

Executive Summary

Introduction

The first purpose of this project is to redesign Weverse's landing page to accommodate for artists from multiple organizations. The second purpose is to redesign the service of customizable merchandizes for artist from different companies.

Purpose

As stated in first part of this project plan, this project is a collaboration between HYBE, an entertainment company that oversees various music groups and Kakao, a South Korean internet provider. This small pilot project will be used to explore the scale and complexity of redeveloping and redeploying HYPE's Weverse platform to use Kakao's infrastructure.

Project Governance

As mentioned in part 1, this project employs a governance framework that ensures compliance with sponsor requirements. We will implement comprehensive oversight structures, including a Steering Committee, Project Board, Change control board, a Quality Assurance and Compliance team, Risk Management Committee, and a Project Manager.

Additionally, to ensure compliance with this framework, we will commit to effective communication, training, monitoring and a feedback loop.

Project Planning Overview

Scope:

We have identified the following functional requirements:

User Registration and Authentication: Allowing users to register, login, and authorization with user roles.

Profile management: Allowing users to manage their profile details.

Content Creation and Management: Users can create and manage their content on the platform.

Search and Filtering: Users will be able to search and filter for content.

Notifications: User will receive notifications for updates.

Social Sharing: user can share platform content on other social networks.

Commenting: User can leave comments on content.

Additionally, non-functional capabilities such as scalability, security, performance, availability, backup & recovery, and cross-platform compatibility will also be included.

To achieve these requirements, we plan to implement a DevOps approach for the project, which will include practices like continuous integration and continuous deployment to automate software delivery.

Schedule:

The project is scheduled to begin on 1st September 2023 and conclude on 29th December 2023, spanning a duration of approximately 4 months. The key deliverable-milestone will finish on the following dates:

Project Mangement Planning: 18/09/2023

Requirement Analysis: 25/09/2023

System Design: 10/10/2023

Development: 14/11/2023

Operations and Maintenance: 27/11/2023

Documentation: 06/12/2023

Training and Support: 13/12/2023

Deployment: 29/12/2023

Budget:

The budget for this project has been estimated at AUD 188,472 with 75% accuracy. The labour cost is AUD 80,040. Other expenses, such as hardware, software, services, amenities are expected to amount to AUD 108,432. A more detailed breakdown is included in the budget estimation section.

Risk Register:

Risks are common in any project and will affect the outcome of the project. In this report we study the possible risks that may arise in our projects. Base on the possible risks we can classify them based on the types of risks and their severity and find the relevant risk response strategies to handle them if they occur. Based on the risk estimates the budget for risk response is set at 310000 \$

Next Step

Upon receiving approval from the sponsors and clients, we will initiate the execution phase of this project. Material and human resources will be mobilized to prepare for the project's initiation. A kick-off meeting will be scheduled for the project team to ensure every team member understands the project's objectives, their roles, and responsibilities. Then the project will commence according to the schedule included in this project plan.

1. Report Purpose and Discussion Scope

In the previous segment of this project plan, we discussed the various aspects to consider when undertaking this project, such as the project governance framework employed, analysing our stakeholders and detailing an effective stakeholder management plan. We additionally established various planning assumptions, business objectives and constraints to refer to within this project.

In this section of the project, we will establish a detailed timeline to adhere to, expounding on various aspects such as budgeting, scope and risk management, which was briefly discussed in the earlier segment. This will ensure effective organisation and execution of processes involved in achieving the objectives of this project.

Specific knowledge areas covered within this report consist of scope management, time and cost management, risk management.

2.Scope Management Plan

2.1 Planning Assumptions

Software Development Methodology: The assumption over here is that the project is going to use Agile Software development methodology, possibly with DevSecOps practices to ensure cybersecurity compliance.

Software Development Location: The development work will take place in multiple locations including the Seoul HQ, the Melbourne office, and the US/Los Angeles HQ. Collaboration tools and processes will be used to ease distributed development.

Budget Constraints: The project budget is capped at USD \$1 million. All project activities and deliverables need to be managed within this budget.

Timeframe: The project has a fixed deadline to deliver the redesigned Weverse platform and associated customizable merchandise service by the end of December 2023.

Hybe's Cybersecurity Plan: It is mentioned in the case study that the project will need to integrate Zero Trust Network Access capabilities into the software development process to align with Hybe's cybersecurity plan. This will include continuous authentication and monitoring of users, devices, and data access.

Software Development Approach: The project assumes a shift-left approach, incorporating cybersecurity compliance testing into various phases of software testing, including unit testing, integration testing, system testing, and user acceptance testing.

Software Testing Lifecycle: The project assumes the use of a V-testing framework for software testing during Agile sprints to ensure the quality and security of the software.

Software Acquisition: The project will likely involve in-house software development and might also consider outsourcing certain tasks or components. The choice between these methods will depend on project needs.

Platform and Technology Stack: The project assumes the use of appropriate platforms and technology stacks to support the development and deployment of the Weverse platform and associated services.

