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# 1. Project Charter

## 1.1 Purpose Statement

To develop a digital education outreach platform at UNSW aimed at supporting students from disadvantaged backgrounds. The platform will enhance students' academic and personal development, foster mentorship and peer support, and provide career exploration opportunities, in line with UNSW's 2025 Strategy for social impact.

## 1.2 Objectives and Success Criteria

### **Academic Excellence:**

1. Support high-quality research and maintain UNSW's status among the top 50 research-intensive universities.
2. Provide practical coursework resources, enhancing educational excellence.
3. Offer hands-on experience to over 500 students and researchers annually.
4. Facilitate the publication of at least five Q1 journal articles each year.

### **Innovation and Engagement:**

1. Foster collaboration within UNSW and with external universities and industries.
2. Attract new international research collaborations.
3. Promote entrepreneurship, increasing UNSW Founders Program start-ups to 1100 by 2025.
4. Secure \$5 million in research funding within five years post-project completion.
5. Enhance UNSW's campus and gain media recognition.
6. Support local manufacturing with sustainable techniques.

## 1.3 Requirements

### **Functional Requirements:**

1. Resource Repository:
  - Articles, videos, tutorials, and webinars for academic and personal development.

## 2. Mentorship and Support:

- Connect students with UNSW and industry mentors for academic and personal growth.

## 3. Community Engagement and Peer Support:

- Online communities for student interaction.

## 4. Career Exploration and Networking:

- Virtual and in-person events for career path exposure.

## 5. Progress Tracking and Goal Setting:

- Tools for tracking progress and setting goals with mentor feedback.

### **Non-Functional Requirements:**

#### 1. User-Friendly Interface:

- Intuitive and easy-to-navigate.

#### 2. Scalability:

- Support a growing number of users and resources.

#### 3. Security and Privacy:

- Protect user data and communications.

#### 4. Reliability and Availability:

- Ensure uninterrupted access with backup plans.

#### 5. Performance:

- Fast loading times and minimal latency.

#### 6. Accessibility:

- Comply with WCAG standards.

#### 7. Compliance:

- Adhere to educational, legal, and data protection regulations.

### **Other Requirements:**

- Screen mentors for student safety.
- Collect user feedback to improve functionality.
- Partner with NSW schools for platform access.
- Engage stakeholders effectively.
- Follow standard software development practices.

## 1.4 Project Boundaries

### Scope:

Development and deployment of the digital education outreach platform with specified features.

### Time:

Project duration is accepted to be **10 months**.

### Cost:

The budget is constrained to **\$450,000**.

### Project Priority Matrix

	Constrain	Optimise	Accept
Scope		✓	
Time			✓ 10 months
Cost	✓\$450,000		

## 1.5 Stakeholder List

STAKEHOLDERS REGISTER				
Name	Position	Classification	UNSW Association	Organisation or Group
Individual or Partnership Investors	Sponsor	Primary	Internal	UNSW
Traditional Educators	UNSW Academic Staff	Primary	Internal	UNSW
Professor and Tutor		Primary	Internal	UNSW
Researchers		Primary	Internal	UNSW
Administration Staff		Primary	Internal	UNSW
Technical Support Staff	UNSW Professional Staff	Primary	Internal	UNSW
Logistics Staff		Primary	Internal	UNSW
Finance		Primary	Internal	UNSW
Alumni	Students Community	Secondary	Internal	UNSW
Current Students		Secondary	Internal	UNSW
Future Students		Secondary	Internal	UNSW
International Students		Secondary	Internal	UNSW
Competing Platforms	Social Community	Secondary	External	Academic Community
Other Universities		Secondary	External	Academic Community
Educational Institutions		Secondary	External	Academic Community
General Public		Secondary	External	Public Sector
IT Development Teams		Secondary	External	Private Companies
Local Businesses		Secondary	External	Private Companies
Related Department	Government	Secondary	External	Australian Government
Education Bloggers & Journalists	Media	Secondary	External	Media Companies
Industry Leaders	Industry Resources	Secondary	External	Public Sector
Industry Professionals		Secondary	External	Public Sector

## 1.6 High Level Risks

The main high-level risks, which in Digital Educational Platform project, have delays in publish documents and technical development, database, not follow the rules, passive stakeholder participation and not meet user needs. To reduce these risks, the project will use clear documentation control, strong security measures, regular compliance checks, better communication methods, and detailed user experience research and testing.

## 1.7 Summary of Schedule and Milestones

**August 2024:** Project start.

**September 2024 - November 2024:** Initial development phase, including design the structure and database.

**December 2024 - February 2025:** Focused on fronted and backend design.

**March 2025 :** Some testing phase, such as feedback of users.

**April 2025 - May 2025:** Final all of create phase and prepare for testing.

**June 2025:** Final testing and publish project document.

## 1.8 Summary of Preliminary Budget

Key budget allocations include:

**Total Budget:** \$450,000

**Monthly Spending Breakdown:**

**August 2024:** \$7,949 - project setup and early development.

**September 2024:** \$7,519 - Continued initial development.

**October 2024:** \$9,069 - Early technical development.

**November 2024:** \$36,045 - Main development.

**December 2024:** \$26,158.5 - Midterm development costs and interface design.

**January 2025:** \$17,247.5 - Continued design and security implementation.

**February 2025:** \$87,289 - Integration and performance testing.

**March 2025:** \$59,863 - Continued integration and testing.

**April 2025:** \$65,551 - Scalability enhancements.

**May 2025:** \$16,364.5 - User feedback incorporation.

**June 2025:** \$76,001.5 - Final development adjustments, Final testing and preparations, Launch preparation and post-launch support.

This budget ensures that all critical aspects of the project, from initial development to final deployment, are adequately funded. Regular budget reviews and adjustments will be conducted to ensure financial control and project success.

## **2. Scope Plan**

### **2.1 Collect Requirements**

#### **How to collect requirements from clients:**

- According to communicate with students and stakeholders, get their requirements and expectations.
- Organize meeting with groups in order to collect detailed feedback on specific aspects of the platform.
- Review existed literature and researches that on similar educational platforms, in order to find identify best practices.
- Analyze data from existing systems at UNSW which can identify gaps and opportunities for improvement.

#### **Requirements:**

- This platform, which should be designed user-friendly, safe, and reliable.
- Something important must be provided, such as educational resources, mentoring programs, peer support, career exploration opportunities, and progress tracking and goal setting tools.
- The features of the platform should be usable, extensible, secure, reliable, and accessible.
- Compliance with educational and legal regulations.
- Registration must be made on UNSW's platform.



## 2.2 Define Scope

### 2.2.1 Deliverables

- **Resource Repository:** A comprehensive collection of educational resources which including articles, videos, tutorials, and webinars.
- **Mentorship and Support:** A network which used to connecting students with UNSW mentors and industry professionals, offering both online and face-to-face options.
- **Community Engagement and Peer Support:** Creating interest groups and discussion activities in virtual world.
- **Career Exploration and Industry Networking Events:** Tools which can use for career planning and lectures.
- **Progress Tracking and Goal Setting:** Tools that used for students to achieve and check their learning and development goals.

### 2.2.2 Constraints

- The budget, which this project completed, must be within \$450,000, including all contingencies.
- The time that project completed must be less than 10 months
- The project is sponsored and funded by UNSW.

