	3.1.3 Database Design	5 days	29/09/22 09:00	16
27	11/10/22 09:00	3.1.4 Interface Design	2 days?	07/10/22 09:00	20;25;26
28	11/10/22 09:00	Prototype Finish (System Architecture and High Fidelity Prototype)	0 days?	11/10/22 09:00	20;23;26;27
29	27/10/22 09:00	3.2 Development	17 days?	04/10/22 09:00	
30	19/10/22 09:00	3.2.1 Student SC Page	10 days?	05/10/22 09:00	20
31	21/10/22 09:00	3.2.2 Teaching Staff SC Page	10 days?	07/10/22 09:00	25
32	14/10/22 09:00	3.2.3 Machine Learning Model	8 days?	04/10/22 09:00	24
33	27/10/22 09:00	3.2.4 Database	12 days	11/10/22 09:00	27
34	27/10/22 09:00	Front end and Back End Finish Development	0 days?	27/10/22 09:00	30;31;33
35	22/11/22 09:00	3.3 Testing	24 days?	19/10/22 09:00	15
36	27/10/22 09:00	3.3.1 Unit Testing	6 days?	19/10/22 09:00	30
37	02/11/22 09:00	3.3.2 Integration Testing	4 days	27/10/22 09:00	34;36
38	04/11/22 09:00	3.3.3 Stress Testing	2 days	02/11/22 09:00	37
39	08/11/22 09:00	3.3.4 Validation Test	2 days	04/11/22 09:00	38
40	22/11/22 09:00	Fixes	10 days	08/11/22 09:00	36;37;38;39
41	08/11/22 09:00	Testing Complete	0 days?	08/11/22 09:00	36;37;38;39
42	04/11/22 09:00	3.4 Documentation	6 days	27/10/22 09:00	34
43	04/11/22 09:00	3.4.1 IT Operation Documentation	5 days	27/10/22 09:00	30;31;33
44	03/11/22 09:00	3.4.2 User Documentation	5 days	27/10/22 09:00	30;31
45	03/11/22 09:00	3.4.3 Process Documentation	5 days	27/10/22 09:00	30;31
46	31/10/22 09:00	3.4.4 Documentation Compilation	2 days	27/10/22 09:00	
47	04/11/22 09:00	Finish Documentation	0 days?	04/11/22 09:00	43;44;45;46
48	08/11/22 09:00	Finish Product	0 days	08/11/22 09:00	41;47
49	22/11/22 09:00	4.0 Implementation	10 days?	08/11/22 09:00	48
50	16/11/22 09:00	4.1 Implement New System	6 days?	08/11/22 09:00	48
51	14/11/22 09:00	4.2 Milestone Report	4 days?	08/11/22 09:00	
52	22/11/22 09:00	4.3 User Training	4 days	16/11/22 09:00	50
53	28/11/22 09:00	5.0 Closing	4 days?	22/11/22 09:00	49
54	24/11/22 09:00	Final Report	2 days?	22/11/22 09:00	51
55	28/11/22 09:00	Stakeholder Acceptance	2 days	24/11/22 09:00	54
56	28/11/22 09:00	Project Finish	0 days?	28/11/22 09:00	55

Appendix - 1.2 (Project 2 WBS)

		Name	Duration	Start	Finish	Predecessors
1		0. Continuous Student Feedback on Teaching & Learning	62 days?	1/09/22 8:00 AM	25/11/22 5:00 PM	
2		1. Project Initialing	3 days?	1/09/22 8:00 AM	5/09/22 5:00 PM	
3		1.1 Determine the scope	3 days?	1/09/22 8:00 AM	5/09/22 5:00 PM	
4		1.2 Project charter	3 days?	1/09/22 8:00 AM	5/09/22 5:00 PM	
5		1.3 Project kick-off meeting	3 days?	1/09/22 8:00 AM	5/09/22 5:00 PM	
6		1.4 Project initialisation (Milestone 1)	0 days?	5/09/22 5:00 PM	5/09/22 5:00 PM	3;4;5
7		2. Project Planning	10 days?	6/09/22 8:00 AM	19/09/22 5:00 PM	
8		2.1 Team charter	0.5 days?	6/09/22 8:00 AM	6/09/22 1:00 PM	6