Governance Mechanisms: Governance mechanisms will be integrated into the software development process to ensure compliance with organizational policies and cybersecurity standards.

- **User Acceptance Testing:** User acceptance testing will involve collaboration with users from different geographical locations, requiring efficient communication and coordination.
- **Team Structure:** The project will establish a team structure, including a project owner, to oversee and execute project activities.
- **Labor Costs:** Labor costs, including those of seconded and salaried Hybe staff, will be calculated based on project hourly charge-out rates derived from market annual salaries or contract rates.
- **Persona Profiling:** Persona profiling, based on Myer Briggs archetypes, will be used to understand stakeholder behaviour and tailor engagement, communication, and training activities accordingly.

These assumptions form the basis for scope planning and project execution. It's essential to monitor and validate these assumptions throughout the project to ensure alignment with project objectives and adjust plans as needed.

2.2 Planning Methods & Techniques

Agile Methodology: Agile, like Scrum or Kanban, suits the dynamic nature of software development, enabling quick iterations and adaptability. (*What Is Agile Software Development?*, 2019)

- **Project Management Software:** Tools such as Jira, Trello, or Asana facilitate task management, workflows, and team collaboration.
- **Risk Management:** Implement risk assessment and mitigation plans to identify and address potential project risks. (Project Management Institute, 2019)
- **Project Scheduling:** Use Gantt charts or similar tools for creating project schedules and timelines.
- **Change Management:** Employ strategies to effectively manage changes in project scope, schedule, and budget.

Conceptual Design Methodology and Modelling Techniques:

1. Object-Oriented Analysis and Design (OOAD): Design software using objects and classes, utilizing UML diagrams (class diagrams, use case diagrams, and sequence diagrams).
 2. Service-Oriented Architecture (SOA): Apply SOA principles and modelling techniques if developing services.
 3. User-Centred Design (UCD): Ensure the redesigned Weverse platform meets user requirements for an optimal experience.
- Enterprise Architecture (EA) Standards: Adhere to existing EA standards if they align with Hybe's IT strategy and long-term goals.
 - DevOps Considerations: Implement DevOps practices, including Continuous Integration (CI) and Continuous Deployment (CD) pipelines, to automate software delivery and ensure rapid, reliable updates.

2.3 Product scope:

In an Agile development methodology, the approach to identifying the functional and non-functional makeup of the software product is iterative and collaborative. **Agile methodology**, employed in this project's product scope, is a user-centered and iterative approach to software development. It emphasizes understanding user needs, breaking the project into time-bound iterations (sprints), and fostering collaboration among stakeholders. Prioritization of requirements based on business value allows for prompt delivery of critical features while accommodating changes. Continuous testing ensures high quality, and adaptive design allows for adjustments based on feedback. Regular delivery of working increments keeps stakeholders engaged and allows for early course corrections. Agile, rooted in the Agile Manifesto, promotes flexibility and responsiveness, ensuring that the software product aligns with evolving scope and delivers value to stakeholders (*primadhika Marnada et al.*)

Functional Requirements	Description
User Registration and Authentication	<ul style="list-style-type: none"> • Users can create accounts • Users can log in securely with authentication • User roles
Profile Management	<ul style="list-style-type: none"> • Users can update their profile information • Users can reset their passwords
Content Creation and Management	<ul style="list-style-type: none"> • Users can create new content (e.g., articles, posts). • Users can edit and delete their own content. • Admins can moderate and manage all content.
Search and Filtering	<ul style="list-style-type: none"> • Users can search for content using keywords. • Users can filter content by category or date.
Notifications	<ul style="list-style-type: none"> • Users receive notifications for new comments or updates to their content.
Social Sharing	<ul style="list-style-type: none"> • Users can share content on social media platforms.
Commenting	<ul style="list-style-type: none"> • Users can leave comments on content. • Admins can moderate and manage comments.

Non - Functional Requirements	Description
Performance	<ul style="list-style-type: none"> • The system must load pages within 2 seconds. • It should support 100 concurrent users without performance degradation.
Security	<ul style="list-style-type: none"> • User data is encrypted and stored securely. • Authentication uses industry-standard encryption and hashing algorithms. • Access control ensures users can only edit their own content.
Scalability	<ul style="list-style-type: none"> • The system should easily scale to accommodate increased user traffic. • It should support a growing database of content.
Usability	<ul style="list-style-type: none"> • The user interface must be intuitive and user-friendly. • Users should be able to navigate the site with minimal training.
Accessibility	<ul style="list-style-type: none"> • The application should be accessible to users with disabilities, following WCAG guidelines.
Reliability	<ul style="list-style-type: none"> • The system should have a 99.9% uptime. • Regular backups of user data should be performed.