### 2.2.3 Exclusions

Projects do not include development, maintenance or installation of potential future extensions.

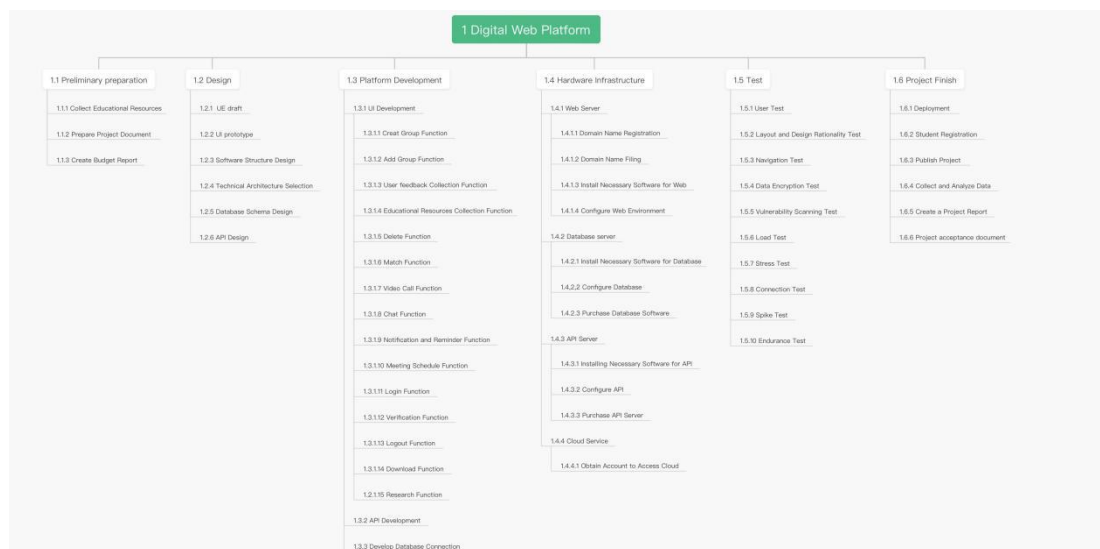
## 2.3 Scope Statement

The aim of this project is developing a digital platform which can support disadvantaged students in transitioning to university. According to this, the platform need to provide some functions, including search for educational resources, get guidance , peer support, career exploration opportunities, and progress tracking tools.

The project will be completed less than 10 months and under the budget of \$450,000,

at same time it need to ensure usability, scalability, security, reliability, and accessibility, while complying with educational and legal regulations. Registration will be through UNSW's platform only.

## 2.4 Work Breakdown Structure (WBS)



WBS chart

## 2.5 PMBOK Referenced PM Methods Used in Scope – Discussion

- **Requirements Management:** Techniques such as interviews, focus groups, and surveys are used to gather requirements, ensuring stakeholder needs are met.
- **Scope Definition:** Clear definition of project deliverables and boundaries to prevent scope creep.
- **WBS Development:** Breaking down the project into manageable components for better planning and control.
- **Scope Verification:** Ensuring that all deliverables meet the predefined criteria and are accepted by the stakeholders.
- **Scope Control:** Monitoring project scope and managing changes to the scope baseline.

### 3. Stakeholder Management Plan

#### 3.1 Stakeholder Identification

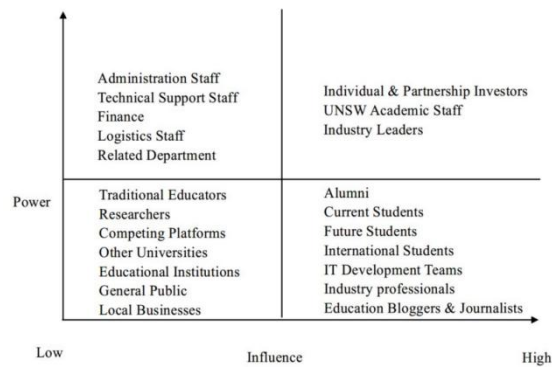
To brainstorm stakeholders:

- **Brainstorming Sessions:** Conduct brainstorming sessions with the project team to identify potential stakeholders based on their benefits from the project and contributions to it.
- **Stakeholder Analysis Workshops:** Organize workshops with key project members to discuss and list individuals and groups who might be impacted by the project or have influence over it.
- **Review of Project Documentation:** Project charters, business cases, and similar projects should be studied in order to identify stakeholders.
- **Stakeholder Mapping:** Prepare stakeholder mapping that will comprise internal and external stakeholders such as the students, faculty, the college administration, future employers, and the government.
- **Interviews and Surveys:** Go to the list of existing stakeholders and ask them who else should be included in the list.

#### 3.2 Stakeholder Assessment

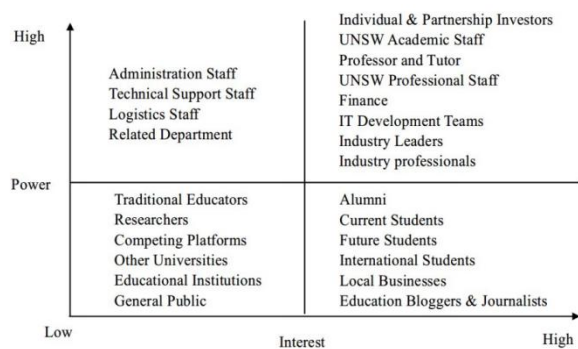
##### 3.2.1 Power Influence Grid

Power Influence Grid: The power/Influence Grid that needs to be utilized for staking the project is demonstrated below. This aids in identifying the management action to be taken with regard to the stakeholders.



### 3.2.2 Power Interest Grid

Power Interest Grid: Use the Power/Interest Grid to categorize stakeholders based on their level of power and interest in the project. This helps in prioritizing engagement efforts.



## 3.3 Stakeholder Engagement

### 3.3.1 Engagement Matrix

Engagement Matrix: Develop an engagement matrix that details the level of engagement required for each stakeholder category (e.g., inform, consult, involve, collaborate, empower).

PROJECT STAKEHOLDER ANALYSIS and MANAGEMENT							
Name	Position	Power	Interest	Engagement Strategy	The most important goal	How will they contribute	The best way to manage
Individual or Partnership Investors	Sponsor	5	4	Empower	Secure a return on investment	Provide funding and resources	Regular updates and transparent communication
Traditional Educators	UNSW Academic Staff	3	3	Inform	Ensure the platform enhances academic	Provide feedback, use the platform for teaching and research	Engage in regular feedback sessions
Professor and Tutor		1	3	Inform			
Researchers		2	3	Consult			
Administration Staff	UNSW Professional Staff	3	2	Consult	Smooth operation and integration of the platform	Support in administration, technical issues, logistics, and financial aspects	Regular training and update sessions
Technical Support Staff		3	2	Consult			
Logistics Staff		3	2	Consult			
Finance	Students Community	3	2	Consult	Benefits from the platform's features	Use the platform, provide feedback	Surveys, feedback forms, and user experience sessions
Alumni		1	1	Monitor			
Current Students		1	2	Monitor			
Future Students	Social Community	1	2	Monitor	Understand the platform's value proposition	Potential collaboration or competition	Market research and competitive analysis
International Students		1	2	Monitor			
Competing Platforms		1	1	Monitor			
Other Universities	Government	1	2	Monitor	Develop and maintain the platform	Handle technical development and maintenance	Regular sprint reviews and agile methodologies
Educational Institutions		1	2	Monitor			
IT Development Teams		2	2	Monitor			
Local Businesses	Media	2	2	Monitor	Benefits from potential collaborations	Offer services or collaborations with the platform	Partnership meetings and agreement
Related Department		2	2	Monitor			
Educational Bloggers & Journalists		1	1	Monitor			
Industry Leaders	Industry Resources	1	1	Monitor	Ensure the platform adheres to regulations	Provide regulatory guidance	Regular compliance checks
Industry Professionals		1	1	Monitor			
					Disseminate information about the platform	Write articles, blogs, and reports	Press releases and media briefings
					Enhance the platform's industry relevance	Provide industry insights, guest lectures, mentorship	Industry forums and partnership agreements