9		2.2 Human resource planning	9 days?	6/09/22 8:00 AM	16/09/22 5:00 PM	
10		2.2.1 Define which industry professionist is needed for the project	1 day?	6/09/22 8:00 AM	6/09/22 5:00 PM	6
11		2.2.2 Select professionist	7 days?	7/09/22 8:00 AM	15/09/22 5:00 PM	10
12		2.2.3 Recruitment	1 day?	16/09/22 8:00 AM	16/09/22 5:00 PM	11
13		2.3 Work breakdown structure	1 day?	19/09/22 8:00 AM	19/09/22 5:00 PM	12
14		2.4 Project planning (Milestone 2)	0 days?	19/09/22 5:00 PM	19/09/22 5:00 PM	8;13
15		3. Project executing	41 days?	20/09/22 8:00 AM	15/11/22 5:00 PM	14
16		3.1 Web design	17 days?	20/09/22 8:00 AM	12/10/22 5:00 PM	14
17		3.1.1 Functional design	11 days?	20/09/22 8:00 AM	4/10/22 5:00 PM	14
18		3.1.1.1 Data (feedback and response) process design	5 days?	20/09/22 8:00 AM	26/09/22 5:00 PM	14
19		3.1.1.2 Database design	3 days?	27/09/22 8:00 AM	29/09/22 5:00 PM	18
20		3.1.1.3 Data analyse method design	3 days?	30/09/22 8:00 AM	4/10/22 5:00 PM	19
21		3.1.2 Non-functional design	17 days?	20/09/22 8:00 AM	12/10/22 5:00 PM	14
22		3.1.2.1 User interface design	5 days?	20/09/22 8:00 AM	26/09/22 5:00 PM	14
23		3.1.2.2 Data interchange format design	6 days?	5/10/22 8:00 AM	12/10/22 5:00 PM	20
24		3.1.2.3 Security of the system design	5 days?	20/09/22 8:00 AM	26/09/22 5:00 PM	14
25		3.1.3 Web design completion (Milestone 3)	0 days?	12/10/22 5:00 PM	12/10/22 5:00 PM	22;23;24
26		3.2 Construction	14 days?	13/10/22 8:00 AM	1/11/22 5:00 PM	25
27		3.2.1 Programming	9 days?	13/10/22 8:00 AM	25/10/22 5:00 PM	25
28		3.2.1.1 Website interface	9 days?	13/10/22 8:00 AM	25/10/22 5:00 PM	25
29		3.2.1.2 Database creation	9 days?	13/10/22 8:00 AM	25/10/22 5:00 PM	25
30		3.2.1.3 Data analyse process develop	9 days?	13/10/22 8:00 AM	25/10/22 5:00 PM	25
31		3.2.1.4 Update backend server	5 days?	13/10/22 8:00 AM	19/10/22 5:00 PM	25
32		3.2.1.5 System building completion (Milestone 4)	0 days?	25/10/22 5:00 PM	25/10/22 5:00 PM	28;29;30;31
33		3.2.2 Program testing	5 days?	26/10/22 8:00 AM	1/11/22 5:00 PM	32
34		3.2.2.1 Front-end testing	5 days?	26/10/22 8:00 AM	1/11/22 5:00 PM	32
35		3.2.2.2 Backend server testing	5 days?	26/10/22 8:00 AM	1/11/22 5:00 PM	32
36		3.2.2.3 Database usage testing	5 days?	26/10/22 8:00 AM	1/11/22 5:00 PM	32
37		3.2.2.4 System security testing	5 days?	26/10/22 8:00 AM	1/11/22 5:00 PM	32
38		3.2.2.5 System testing completion (Milestone 5)	0 days?	1/11/22 5:00 PM	1/11/22 5:00 PM	34;35;36;37
39		3.3 Document	22.26 day?	14/10/22 2:55 PM	15/11/22 5:00 PM	17
40		3.3.1 Program report	5 days?	14/10/22 2:55 PM	21/10/22 2:55 PM	17
41		3.3.2 Testing report	5 days?	2/11/22 8:00 AM	8/11/22 5:00 PM	34
42		3.3.3 Meeting report analyse	5 days?	9/11/22 8:00 AM	15/11/22 5:00 PM	41
43		3.3.4 Documentation analysis (Milestone 6)	0 days?	15/11/22 5:00 PM	15/11/22 5:00 PM	40;42