Requirement Traceability Matrix:

Requirement Information					Relationship Traceability			
ID	Requirements	Source	Category	Priority	Business Objectives	Deliverables	Verification	Validation
RQ - 001	User Registration	Park Ji	Functional	Must Have	Enhance user Experience and Accessibility	User Registration Module	Successful User Registration	User Testing, Stakeholder review
RQ - 002	User Authentication	Park Ji	Functional	Must Have	Enhance user Experience and Accessibility	User Authentication Module	Successful User Authentication	User testing, Stakeholder review
RQ - 003	Profile Management	Rene Park	Functional	Must Have	Streamline Profile Management	Profile Management Module	Successful Profile Management	User testing, Stakeholder review
RQ - 004	Content Creation	Sharon O'Lee	Functional	Should Have	Improve Content Creation and Discovery	Content Creation Module	Efficient Content Creation	Performance testing to ensure efficient content creation
RQ - 005	Search and Filtering	Steve Martin	Functional	Should Have	Improve Content Creation and Discovery	Search and filtering Module	Accurate Search and Filtering	User testing to validate accurate search and filtering functionality
RQ - 006	Notifications	Sharon O'Lee	Functional	Must Have	Enhance User Engagement and Interaction	Notifications Module	Proper Notification Functionality	User testing to ensure proper notification
RQ - 007	Social Sharing	Steve Martin	Functional	Must Have	Enhance User Engagement and Interaction	Social Sharing Module	Seamless Social Sharing	User testing to validate seamless social sharing functionality
RQ - 008	Commenting	Steve Martin	Functional	Should Have	Facilitate User Communication and Feedback	Commenting Module	Effective Commenting	User testing to validate effective commenting functionality
RQ - 009	Performance (Speed)	Ali - As - Saber	Non - Functional	Must Have	Optimize System Performance and Scalability	Performance Optimization	Defined Performance Metrics	Performance testing to meet defined performance metrics
RQ - 010	Security (Encryption)	Cyber Specialist	Non - Functional	Must Have	Ensure Data Security and Privacy	Data Encryption	Strong Data Encryption	Security testing to ensure strong data encryption
RQ - 011	Scalability	Ali - As - Saber	Non - Functional	Should Have	Ensure Scalability and Handle Increased Loads	Scalability Enhancement	Scalability Metrics	Load testing to validate scalability metrics
RQ - 012	Usability	Dhviya	Non - Functional	Must Have	Improve Usability and User Satisfaction	Enhanced Usability	Improved Usability Metrics	Usability testing to validate improved usability metrics
RQ - 013	Accessibility	Dhviya	Non - Functional	Should Have	Ensure Accessibility Compliance	Accessibility Improvements	Accessibility Compliance Metrics	Accessibility testing, Stakeholder review
RQ - 014	Reliability	Abhishek	Non - Functional	Must Have	Enhance Reliability and System Availability	Enhanced Reliability	Defined Reliability Metrics	Reliability testing, Stakeholder review

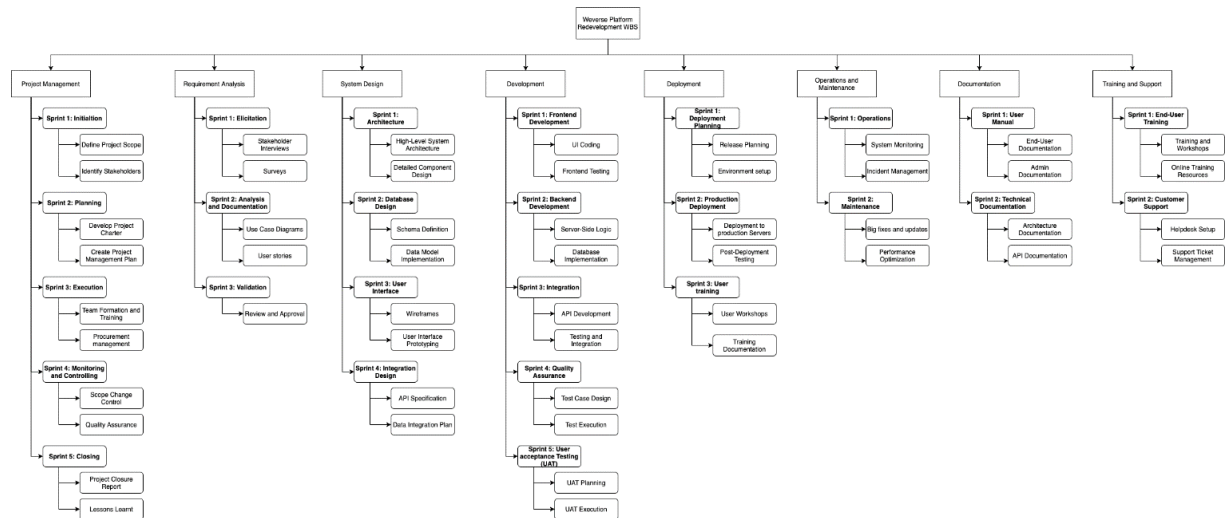
2.4 Work Scope

Agile methodology, within the project's work scope, is a dynamic and iterative software development approach that emphasizes incremental and efficient delivery. It involves breaking the project into manageable sprints or iterations, each with specific goals.