RATING	1	2	3	4	5
5	Consult	Involve	Collaborate	Empower	Empower
4	Inform	Consult	Involve	Collaborate	Empower
3	Inform	Consult	Consult	Involve	Collaborate
2	Monitor	Inform	Consult	Consult	Involve
1	Monitor	Monitor	Inform	Inform	Consult

- **Managing Stakeholder Engagement:** Communication Management Plan (PMBOK 6th Edition, Section 10.1.3.1): This tool assists in determining the level of engagement of the current stakeholders in relation to the level of engagement that is expected to be achieved by the stakeholders for the success of the project, is very useful. It also assists in the measurement of specific strategies that are called for to enhance the relational strategies with the stakeholders.
- **Monitoring Stakeholder Engagement:** Stakeholder Register (PMBOK 6th Edition, Section 13.1.3.1): The power/interest grid, which presents the assessment and the classification of the aforesaid stakeholders, is also crucial, as is this document. By it, the communications of the project stakeholders are managed, and their needs and expectations, which can be termed as major decision-making success factors of a project, are fulfilled during the course of the projects.
- **Power/Interest Grid and Power/Influence Grid:** Power/Interest Grid (PMBOK 6th Edition, Section 13.1.2.4): This tool, which is known as the power-interest matrix, splits the stakeholders in terms of the amount of power they possess in relation to the project and the extent of their interest in the project is useful. It assists in identifying who shall be a stakeholder and the kind of relationship that is required between him and the organization.
- **Stakeholder Engagement Plan:** Stakeholder Engagement Plan (PMBOK 6th Edition, Section 13.2.3.1): The plan that contains the strategies and activities directed at improving the efficiency of the stakeholders' actions regarding the consideration and implementation of the project decisions is viewed as strategic. This section predicates when and in what manner the team of people that are going to be implementing the project will communicate to the stakeholders regarding their needs.
- **Feedback Mechanisms:** Feedback Collection (PMBOK 6th Edition, Section 4.7.2): It is necessary to apply tools like surveys, focus groups, and feedback forms that are aimed at collecting stakeholders' opinions. That way, it is easier to determine how stakeholders view the project and what changes can be made where necessary.

## 4. Budget

### 4.1 Cost & Time Estimation Table

Work Packages	Scheduled days	Actual working days	Duration in hours	Salary cost (\$)	Material cost (\$)	Total cost (\$)
Collect Educational Resources	29	20	160	7232	717	7949
Prepare Project Document	29	20	160	7232	287	7519
Create Budget Report	31	22	184	7921	1148	9069
UE Draft	29	20	160	7232	430	7662
UI Prototype	31	20	160	7576	1004	8580
Software Structure Design	26	20	160	6199	861	7060
Technical Architecture Design	26	20	160	6199	1435	7634
Database Schema Design	26	20	160	6199	717	6916
API Design	26	20	160	6199	574	6773
Developing UI	26	20	160	6199	861	7060
Create Group Function	17	13	104	4132	430	4562
Add Group Function	17	13	104	4132	430	4562
User Feedback Collection Function	17	13	104	4132	287	4419
Educational Resources Collection Function	17	13	104	4132	287	4419
Delete Function	17	13	104	4132	287	4419
Matching Function	17	13	104	4132	287	4419
Video Call Function	17	13	104	4132	287	4419
Chat Function	17	13	104	4132	287	4419
Notification and Reminder Function	17	13	104	4132	287	4419
Meeting Schedule Function	17	13	104	4132	287	4419
Login Function	17	13	104	4132	287	4419
Verification Function	17	13	104	4132	287	4419
Logout Function	17	13	104	4132	287	4419
Download Function	17	13	104	4132	287	4419
Research Function	17	13	104	4132	287	4419
API Development	30	22	176	7576	1435	9011
Develop Database Connection	58	44	352	14465	2870	17335
Domain Name Registration	24	18	144	5854	430	6284
Domain Name Filing	29	21	168	7232	717	7949
Obtaining Account to Access Cloud	29	21	168	7232	717	7949
Installing Necessary Software for Web	7	5	40	1722	287	2009
Configuring Web Environment	13	9	72	3099	430	3529
Purchase Database Software	25	19	152	5854	717	6571
Installing Necessary Software for Database	7	5	40	1722	287	2009
Configuring Database	21	15	120	5166	861	6027
Purchase API Server	25	19	152	5854	1148	7002
Installing Necessary Software for API	7	5	40	1722	143	1865
Configuring API	20	14	112	4821	717	5538
User Testing	30	21	168	7576	1004	8580
Layout and Design Rationality Testing	57	20	160	13776	2152	15928
Navigation Testing	26	20	160	6199	861	7060
Data Encryption Testing	28	20	160	6888	1148	8036
Vulnerability Scanning Testing	28	20	160	6888	1148	8036
Load Testing	28	20	160	6888	1148	8036
Stress Testing	28	20	160	6888	1148	8036
Connection Testing	28	20	160	6888	1148	8036
Spike Testing	28	20	160	6888	1148	8036
Endurance Testing	28	20	160	14465	2870	17335
Deployment	58	42	336	14465	2870	17335
Student Registraton Process	14	11	88	14120	2152	16272
Create a Project Report	12	10	80	7232	1148	8380
Publish Project Files	5	4.88	39.04	15498	2870	18368
Collect and Analyze Data	28	20.88	167.04	14465	2152	16617
Project Acceptance Document	58	42	336	13156	2238	15394

## 4.2 Project Budget

- Contingency Plan:

To ensure we stay within budget, we will include a contingency fund. A typical contingency fund is around 10-15% of the total project cost. For this project, let's use 12.5%. Contingency Fund:

Contingency Percentage=12.5%

Contingency Amount=12.5% × 399,962=49,995.25

- Total Budget Including Contingency:

Total Budget=Total Cost+Contingency Amount

Total Budget=399,962+49,995.25=449,957.25

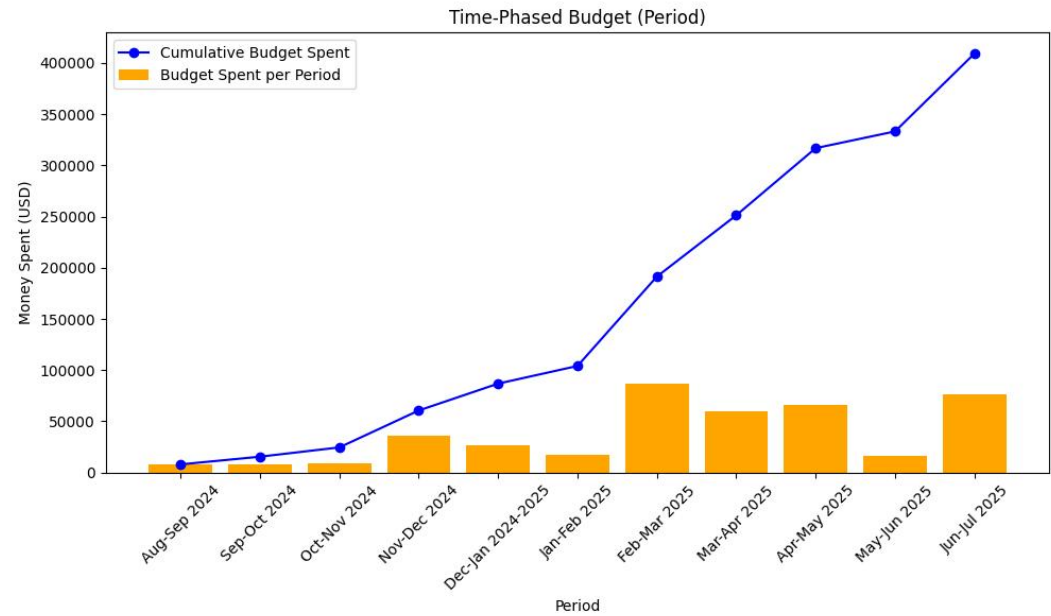
Therefore, the total project budget, including a contingency plan, is \$449,957.25.

This budget includes a buffer for unexpected expenses, ensuring that we will not exceed the budget limit even if some unplanned costs arise.



4.3 Time Phased Budget

Work Package	Cost	August-24	September-24	October-24	November-24	December-24	January-25	February-25	March-25	April-25	May-25	June-25	July-25
Collect Educational Resources	\$717.00	\$717.00											
Prepare Project Document	\$287.00		\$287.00										
Create Budget Report	\$1,148.00			\$1,148.00									
UI Draft	\$430.00				\$430.00								
UI Prototype	\$1,004.00						\$1,004.00						
Software Structure Design	\$861.00				\$861.00								
Technical Architecture Design	\$1,435.00				\$1,435.00								
Database Schema Design	\$717.00				\$717.00								
API Design	\$574.00				\$574.00								
Developing UI	\$861.00							\$861.00					
Create Group Function	\$430.00							\$430.00					
Add Group Function	\$430.00							\$430.00					
User Feedback Collection Function	\$287.00							\$287.00					
Educational Resources Collection Function	\$287.00							\$287.00					
Online Function	\$287.00							\$287.00					
Marketing Function	\$287.00							\$287.00					
Video Call Function	\$287.00							\$287.00					
Chat Function	\$287.00							\$287.00					
Notification and Reminder Function	\$287.00							\$287.00					
Meeting Schedule Function	\$287.00							\$287.00					
Login Function	\$287.00							\$287.00					
Verification Function	\$287.00							\$287.00					
Logout Function	\$287.00							\$287.00					
Download Function	\$287.00							\$287.00					
Research Function	\$287.00							\$287.00					
API Development	\$1,435.00					\$1,435.00							
Develop Database Connection	\$2,870.00					\$1,435.00	\$1,435.00						
Domain Name Registration	\$430.00							\$430.00					
Domain Name Filing	\$717.00								\$717.00				
Obtaining Account to Access Cloud	\$717.00								\$717.00				
Installing Necessary Software for VMs	\$287.00								\$287.00				
Configuring Web Environment	\$430.00								\$430.00				
Purchase Database Software	\$717.00							\$717.00					
Installing Necessary Software for Database	\$287.00								\$287.00				
Configuring Database	\$861.00								\$861.00				
Purchase API Server	\$1,148.00							\$1,148.00					
Installing Necessary Software for API	\$143.00								\$143.00				
Configuring API	\$717.00								\$717.00				
User Testing	\$1,004.00					\$1,004.00							
Layout and Design Usability Testing	\$2,152.00								\$2,152.00				
Navigation Testing	\$861.00								\$861.00				
Data Migration Testing	\$1,148.00									\$1,148.00			
Vulnerability Scanning Testing	\$1,148.00									\$1,148.00			
Load Testing	\$1,148.00									\$1,148.00			
Stress Testing	\$1,148.00									\$1,148.00			
Connection Testing	\$1,148.00									\$1,148.00			
Spikes Testing	\$1,148.00									\$1,148.00			
Endurance Testing	\$2,870.00									\$2,870.00			
Deployment	\$2,870.00										\$1,435.00	\$1,435.00	
Student Registration Process	\$2,152.00											\$2,152.00	
Create a Project Report	\$1,148.00											\$1,148.00	
Publish Project Files	\$2,870.00											\$2,870.00	
Collect and Analyse Data	\$2,152.00										\$1,150.00	\$1,152.00	
Project Acceptance Document	\$2,280.00											\$2,280.00	
Salary of HR	\$308,598.00	\$7,232.00	\$7,232.00	\$7,521.00	\$32,028.00	\$22,384.50	\$14808.50	\$75,542.00	\$52,691.00	\$55,793.00	\$19,890.50	\$65,125.50	
Total	\$401,157.00	\$7,940.00	\$7,530.00	\$5,060.00	\$38,041.00	\$26,768.50	\$17,247.50	\$87,381.00	\$53,883.00	\$63,551.00	\$16,366.50	\$76,001.50	
Cumulative		\$5,540.00	\$15,468.00	\$24,537.00	\$65,582.00	\$96,840.50	\$110,088.00	\$191,377.00	\$251,346.00	\$316,791.00	\$333,155.50	\$400,157.00	



## 4.4 PMBOK Referenced PM Methods Used in Cost – Discussion

In order to manage the projects of the PMBOK Digital Education Platform, the PMBOK name covers many aspects:

Using a bottom-up approach, accurate cost projections are prepared by aggregating the costs of individual activities and preparing comprehensive budgets.

The estimated cost is integrated into the project cost by adding costs together, thus ensuring that there is a proper allocation of funds at all stages of the project.

Therefore, use results management (EVM) to monitor projects, that is, compare cost and schedule levels to identify and address cost differences.

Establish contingency reserves to cover identified risks and provide a buffer against unforeseen costs.