44		4. Project monitor and controlling	42 days?	20/09/22 8:00 AM	16/11/22 5:00 PM	
45		4.1 Updated the original project baseline	1 day?	20/09/22 8:00 AM	20/09/22 5:00 PM	13
46		4.2 Evaluate and control risk from analyse report	1 day?	16/11/22 8:00 AM	16/11/22 5:00 PM	43
47		4.3 Monitor and evaluate the project scope	1 day?	16/11/22 8:00 AM	16/11/22 5:00 PM	43
48		4.4 Control chart analyse(monitor project quality)	1 day?	2/11/22 8:00 AM	2/11/22 5:00 PM	38
49		4.5 Project control workshop (Milestone 7)	0 days?	16/11/22 5:00 PM	16/11/22 5:00 PM	45;46;47;48
50		5. Project closing	7 days?	17/11/22 8:00 AM	25/11/22 5:00 PM	
51		5.1 Generate final Report	4 days?	17/11/22 8:00 AM	22/11/22 5:00 PM	49
52		5.2 Final presentation	1 day?	23/11/22 8:00 AM	23/11/22 5:00 PM	51
53		5.3 Client approval	1 day?	24/11/22 8:00 AM	24/11/22 5:00 PM	52
54		5.4 Project review from client	1 day?	25/11/22 8:00 AM	25/11/22 5:00 PM	53
55		5.5 Final review of the report (Milestone 8)	0 days?	25/11/22 5:00 PM	25/11/22 5:00 PM	54

Appendix - 1.3 (Project 3 WBS)

		Name	Duration	Start	Finish	Predecessors
1		Start project.	0 days	23/09/22 8:00 AM	23/09/22 8:00 AM	
2		0.0 Early Intervention	54 days?	23/09/22 8:00 AM	7/12/22 5:00 PM	
3		1.0 Initiation	6 days?	23/09/22 8:00 AM	30/09/22 5:00 PM	
4		1.1 Determine scope.	1 day?	23/09/22 8:00 AM	23/09/22 5:00 PM	1
5		1.2 Gather resources.	3 days?	26/09/22 8:00 AM	28/09/22 5:00 PM	4
6		1.3 Develop project charter.	1 day?	29/09/22 8:00 AM	29/09/22 5:00 PM	5
7		1.4 Kick-off meeting.	1 day?	30/09/22 8:00 AM	30/09/22 5:00 PM	6
8		Define project & form team.	0 days?	30/09/22 5:00 PM	30/09/22 5:00 PM	
9		2.0 Planning	6 days?	3/10/22 8:00 AM	10/10/22 5:00 PM	
10		2.1 Develop WBS for project	2 days?	3/10/22 8:00 AM	4/10/22 5:00 PM	8
11		2.2 Estimate time for each project task.	1 day?	5/10/22 8:00 AM	5/10/22 5:00 PM	10
12		2.3 Develop project scope statement.	1 day?	6/10/22 8:00 AM	6/10/22 5:00 PM	11
13		2.4 Develop project schedule.	1 day?	6/10/22 8:00 AM	6/10/22 5:00 PM	11
14		2.5 Plan risk management.	1 day?	7/10/22 8:00 AM	7/10/22 5:00 PM	12;13
15		2.6 Create milestones.	1 day?	10/10/22 8:00 AM	10/10/22 5:00 PM	14
16		Develop plans & define scope.	0 days	10/10/22 5:00 PM	10/10/22 5:00 PM	15
17		3.0 Designing	12 days?	11/10/22 8:00 AM	26/10/22 5:00 PM	
18		3.1 Create sitemap.	1 day?	11/10/22 8:00 AM	11/10/22 5:00 PM	
19		3.1.1 Login page.	1 day?	11/10/22 8:00 AM	11/10/22 5:00 PM	16
20		3.1.2 "Students" page.	1 day?	11/10/22 8:00 AM	11/10/22 5:00 PM	16
21		3.1.3 Messaging & inbox functions.	1 day?	11/10/22 8:00 AM	11/10/22 5:00 PM	16
22		3.2 Create website infrastructure.	1 day?	12/10/22 8:00 AM	12/10/22 5:00 PM	19;20;21
23		3.3 Design algorithm.	2 days?	13/10/22 8:00 AM	14/10/22 5:00 PM	22
24		3.4 Build back-end of website.	3 days?	17/10/22 8:00 AM	19/10/22 5:00 PM	23