From a work scope perspective, Agile's key principles and practices include:

- **User-Centric:** Prioritizing end-user needs ensures alignment with customer requirements and feedback-driven development.
- **Adaptive Planning:** Work scope evolves throughout the project, embracing changes in requirements and priorities.
- **Collaboration:** Cross-functional teams collaborate closely, defining, refining, and validating the work scope.
- **Iterations:** Time-bound iterations produce potentially shippable increments, allowing regular assessment and adaptation.
- **Continuous Testing:** Quality assurance is integrated throughout, ensuring compliance with quality standards.
- **Prioritization:** The prioritized backlog organizes work, addressing high-priority items early to deliver value sooner.
- **Transparency:** Agile boards provide visibility into progress and impediments.

From a work scope perspective, Agile fosters a responsive and customer-focused approach, enabling effective scope management, adaptability to changing requirements, and incremental value delivery, ultimately leading to project success and customer satisfaction (Hossain, M).



WBS Activity	Scope - Related Information
Project Management	<ul style="list-style-type: none"> • Scope Statement - A detailed project scope statement that outlines project objectives, deliverables, constraints, and assumptions. • Stakeholder Requirements: A clear understanding of stakeholder needs and expectations to align project management activities.
Requirements Analysis	<ul style="list-style-type: none"> • Requirements Documentation: A comprehensive set of documented requirements, including user stories, use cases, and functional/non-functional requirements. • Stakeholder Sign-off: Confirmation and sign-off from stakeholders on the gathered requirements.
System Design	<ul style="list-style-type: none"> • High-Level Design: Detailed architectural plans and high-level system design specifications. • Database Schema: Defined database schema and data model. • User Interface Mockups: Mockups and prototypes for the user interface.
Development	<ul style="list-style-type: none"> • Coding Standards: Defined coding standards and guidelines to ensure consistency. • Development Environment: Availability of development environments and tools. • Test Cases: Test cases and scenarios based on requirements for quality assurance.
Documentation	<ul style="list-style-type: none"> • Documentation Requirements: Clear specifications on the content and format of user manuals and technical documentation. • User Manuals: User manuals containing end-user instructions and system documentation. • Technical Documentation: Detailed technical documentation for future reference.
Training and Support	<ul style="list-style-type: none"> • Training Plan: A plan outlining the training approach, materials, and schedules. • Support Procedures: Procedures and guidelines for handling customer support requests and issues. • Support Resources: Availability of support staff and resources to address user needs.

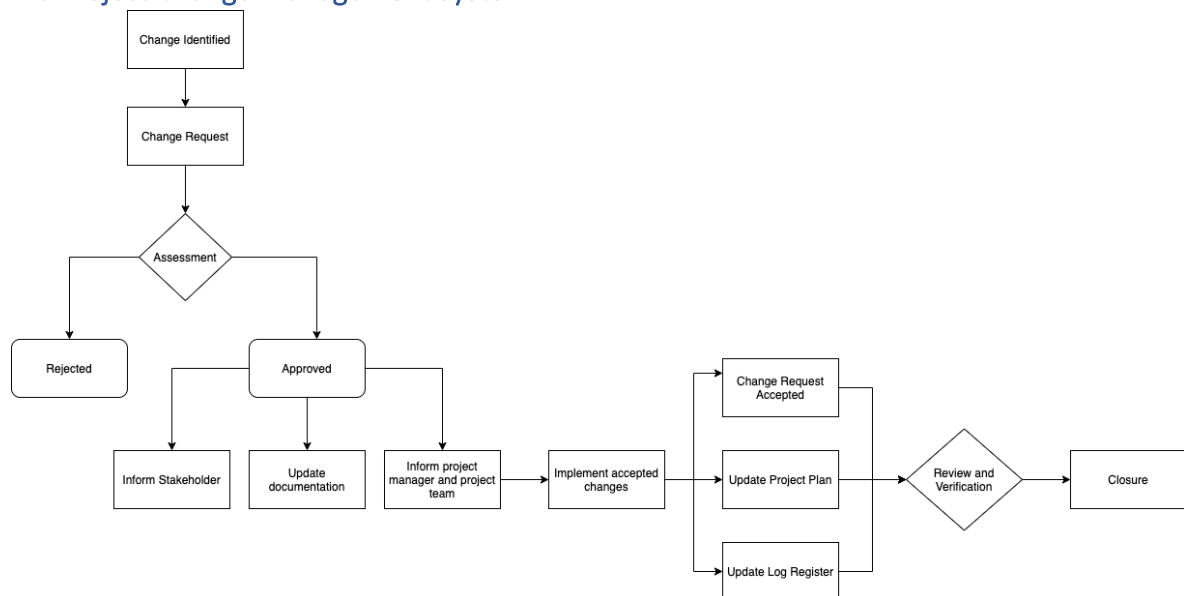
(Tausworthe, R. C. (1979))

2.5 Scope Estimation Accuracy

Scope	Accuracy Score	Justification
Product Scope (Functional and Non-Functional Requirements)	75%	Agile methodologies, as mentioned in the case study, are designed to accommodate changing requirements and prioritize customer feedback. However, the initial analysis might not capture all nuances, and there's room for refinement as the project progresses. The 75% score acknowledges the flexibility of Agile but anticipates some adjustments as the team gains more insights during development.
Work Scope (WBS and SDLC Activities)	80%	Agile practices provide room for adapting to evolving project conditions, but the initial work breakdown and planning are based on the best available information. The 80% score accounts for the need to adjust the work scope during sprint planning and adapt to changing priorities. The collaboration and feedback mechanisms in Agile help maintain alignment and accuracy.