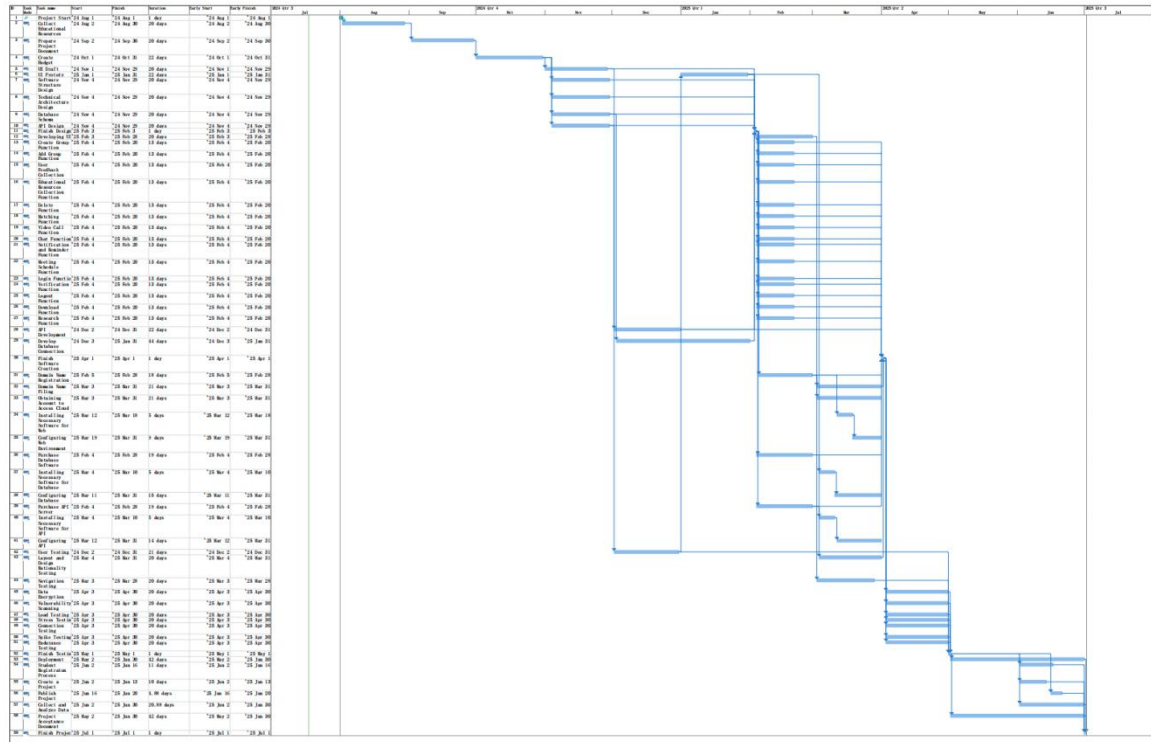
Regular and routine surveys of future project costs should be conducted against current performance indicators to support predictability and control of overruns.

Revision Control Board (CZB) to review and approve changes to the budget to maintain the integrity of the cost baseline.

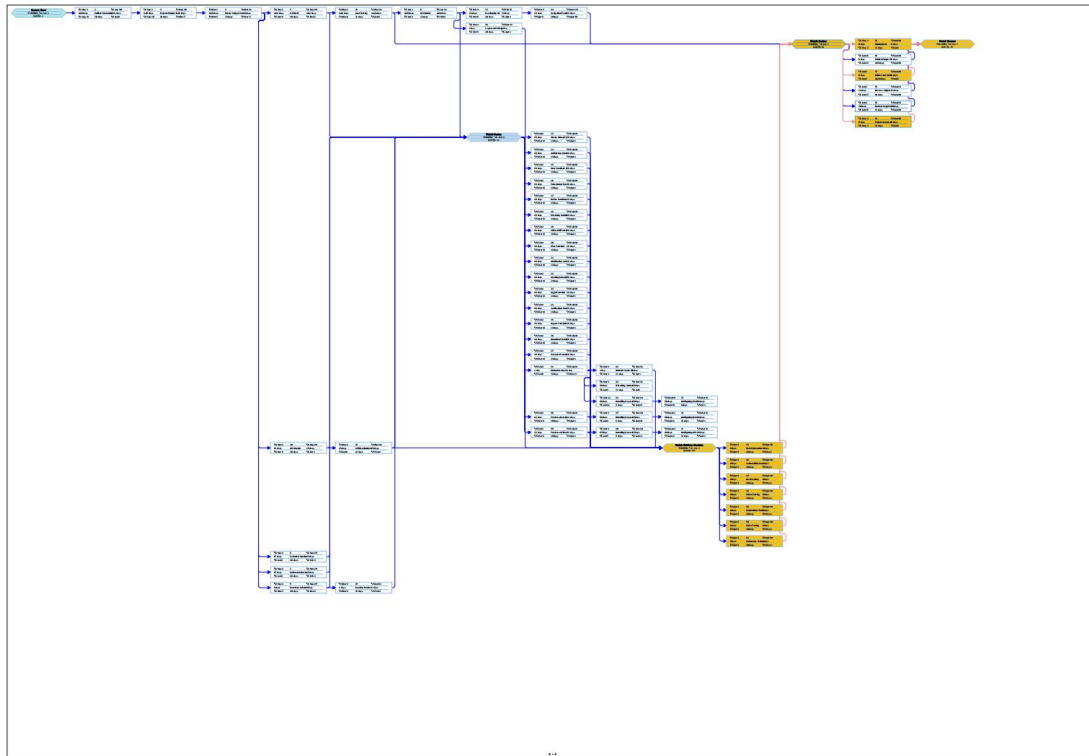
Assess financial viability and ensure that project objectives match value by comparing expected benefits and associated costs.

## 5. Schedule

### 5.1 Gantt Chart



## 5.2 Web Chart



The orange color means critical path

## 6. Risk Management Plan

Effective risk management is crucial for successfully delivering the digital web platform designed to support students from low-socioeconomic status backgrounds. The following sections outline the approach to identifying, assessing, and managing the risks associated with this project.

### 6.1 Risk Identification

Item	Failure Mode	Cause of Failure	Effect	Remedy: Recommended Action
1. Specification Documentation	Delay in documentation	Failure in program monitoring	Project delivery delay	Effective control in documentation

2. Technical Development	Delayed implementation	Insufficient developers	Project delivery delay	Effective control in labor budgeting
3. Security & Privacy	Data breach	Inadequate security measures	Loss of user trust and legal issues	Implement robust security protocols
4. Compliance	Regulatory non-compliance	Lack of awareness of regulations	Legal penalties and project delays	Regular compliance audits and training
5. Stakeholder Engagement	Low engagement levels	Ineffective communication strategies	Reduced support and adoption	Enhance stakeholder communication plans
6. User Adoption	Low platform adoption	Poor user interface design	Limited impact of the platform	Conduct user experience research and testing
7. Equipment & Machines	Technical failures	Poor maintenance	Project delivery delay	Regular maintenance and having backup equipment
8. Training and Support	Inadequate training materials	Insufficient resources allocated	User dissatisfaction and reduced platform usage	Develop comprehensive training materials
9. Data Management	Data loss	Poor data management practices	Loss of critical user data	Implement data backup and recovery solutions
10. Performance	Slow platform performance	Inadequate infrastructure	User frustration and reduced platform usage	Invest in scalable infrastructure
11. Feedback Mechanism	Ineffective feedback collection	Lack of structured feedback processes	Missed opportunities for improvement	Implement structured feedback collection processes
12. Mentorship Program	Mismatch of mentors and mentees	Ineffective matching algorithms	Poor mentorship experiences	Develop robust matching algorithms

13. Resource Repository	Outdated resources	Lack of regular updates	Reduced usefulness of resources	Schedule regular updates and reviews
14. Community Engagement	Low community participation	Ineffective community management	Reduced peer support	Enhance community management strategies
15. Event Coordination	Poorly organized events	Lack of coordination among stakeholders	Low attendance and engagement	Improve event planning and coordination
16. Accessibility	Non-compliance with accessibility standards	Lack of awareness and training	Exclusion of some user groups	Ensure compliance with accessibility standards
17. Scalability	Inability to handle increased load	Insufficient planning for growth	Platform crashes and user dissatisfaction	Plan for scalability from the outset
18. Reliability & Availability	Platform downtime	Poor system architecture and maintenance	Interrupted access for users	Implement robust system architecture and regular maintenance
19. User Feedback and Improvement	Ignored user feedback	Ineffective feedback loops	Reduced platform effectiveness	Establish effective feedback loops
20. Communication	Poor communication between team members	Lack of communication protocols	Project delays and misunderstandings	Implement clear communication protocols

Risk identification involves recognizing potential risks that could affect the project's objectives. The following are some identified risks for this project in this Table.