25		3.5 Build front-end of website.	3 days?	13/10/22 8:00 AM	17/10/22 5:00 PM	22
26		3.6 Integrate back-end & front-end.	3 days?	20/10/22 8:00 AM	24/10/22 5:00 PM	24;25
27		3.7 Integrate with Callista system.	2 days?	25/10/22 8:00 AM	26/10/22 5:00 PM	26
28		Finish website design.	0 days	26/10/22 5:00 PM	26/10/22 5:00 PM	27
29		4.0 Implementation	20 days?	27/10/22 8:00 AM	23/11/22 5:00 PM	
30		4.1 Test website.	7 days?	27/10/22 8:00 AM	4/11/22 5:00 PM	28
31		4.2 Compare performance vs project plan.	1 day?	7/11/22 8:00 AM	7/11/22 5:00 PM	30
32		4.3 Identify & monitor risks.	3 days?	8/11/22 8:00 AM	10/11/22 5:00 PM	31
33		4.4 Develop reassessments of budget, time ...	2 days?	11/11/22 8:00 AM	14/11/22 5:00 PM	32
34		4.5 Develop status reports.	1 day?	15/11/22 8:00 AM	15/11/22 5:00 PM	33
35		4.6 Implement & monitor approved changes.	3 days?	16/11/22 8:00 AM	18/11/22 5:00 PM	34
36		4.7 Milestone reports.	1 day?	21/11/22 8:00 AM	21/11/22 5:00 PM	35
37		4.8 Project meeting.	1 day?	22/11/22 8:00 AM	22/11/22 5:00 PM	36
38		4.9 Inform project stakeholders & sponsors ...	1 day?	23/11/22 8:00 AM	23/11/22 5:00 PM	37
39		Finish website.	0 days	23/11/22 5:00 PM	23/11/22 5:00 PM	38
40		5.0 Closing	10 days?	24/11/22 8:00 AM	7/12/22 5:00 PM	
41		5.1 Make website live.	1 day?	24/11/22 8:00 AM	24/11/22 5:00 PM	39
42		5.2 Develop lessons learned report.	3 days?	25/11/22 8:00 AM	29/11/22 5:00 PM	41
43		5.3 Develop project report.	5 days?	30/11/22 8:00 AM	6/12/22 5:00 PM	42
44		5.4 Project close-out meeting.	1 day?	7/12/22 8:00 AM	7/12/22 5:00 PM	43
45		End project.	0 days	7/12/22 5:00 PM	7/12/22 5:00 PM	44

Appendix - 1.4 (Project 4 WBS)

	Name	Duration	Start	Finish	Predecessors
1	Project 4: Application for Credit.	84 days	13/09/22 8:00 AM	6/01/23 5:00 PM	
2	1. Initiating.	8 days	13/09/22 8:00 AM	22/09/22 5:00 PM	
3	1.1. Evaluate current system.	4 days	13/09/22 8:00 AM	16/09/22 5:00 PM	
4	1.2. Collect requirement.	4 days	13/09/22 8:00 AM	16/09/22 5:00 PM	
5	1.3 . Evaluate scope.	4 days	13/09/22 8:00 AM	16/09/22 5:00 PM	
6	1.4. Determine project team.	2 days	19/09/22 8:00 AM	20/09/22 5:00 PM	3;4;5
7	1.5. Develop project charter.	2 days	21/09/22 8:00 AM	22/09/22 5:00 PM	6
8	1.6. Conduct kick-off meeting.	2 days	21/09/22 8:00 AM	22/09/22 5:00 PM	6
9	Kick-off meeting minutes (Milestone 1)	0 days	22/09/22 5:00 PM	22/09/22 5:00 PM	7;8
10	2. Planning	12 days	23/09/22 8:00 AM	10/10/22 5:00 PM	2
11	2.1. Develop project scope statement.	5 days	23/09/22 8:00 AM	29/09/22 5:00 PM	9
12	2.2. Develop project cost statement.	5 days	23/09/22 8:00 AM	29/09/22 5:00 PM	9
13	2.3. Develop project schedule.	5 days	23/09/22 8:00 AM	29/09/22 5:00 PM	9
14	2.4. Develop risk management approach.	3 days	30/09/22 8:00 AM	4/10/22 5:00 PM	11;12;13