The scores provided are estimates and can be influenced by factors such as effective stakeholder communication, the frequency of scope changes, and the team's experience with Agile methodologies. Regular communication and close collaboration between the development team, stakeholders, and product owners are crucial for managing and improving accuracy throughout the project.

2.6 Project Change Management System



(Ibbs, C. W., Wong, C. K., & Kwak, Y. H. (2001))

Essential elements of the Wide Change Management System Flowchart	Description	Shapes used
Change Identified	In the Weverse project, stakeholders like sponsors, team members, and users can identify changes due to evolving business needs, entertainment opportunities, or technical challenges.	Rectangle or Rounded Rectangle
Change Request	When a change is identified, a formal request is made using the company's template. It includes change details, rationale, benefits, risks, and resource requirements	Rectangle or Rounded Rectangle
Assessment	Changes are assessed for viability and impact on Weverse. Criteria include alignment with goals, budget, time constraints, and value to Hybe's digital ecosystem.	Diamond
Approved	Approved changes aligning with goals, feasibility, and value proceed. Reasons documented, and tasks assigned to relevant teams.	Rounded Rectangle
Rejected	Rejected changes, if disruptive or resource-intensive, are documented and communicated with reasons for rejection.	Rounded Rectangle
Implementation	Approved changes progress to implementation, involving dedicated teams working on development, testing, and quality assurance using project management software like Jira.	Rectangle
Review and Verification	The feature undergoes extensive testing for functionality, performance, and security. User acceptance testing (UAT) is performed with a user group to gather feedback and ensure usability.	Diamond
Closure	After successful review and verification, the change is formally closed. This includes updating documentation, communicating to stakeholders, and providing user training and support for the modified features.	Rectangle or Rounded Rectangle

Change Request Form Template:

Project Name: Weverse Platform Enhancement

Change Request ID: [Auto-generated]

Requested By: [Name of the Requestor]

Date Submitted: [Date]

Change Description: Describe the proposed change in detail, including the nature of the change (e.g., adding a new feature, modifying user interface), its rationale (e.g., to enhance user engagement), expected benefits (e.g., increased user retention), potential risks (e.g., impact on existing features), and any associated costs or resource requirements.

Impact Assessment:

- **Alignment with Project Goals:** [High/Medium/Low]
- **Feasibility:** [High/Medium/Low]
- **Value to Hybe's Digital Ecosystem:** [High/Medium/Low]

Recommendation:

- **Approval:** [Yes/No]
- **Reason for Approval:** [Provide a brief explanation]
- **Rejection:** [Yes/No]
- **Reason for Rejection:** [Provide a brief explanation]

Proposed Implementation Plan: Outline the steps and timeline for implementing the change, including the responsible teams (e.g., development, design, testing).

Resources Required: List the resources needed for the implementation, including personnel, budget, and tools.

Communication Plan: Explain how the change will be communicated to stakeholders, including users, and provide a plan for user training and support.

Attachments (if any): Attach any supporting documents, diagrams, or specifications related to the change request.

Change Request Approval:

- **Approval Date:** [Date]
- **Approved By:** [Name of Approver]
- **Reason for Approval:** [Provide a brief explanation]

This template can be customized to suit the specific needs of the Weverse project and can be used to document and manage change requests effectively.

If end-users decide to change the scope of the Weverse project during execution, the process outlined above is followed. The end-users submit a Change Request Form detailing the proposed change. The project management team assesses its impact, feasibility, and alignment with project goals. Based on the assessment, they recommend approval or rejection.

In the context of the Weverse project, the end-users, including Weverse community members, have decided to expand the platform's social features by adding a "User Stories" functionality. This feature would allow users to create and share short multimedia stories, similar to popular social media platforms. While this addition aims to enhance user engagement, it introduces scope changes that need careful consideration.

Two Different Risks Leading to Scope Creep:

Increased Development Time:

- **Risk:** Implementing the "User Stories" feature may require a significant amount of development time and effort, potentially delaying the project's original timeline.

- **Description:** The addition of multimedia content sharing involves complex functionalities like image and video uploads, content storage, and user interface enhancements. These requirements can extend the project's development phase and impact other planned tasks. (Kolltveit, B. J., Karlsen, J. T., & Grønhaug, K. (2007)).