## 6.2 Risk Assessment

Risk assessment evaluates the likelihood and potential impact of each identified risk. This process helps prioritize risks and focus on those that could significantly affect the project. Based on the assessment, risks are categorized into high, medium, and low priority levels. High-priority risks require immediate attention and robust

mitigation strategies. Risks are then categorized as Low, Moderate or High depending on their Likelihood and Consequence scores, as shown in Table 2.

**Risk Assessment Matrix**

Impact	E	Low	Low	Low	Moderate	Moderate
	D	Low	Low	Moderate	Moderate	Moderate
	C	Low	Moderate	Moderate	Moderate	High
	B	Moderate	Moderate	Moderate	High	High
	A	Moderate	Moderate	High	High	High
		1	2	3	4	5
		Likelihood				

### 6.3 Risk Response and Contingency Plan

The Project Manager has evaluated and prioritized all identified risks. The most probable and impactful risks are integrated into the project schedule for timely mitigation. Upon project completion, the PM will review each risk and assess the risk management process. This analysis will identify areas for improvement to be included in the lessons learned for future projects.

## 6.4 Risk Register Table

Risk Category	Risk ID	Risk Statement	Impact - Scope	Impact - Quality	Impact - Schedule	Impact - Cost	Likelihood (Before)	Overall Score (Before)	Risk	Mitigation	Likelihood (After)	Overall Score (After)	Risk (After)	Contingency	Action By
Technical Risks	1	Project purpose and scope not well-defined.	3	3	2	2	C	3	Moderate	Define project scope clearly and communicate effectively.	D	2	Low	Communicate with project sponsor to redefine project scope if necessary.	Project Sponsor
Technical Risks	2	Project design and deliverables definition is incomplete.	3	3	2	2	C	3	Moderate	Conduct detailed design workshops and define deliverables clearly.	D	2	Low	Revisit design workshops to refine project deliverables.	Project Sponsor
Security Risks	3	Data breach due to inadequate security measures.	3	3	3	3	B	4	High	Implement robust security measures and conduct regular audits.	C	3	Moderate	Conduct security audits and improve measures as needed.	Project Manager
Compliance Risks	4	Regulatory non-compliance due to lack of awareness.	3	3	2	3	B	4	High	Ensure regular compliance audits and provide training.	C	3	Moderate	Reassess compliance strategies regularly.	Project Manager
Stakeholder Engagement Risks	5	Low stakeholder engagement.	2	2	2	2	C	3	Moderate	Enhance stakeholder communication strategies.	D	2	Low	Revisit stakeholder engagement plans.	Project Manager
User Adoption Risks	6	Low platform adoption due to poor user interface design.	3	3	3	2	B	4	High	Conduct user experience research and testing.	C	3	Moderate	Conduct additional user experience testing.	Project Manager
Equipment & Machines	7	Technical failures due to poor maintenance.	2	3	3	2	B	3	Moderate	Regular maintenance and having backup equipment.	C	3	Moderate	Contact supplier for spare parts, and ensure backup equipment availability.	Project Manager
Training and Support	8	Inadequate training materials due to insufficient resources.	2	2	2	2	C	3	Moderate	Develop comprehensive training materials.	D	2	Low	Update training materials regularly.	Project Manager
Data Management	9	Data loss due to poor data management practices.	3	3	2	3	C	3	Moderate	Implement data backup and recovery solutions.	D	2	Low	Schedule regular data backups.	Project Manager
Performance	10	Slow platform performance due to inadequate infrastructure.	3	3	2	2	C	3	Moderate	Invest in scalable infrastructure.	D	2	Low	Scale infrastructure as needed.	Project Manager
Feedback Mechanism	11	Ineffective feedback collection processes.	2	2	2	2	C	2	Moderate	Implement structured feedback collection processes.	D	2	Low	Review feedback processes and adjust accordingly.	Project Manager
Mentorship Program	12	Mismatch of mentors and mentees.	2	2	2	2	C	2	Moderate	Develop robust matching algorithms.	D	2	Low	Reassess matching algorithms periodically.	Project Manager
Resource Repository	13	Outdated resources due to lack of regular updates.	2	2	2	2	C	2	Moderate	Schedule regular updates and reviews.	D	2	Low	Review and update resource repository regularly.	Project Manager
Community Engagement	14	Low community participation.	2	2	2	2	C	2	Moderate	Enhance community management strategies.	D	2	Low	Revisit community management strategies.	Project Manager
Event Coordination	15	Poorly organized events due to lack of coordination.	2	2	2	2	C	2	Moderate	Improve event planning and coordination.	D	2	Low	Improve event coordination processes.	Project Manager
Accessibility	16	Non-compliance with accessibility standards.	2	2	2	2	C	2	Moderate	Ensure compliance with accessibility standards.	D	2	Low	Regularly review accessibility compliance.	Project Manager
Scalability	17	Inability to handle increased load due to insufficient planning.	3	3	3	3	C	3	High	Plan for scalability from the outset.	D	3	Moderate	Assess scalability needs periodically.	Project Manager
Reliability & Availability	18	Platform downtime due to poor system architecture.	3	3	3	3	C	3	High	Implement robust system architecture and regular maintenance.	D	3	Moderate	Conduct regular maintenance and system audits.	Project Manager
User Feedback and Improvement	19	Ignored user feedback due to ineffective feedback loops.	2	2	2	2	C	2	Moderate	Establish effective feedback loops.	D	2	Low	Review feedback loops and improve if necessary.	Project Manager
Communication	20	Poor communication between team members.	2	2	2	2	C	2	Moderate	Implement clear communication protocols.	D	2	Low	Ensure regular team communication updates.	Project Manager

Likelihood: A - almost certain; B - Likely; C - Moderate; D - Unlikely; E - Rare

\*\* Impact: 1 - Insignificance; 2 - Moderate; 3 - Catastrophic

\*\*\*Overall score: 1 - Insignificance(impact score adds up <=1); 2 - Minor (>1 and <=3); 3 - Moderate(>3 and <=9); 4 - Major(>9 and <=27); 5 - Catastrophic(>27)

## 6.5 Monitoring and Controlling Risks

The Project Manager will monitor and review risks fortnightly at steering committee meetings with project sponsors to assess their status and the effectiveness of mitigation strategies. During fortnightly project team meetings, the PM will discuss current risks, provide updates to stakeholders, and ensure documentation of risk responses as risks approach. Mitigation strategies will be adjusted based on the evolving risk landscape and project progress. Effective risk management ensures the



successful delivery of the digital web platform, aligning with UNSW's commitment to supporting students from low socioeconomic backgrounds and advancing social impact. Once the project is completed, risks will be analyzed and included in the lessons learned knowledge base as appropriate. This ongoing process of monitoring risks throughout the project life will improve risk management for future projects.