15	2.5. Develop WBS.	2 days	5/10/22 7:00 AM	6/10/22 5:00 PM	14
16	Creation of WBS (Milestone 2)	0 days	6/10/22 5:00 PM	6/10/22 5:00 PM	15
17	2.6. Define milestone.	2 days	5/10/22 7:00 AM	6/10/22 5:00 PM	14
18	2.7. Develop website testing plan.	3 days	6/10/22 7:00 AM	10/10/22 5:00 PM	15
19	2.8. Develop user training program.	3 days	6/10/22 7:00 AM	10/10/22 5:00 PM	15
20	3. Execution.	40 days	11/10/22 8:00 AM	5/12/22 5:00 PM	10
21	3.1. Design website.	13 days	11/10/22 8:00 AM	27/10/22 5:00 PM	
22	3.1.1. Design home page.	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
23	3.1.2. Design log-in page.	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
24	3.1.2.1. Admin log-in.	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
25	3.1.2.2. Student log-in.	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
26	3.1.3. Design unit-list page	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
27	3.1.4. Design application submission page.	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
28	3.1.5. Design confirmation page.	5 days	11/10/22 8:00 AM	17/10/22 5:00 PM	
29	Website design (Milestone 3)	0 days	17/10/22 5:00 PM	17/10/22 5:00 PM	22;23;24;25;26;27;28
30	3.1.6. Design database model.	5 days	18/10/22 8:00 AM	24/10/22 5:00 PM	29
31	3.1.7. Design security mechanism	3 days	25/10/22 8:00 AM	27/10/22 5:00 PM	29;30
32	3.2. Construct website.	27 days	28/10/22 8:00 AM	5/12/22 5:00 PM	21
33	3.2.1. Develop user interface.	10 days	28/10/22 8:00 AM	10/11/22 5:00 PM	21
34	3.2.2. Develop back-end functions.	10 days	28/10/22 8:00 AM	10/11/22 5:00 PM	21
35	3.2.3. Create database.	10 days	11/11/22 8:00 AM	24/11/22 5:00 PM	34
36	Functioning website (Milestone 4).	0 days	24/11/22 5:00 PM	24/11/22 5:00 PM	33;34;35
37	3.2.4. Develop security approaches.	7 days	25/11/22 8:00 AM	5/12/22 5:00 PM	36
38	3.3. Conduct regular team meeting.	40 days	11/10/22 8:00 AM	5/12/22 5:00 PM	
39	3.4. Conduct progress report.	40 days	11/10/22 8:00 AM	5/12/22 5:00 PM	
40	4. Monitor and Control.	21 days	6/12/22 8:00 AM	3/01/23 5:00 PM	20
41	4.1. Test website functioning.	7 days	6/12/22 8:00 AM	14/12/22 5:00 PM	36
42	4.2. Test website security.	7 days	6/12/22 8:00 AM	14/12/22 5:00 PM	36;37
43	4.3. Execute staff training program.	7 days	15/12/22 8:00 AM	23/12/22 5:00 PM	41;42
44	Complete staff training program (Milestone 5)	0 days	23/12/22 5:00 PM	23/12/22 5:00 PM	43
45	4.4. Carry out user testing.	7 days	26/12/22 8:00 AM	3/01/23 5:00 PM	43
46	4.5. Document user experience.	7 days	26/12/22 8:00 AM	3/01/23 5:00 PM	43
47	5. Closing.	3 days	4/01/23 8:00 AM	6/01/23 5:00 PM	40
48	5.1. Conduct final meeting	3 days	4/01/23 8:00 AM	6/01/23 5:00 PM	
49	5.2. Transfer the technology to the faculty	3 days	4/01/23 8:00 AM	6/01/23 5:00 PM	

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