Resource Allocation:

- **Risk:** Introducing the new feature may necessitate additional resources, including developers, designers, and server capacity.
- **Description:** Developing a multimedia feature like "User Stories" demands specialized skills in front-end and back-end development, as well as substantial server space for storing user-generated content. Allocating these resources may strain the project's budget and workforce. (Selaru, C. (2012), Zhong, Y., Chen, Z., Zhou, Z., & Hu, H. (2018))

The Change Request Process outlined earlier in this discussion would be used to evaluate these risks and decide whether to approve or reject the proposed "User Stories" feature.

Section Summary:

This section covers key planning elements for the Weverse project, including assumptions, methods, product, and work scope. It highlights the significance of scope estimation accuracy and introduces an effective project change management system. These components lay the groundwork for successful project execution and adaptation. The next section will delve into project scheduling and timelines for efficient management.

3. Schedule Management Plan

3.1 Planning Assumptions

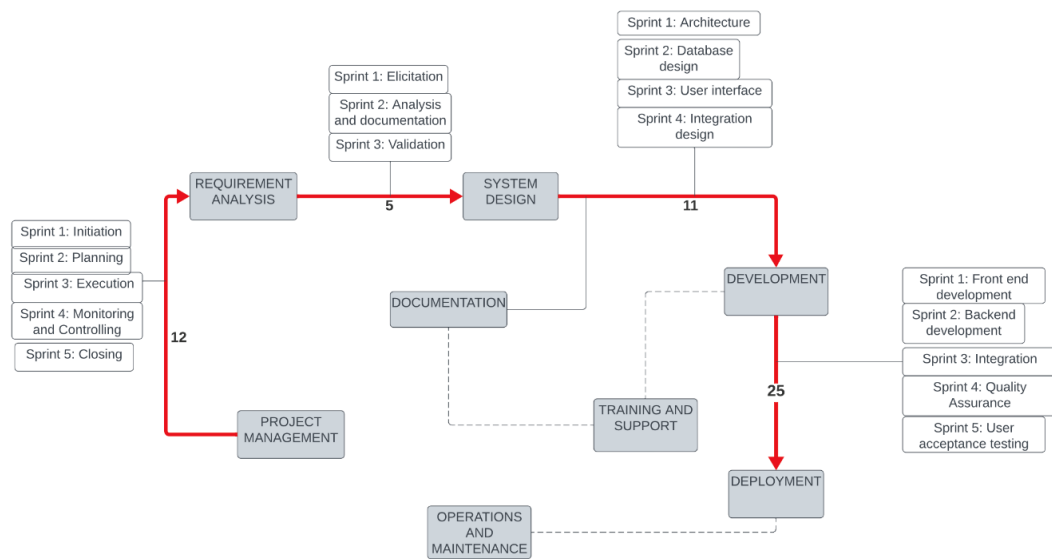
1. There will be effective communication flow between the various office locations, stakeholders, and teams to ensure that there is no delay in various processes while keeping stakeholders informed and up to date with the latest project related updates.
2. Established work timings for stakeholders that correlate with the overall time schedule of the project, accounting for various miscellaneous holidays and events that may interfere with the timeline. This assumes that stakeholders will not take holidays that are not considered and accounted for in the schedule plan.
3. All stakeholders and teams will be provided transparency concerning the scheduled timeline and refer to this carefully when undertaking their tasks.

3.2 Planning Methods and Techniques Applied

1. **Work breakdown structure:** We will incorporate a work breakdown structure (WBS) to effectively manage the schedule planning, as it provides a visual reference when allocating timelines to tasks. A WBS represents the entirety of the project's scope by hierarchically breaking it down into smaller segments to attain project objectives (Torkanfar & Azar, 2020). To elaborate, the highest level of the WBS indicates the entire project, which is then decomposed into smaller sections, which must be initially executed to fulfill the higher levels of work (Torkanfar & Azar, 2020).
2. **The Program Evaluation and Review Technique (PERT):** a useful framework that we will utilise for this project plan, to effectively allocate time for tasks. PERT consists of a visual representation that allows for effective management and coordination of the various tasks within a project, using predicted time allocations for each task (Hahn, 2008). This will therefore assist us in developing an overview of the tasks involved in this project, and the estimated time allocation required for each segment.
3. **A Gantt chart:** another visual representation, allowing us to track project timelines in their individual forms, without indicating the relationship between each task (Sharon & Dori, 2017). The chart consists of horizontal scheduling bars that signify tasks and their time constraints, veering from left to right in the same line to indicate the duration of the task (Sharon & Dori, 2017). This form of visual representation therefore allows us to plan tasks while simultaneously manage the schedule or timeline for the task (Sharon & Dori, 2017).
4. **The critical path method:** This allows us to appropriately determine the priority or sequence of tasks to ensure the project meets final deadlines (Deac & Vrîncut, 2012). This scheduling method assists in identifying tasks that require completion on time for the project to meet its deadline successfully (Deac & Vrîncut, 2012). In order to determine the critical tasks, we must identify the tasks that may be provided more flexibility, as these do not impact the ability of the project to meet its deadline lucratively (Deac & Vrîncut, 2012). According to Project Management Institute (2017, p.210), if a task has flexibility, which is measured by the amount of time that it can be postponed or extended from its early start date without compromising the project deadlines, it is considered to not be a part of the critical path.