## 6.6 Feedback of Response Cost and Time back into Budget / Schedule

The key is to integrate the costs and time for risk responses into the project's budget and schedule, which allows for the most effective management. The benefit of this approach is the ability to handle unexpected risks, ensuring the project can proceed smoothly within budget.

### 6.6.1 Cost Feedback

**(1) Estimation and Allocation:** The project team needs to estimate the costs of risk responses in advance and include these estimated costs in the final project budget. These funds cater to additional resources, equipment, and any other costs that may be demanded by both known and unknown risks.

**(2) Continuous Monitoring:** These risk responses should have actual cost estimates, and these costs must be compared to the initial estimated costs throughout the project. These differences should be evaluated, and the project's budget in relation to the overall project cost should be adjusted so that it is within the overall project cost.

### 6.6.2 Time Feedback

**(1) Schedule Adjustments:** The duration of the risk response is then incorporated into the project schedule. Schedules that are used in planning particular activities and goals allow for the extra time that is needed to undertake the mitigation procedures.

**(2) Regular Updates:** The behaviours of risk responses need to be updated more frequently to demonstrate the progress in the project schedule.

## 6.7 PMBOK Referenced PM Methods Used in Risk Plan – Discussion

- Risk Identification reference from PMBOK Chapter 11.2 ‘Identify Risks’ : Potential risk is described by Failure Mode and Effect Analysis (FMEA), making sure that all potential risk is known.
- Risk Assessment borrowed from PMBOK Chapter 11.3 ‘Perform qualitative risk analysis’ and Chapter 11.4 ‘Perform Quantitative Risk Analysis’ : Risks are evaluated by their probability of occurrence and their consequences; they are thereafter ranked as Low, Medium, or High to help in implementing the risk management strategy.
- Risk Response Planning reference from PMBOK Chapter 11.5 ‘Plan Risk Responses’ : The project manager adds prioritized risks to the project plan and controls when they should be addressed with response and contingency plans.
- Monitoring and Controlling Risks reference from PMBOK Chapter 11.7 ‘Monitor Risks’ : Risks are discussed by the Project Manager at least every two weeks to give updates and to make changes in the techniques being used to control risks.

## 7. Communications Management Plan

### 7.1 Project Information System Table

Project Information System Table						
Information	Sender	Recipient	Frequency	Method	Expected Outcome	Owner
Project Status Report	Project Manager	Project Sponsor	Weekly	Email, Meeting	Keep sponsor updated on project progress, identify issues	Project Manager
Task Updates	Team Members	Project Manager	Daily	Email, Dashboard	Ensure tasks are on track, identify potential delays	Team Members
Risk Log	Risk Manager	Project Manager, Stakeholders	weekly	Shared Document	Mitigate risks proactively, update stakeholders	Risk Manager
Stakeholder Feedback	Project Manager	Stakeholders	Monthly	Survey, Meeting	Gather feedback to improve project processes and engagement	Project Manager
Budget Report	Finance Officer	Project Manager, Sponsor	Monthly	Email, Report	Ensure project stays within budget, financial transparency	Finance Officer
Change Requests	Stakeholders	Change Control Board	As needed	Form, Meeting	Evaluate and approve/reject change requests	Change Control Board
Milestone Review	Project Manager	Project Team, Sponsor	End of Phase	Meeting, Presentation	Review milestone achievements, plan next phase	Project Manager
Training Materials	Training Coordinator	Team Members	As needed	Workshop, Documentation	Equip team with necessary skills and knowledge	Training Coordinator

### 7.2 PMBOK Referenced PM Methods Used in Communications – Discussion

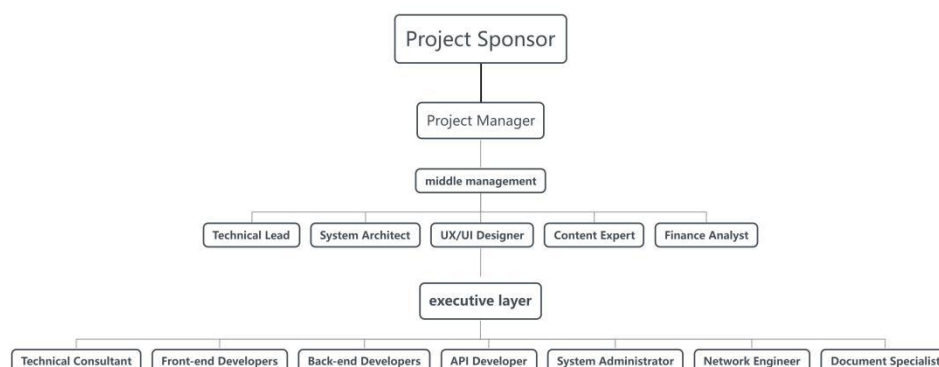
- **Push Communication:** Information need sending to specific people, who want to receive the information. This includes emails, reports, and messages.
- **Pull Communication:** Information that is provided to users at their discretion.

Including specific web, knowledge repositories and e-book.

- Meetings: Set regularly or flexible schedule which used to discuss project status, issues, risks, and check the entails of project process.
- Reports and Dashboards: Structured documents that provided some current information of project status, risks and other key data.
- Surveys and Questionnaires: Tools that used for collecting feedback and opinions from stakeholders regarding various aspects of the project.
- Workshops and Training Sessions: In order to discuss how to develop new skills, such as solve problems that have been discovered, or collect requirements from user.

## 8. Human Resource Plan

### 8.1 Project Organization Chart



### 8.2 Roles and Responsibilities Table

Role	Responsibilities	Skills/Qualifications
Project Sponsor	Provides overall direction, funding, and resources	Senior management experience, decision-making
Project Manager	Manages project scope, schedule, and budget	Project management certification, leadership
Technical Lead	Oversees all technical aspects of the project	Technical expertise, team leadership
UX/UI Designer	Designs user-friendly interfaces and ensures accessibility	UI/UX design experience, knowledge of accessibility standards
Content Expert	Collects and organizes educational resources	Subject matter expertise, research skills
Finance Analyst	Manages project budget and financial planning	Financial analysis, budgeting, and

		reporting skills
System Architect	Designs system architecture and database schema	System architecture, database design experience
Technical Consultant	Provides technical guidance and support	Technical expertise, problem-solving skills
Front-end Developers	Develops the front-end of the platform	Proficiency in HTML, CSS, JavaScript, front-end frameworks
Back-end Developers	Develops the back-end of the platform and APIs	Server-side programming, database management
API Developer	Designs and develops APIs	API design and development experience
System Administrator	Manages and configures servers and cloud services	System administration, network management
Network Engineer	Manages network configuration and maintenance	Networking skills, network security knowledge
Document Specialist	Creates project documentation and reports	Technical writing, documentation skills

## 8.3 Position Descriptions

### Position: Project Sponsor

- **Purpose:** To provide overall direction, funding, and resources for the project.
- **Key Responsibilities:**
  - Provide strategic guidance and high-level decision-making.
  - Allocate necessary resources and budget.
  - Resolve escalated issues and remove obstacles.
- **Qualifications:** Senior management experience, strong decision-making skills.