3.3 Schedule Dependency (PERT) Diagram

The PERT diagram assists us in determining the critical path (Hahn, 2008). It will serve as a visual representation of tasks, its course and the various dependencies involved. It will additionally aid in promoting transparency efficiently with teams and various stakeholders involved, as it is easily referred to and visually accessible.



[critical path indicated via red arrows]

The milestones indicated via dotted lines are not part of the critical path, as they are not critical to completion of the project by the deadline and are flexible in time constraints (Deac & Vrîncuț, 2012).

3.4 Schedule Timelines

GANTT chart

This project commences on the 1st of September 2023, concluding at the end of December 2023.

GANTT										
	Task Mode	Task Name	Resource Names	Duration	Start	Finish	Work	Predecessors	% Complete	
1		Reverse Platform Redevelopment		86 days	Fri. 1/09/23 8:00 AM	Fri. 29/12/23 5:00 PM	1,344 hrs		0%	
2		Project Management		12 days	Fri. 1/09/23 8:00 A	Mon. 18/09/23 5:00 PM	104 hrs		0%	
3		Sprint 1: Initiation		3 days	Fri. 1/09/23 8:00 A	Tue. 5/09/23 5:00 PM	24 hrs		0%	
6		Sprint 2: Planning		2 days	Wed. 6/09/23 8:00	Thu. 7/09/23 5:00 PM	16 hrs	5	0%	
9		Sprint 3: Execution		4 days	Fri. 8/09/23 8:00 A	Wed. 13/09/23 5:00 PM	32 hrs	6,8	0%	
12		Sprint 4: Monitoring and		2 days	Thu. 14/09/23 8:00 AM	Fri. 15/09/23 5:00 PM	16 hrs	11,9	0%	
15		Sprint 5: Closing		1 day	Mon. 18/09/23 8:00	Mon. 18/09/23 5:00 PM	16 hrs	12,14	0%	
18		Requirement Analysis		5 days	Tue. 19/09/23 8:00	Mon. 25/09/23 5:00 PM	56 hrs	2,15,16	0%	
19		Sprint 1: Elicitation		2 days	Tue. 19/09/23 8:00	Wed. 20/09/23 5:00 PM	16 hrs		0%	
22		Sprint 2: Analysis and		2 days	Thu. 21/09/23 8:00 AM	Fri. 22/09/23 5:00 PM	32 hrs	19	0%	
25		Sprint 3: Validation		1 day	Mon. 25/09/23 8:00	Mon. 25/09/23 5:00 PM	8 hrs	22	0%	
27		System Design		11 days	Tue. 26/09/23 8:00	Tue. 10/10/23 5:00 PM	144 hrs	18	0%	
28		Sprint 1: Architect		4 days	Tue. 26/09/23 8:00	Fri. 29/09/23 5:00 PM	80 hrs		0%	
31		Sprint 2: Database Design		4 days	Mon. 2/10/23 8:00 AM	Thu. 5/10/23 5:00 PM	32 hrs	28	0%	
34		Sprint 3: User Int		2 days	Fri. 6/10/23 8:00 A	Mon. 9/10/23 5:00 PM	16 hrs	28,31	0%	
37		Sprint 4: Integration		1 day	Tue. 10/10/23 8:00 AM	Tue. 10/10/23 5:00 PM	16 hrs	28,34	0%	
40		Development		25 days	Wed. 11/10/23 8:00	Tue. 14/11/23 5:00 PM	552 hrs	27	0%	
41		Sprint 1: Frontend Development		7 days	Wed. 11/10/23 8:00 AM	Thu. 19/10/23 5:00 PM	168 hrs		0%	
44		Sprint 2: Backend Development		5 days	Fri. 20/10/23 8:00 AM	Thu. 26/10/23 5:00 PM	80 hrs	41	0%	
47		Sprint 3: Integration		3 days	Fri. 27/10/23 8:00 A	Tue. 31/10/23 5:00 PM	104 hrs	44	0%	
50		Sprint 4: Quality Assurance		5 days	Wed. 1/11/23 8:00 AM	Tue. 7/11/23 5:00 PM	120 hrs	47	0%	
53		Sprint 5: User Acceptance		5 days	Wed. 8/11/23 8:00 AM	Tue. 14/11/23 5:00 PM	80 hrs	50	0%	