### Position: Project Manager

- **Purpose:** To oversee the successful completion of the project within the defined scope, time, and budget.
- **Key Responsibilities:**
  - Develop and maintain the project plan and schedule.
  - Coordinate project activities and resources.
  - Monitor project progress and performance, and adjust plans as needed.
  - Communicate with stakeholders and manage expectations.

- **Qualifications:** PMP certification, 5+ years of project management experience, leadership skills.

**Position: UX/UI Designer**

- **Purpose:** To design user-friendly interfaces and ensure accessibility.
- **Key Responsibilities:**
  - Create wireframes, prototypes, and UI designs.
  - Conduct user research and usability testing.
  - Ensure the platform complies with accessibility standards.
  - Collaborate with developers to implement designs.
- **Qualifications:** UI/UX design experience, knowledge of WCAG standards, proficiency in design tools (e.g., Adobe XD, Sketch).

**Position: Content Expert**

- **Purpose:** To collect and organize educational resources.
- **Key Responsibilities:**
  - Research and curate relevant educational content.
  - Ensure content accuracy and quality.
  - Update and maintain the content repository.
- **Qualifications:** Subject matter expertise, research skills, excellent organizational skills.

**Position: System Architect**

- **Purpose:** To design the system architecture and database schema.
- **Key Responsibilities:**
  - Develop and document system architecture and design.
  - Create database schemas and ensure data integrity.
  - Ensure system scalability, security, and performance.
  - Collaborate with developers to implement the architecture.
- **Qualifications:** Experience in system architecture and database design, strong analytical skills, knowledge of software development methodologies.

**Position: Technical Consultant**

- **Purpose:** To provide technical guidance and support.
- **Key Responsibilities:**
  - Advise on technical decisions and solutions.
  - Helps resolve technical issues.
  - Keeps updated with the latest technologies and best practices.
  - Provides the development team with technical expertise.
- **Qualifications:** Technical expertise, problem-solving skills, experience in consulting or technical advisory roles.

**Position: Front-end Developer**

- **Key Responsibilities:**
  - Turns UI designs into functional front-end code.
  - Ensures cross-browser compatibility and responsive design.
  - Optimize front-end performance.
  - Collaborates with UX/UI designers and back-end developers.
- **Qualifications:** Proficient in HTML, CSS, JavaScript, and front-end frameworks (e.g., React, Angular).

**Position: Back-end Developer**

- **Purpose:** To develop the back-end of the platform and APIs.
- **Key Responsibilities:**
  - Develops server-side logic and integrates with front-end components.
  - Creates and maintains APIs.
  - Ensures data security and integrity.
  - Collaborates with front-end developers and system architects.
- **Qualifications:** Server-side programming skills, experience with databases and API development, and knowledge of security best practices.

**Position: API Developer**

- **Purpose:** To design and develop APIs.

- **Key Responsibilities:**
  - Design and develop RESTful APIs.
  - Ensure API security and documentation.
  - Integrate APIs with front-end and back-end systems.
  - Monitor and optimize API performance.
- **Qualifications:** API design and development experience, knowledge of RESTful principles, proficiency in relevant programming languages.

**Position: System Administrator**

- **Purpose:** To manage and configure servers and cloud services.
- **Key Responsibilities:**
  - Configures and maintains servers and cloud infrastructure.
  - Monitors system performance and ensures availability.
  - Implements security measures and backup solutions.
  - Troubleshoots and resolves system issues.
- **Qualifications:** System administration experience, knowledge of server and cloud technologies, proficiency in scripting and automation tools.

**Position: Network Engineer**

- **Purpose:** To manage network configuration and maintenance.
- **Key Responsibilities:**
  - Designs and manages network configurations.
  - Ensure network security and performance.
  - Troubleshoots and resolves network issues.
  - Monitors network traffic and optimize performance.
- **Qualifications:** Networking skills, experience with network security, and knowledge of network protocols and hardware.

**Position: Document Specialist**

- **Purpose:** To create and maintain project documentation.
- **Key Responsibilities:**
  - Prepares user manuals, technical guides, and project reports.

- Ensures documentation is clear, concise, and up-to-date.
- Collaborates with team members to gather information.
- Maintains documentation standards and templates.
- **Qualifications:** Technical writing skills, attention to detail, experience with documentation tools and software.

## 8.4 Project Staffing Strategy

### 8.4.1 Recruitment Plan

#### ● **Roles and Responsibilities:**

##### **1.HR Team**

- Oversee the entire recruitment process
- Handle job postings, screenings, and initial interviews

##### **2.Project Manager**

- Participate in final interviews
- Involved in the selection of candidates

#### ● **Recruitment Process:**

##### **Screening**

- Review applications
- Shortlist candidates based on qualifications

##### **Interviewing**

- Conduct initial HR interviews
- Follow up with technical interviews

##### **Selection**

- Choose the best candidates
- Extend job offers

### 8.4.2 Onboarding Plan

#### **Roles and Responsibilities:**

- **HR Team:** Facilitate the onboarding process and provide necessary resources.
- **Project Manager:** Introduce new hires to the project and team members.



- **Technical Lead:** Provide technical orientation and assign initial tasks.

#### 8.4.3 Training and Development Plan

##### **Roles and Responsibilities:**

- **Screening:** Review applications and shortlist candidates based on qualifications.
- **Interviewing:** Conduct initial HR interviews followed by technical interviews.
- **Selection:** Choose the best candidates and extend job offers.

#### 8.4.4 Performance Management Plan

##### **Roles and Responsibilities:**

- **Project Manager:** Conduct regular performance reviews and provide feedback.
- **Technical Lead:** Monitor technical performance and provide guidance.

#### 8.4.5 Retention Plan

##### **Roles and Responsibilities:**

- **HR Team:** Develop and implement retention strategies.
- **Project Manager:** Foster a positive team culture and address team concerns.

##### **Process:**

- **Compensation:** Offer competitive salaries and benefits packages.
- **Career Development:** Provide opportunities for career advancement and professional growth.
- **Work-life Balance:** Promotes balance between work and life through flexible working arrangements.
- **Recognition:** Establishes a recognition program to reward exceptional performance.

### 8.5 PMBOK Referenced PM Methods Used in HR Plan – Discussion

- **Work Breakdown Structure (WBS):** Helps identify all tasks and subtasks needed for the project so that roles and responsibilities can be precisely assigned.
- **Responsibility Assignment Matrix (RAM):** Clarifies the roles and

responsibilities of team members, by assigning tasks to specific individuals or groups, which ensures accountability.

- **RACI Chart (Responsible, Accountable, Consulted, Informed):** Specifies who is responsible for each task, who is accountable, who needs to be consulted, and who should be informed, which helps clear communication and decision-making processes.
- **Organizational Breakdown Structure (OBS):** Shows the project team structure, helping to align project tasks with organizational departments or units.
- **Resource Histogram:** Shows the allocation of resources over time, allowing for effective planning and balancing of workload among team members.
- **Staffing Management Plan:** Explains how and when project team members will be acquired, trained, and released, ensuring the project has the right skills at the right times.
- **Training Needs Analysis:** Identifies gaps in skills and knowledge among team members, allowing targeted training programs to enhance team capability.
- **Team Building Activities:** Improves collaboration and communication among project members.

## References

A Guide to the Project Management Body of Knowledge (PMBOK Guide) : And, Agile Practice Guide (Project Management Institute, 6th edition., 2017)