Page 1

GANTT										
	Task Mode	Task Name	Resource Names	Duration	Start	Finish	Work	Predecessors	% Complete	
56		Operations and Maintenance		9 days	Wed. 15/11/23 8:00 AM	Mon. 27/11/23 5:00 PM	144 hrs	40	0%	
57		Sprint 1: Operation		4 days	Wed. 15/11/23 8:00	Mon. 20/11/23 5:00 PM	64 hrs		0%	
60		Sprint 2: Maintenance		5 days	Tue. 21/11/23 8:00	Mon. 27/11/23 5:00 PM	80 hrs	57	0%	
63		Documentation		7 days	Tue. 28/11/23 8:00	Wed. 6/12/23 5:00 PM	88 hrs	56	0%	
64		Sprint 1: User Manual		3 days	Tue. 28/11/23 8:00	Thu. 30/11/23 5:00 PM	24 hrs		0%	
67		Sprint 2: Technical		4 days	Fri. 1/12/23 8:00 AM	Wed. 6/12/23 5:00 PM	64 hrs	64	0%	
70		Training and Support		5 days	Thu. 7/12/23 8:00 A	Wed. 13/12/23 5:00 PM	40 hrs	63	0%	
71		Sprint 1: End-User Training		2 days	Thu. 7/12/23 8:00 AM	Fri. 8/12/23 5:00 PM	16 hrs		0%	
74		Sprint 2: Customer Support		3 days	Mon. 11/12/23 8:00 AM	Wed. 13/12/23 5:00 PM	24 hrs	71	0%	
77		Deployment		12 days	Thu. 14/12/23 8:00	Fri. 29/12/23 5:00 PM	216 hrs	70	0%	
78		Sprint 1: Deployment		4 days	Thu. 14/12/23 8:00 AM	Tue. 19/12/23 5:00 PM	48 hrs		0%	
81		Sprint 2: Production		5 days	Wed. 20/12/23 8:00 AM	Tue. 26/12/23 5:00 PM	128 hrs	80,78	0%	
84		Sprint 3: User Training		3 days	Wed. 27/12/23 8:00	Fri. 29/12/23 5:00 PM	40 hrs	83	0%	

[detailed breakdown of task schedule included in attached submission file]

Each task will commence as soon as the task it is dependent upon is completed. In the attached GANTT chart, each sprint and the duration working towards a milestone is indicated via a solid black line. The human resources required for each task is additionally stated next to each task on the chart.

The GANTT chart assists us in determining the critical path, which has been distinctly highlighted in the PERT chart included within this report.

3.5 Critical Path Discussions

The critical path refers to the identification of the sequence of tasks that require prioritisation to ensure the deadline is met without delay (Project Management Institute, 2017, p.210). In this project plan, we referred to and structured the GANTT chart and the PERT chart simultaneously to determine an effective critical path. This method assisted us in visually identifying the dependencies of each task and determine the critical aspects in meeting the deadline. The schedule flexible components of this project include the 'training and support' and 'operations and maintenance'. The critical path begins with 'project management', continues to 'requirement analysis', 'system design', 'development', and finalises at 'deployment'. According to the Project Management Institute (2017, p.210) critical paths can have a positive, zero or negative total float. Float refers to the schedule flexibility of a project, which is determined by the duration of time that an activity may be postponed or delayed from its original start date without delaying the entirety of the project (Project Management Institute, 2017, p.210).

3.6 Schedule Estimation Accuracy

Schedule estimation accuracy: 75%

This is determined by:

- **Unpredictable breaks:** Miscellaneous days taken off by stakeholders that are not accounted for in the management plan, such as sick leaves and emergencies. This could delay the entirety of the project, as tasks on the critical path are dependent on its former tasks.
- **Transparency:** Stakeholders are provided with schedule management summaries and diagrams which they may refer to when undertaking the tasks, allowing them insight into the scope and timeline of the project.
- **Effective communication plan:** We will establish an effective communication plan between stakeholder teams, which will assist in upholding the project schedule.

Section summary: We identified the planning assumptions and the methods and techniques we will apply. These include the incorporation of WBS, PERT and GANTT chart, and critical path method. We worked simultaneously with a PERT and GANTT chart to efficiently determine the critical path, which was then discussed further. This schedule plan, detailing the duration of tasks and human resources involved, provides a basis for the budget management plan.

4. Budget Management Plan

4.1 Planning Assumptions

This budget management plan was made with the following assumptions:

- Hourly labour rates are rounded to the nearest \$5 and based on the median current market rates from PayScale and are subject to change (*Australia / PayScale, n.d.*).

- All non-labour expenditures are estimates based on current prices on each vendor's website. These prices can vary based on market conditions.
- This plan assumes that the project does not have access to the company's existing hardware and software resources. As a result, we need to allocate funds for the procurement of the necessary hardware and software required for the successful execution of the project.

Table: Labour Charge-out Rates

Position title	Experience Level	Cost (AUD)	Cost Unit
Software Developer	Senior	\$80	Per man hour
	Mid-Level	\$30	Per man hour
Software Tester	Mid-Level	\$25	Per man hour
Data Analyst	Senior	\$35	Per man hour
Project Manager	Mid-Level	\$70	Per man hour
Cyber Specialist	Mid-Level	\$100	Per man hour
UX and Content Designer	Mid-Level	\$30	Per man hour
Lead in Programming & Product Testing	Senior	\$75	Per man hour

Table: Non-Labour Expenditures

Category	Sub-Category	Item	Cost (\$AUD)	Cost Unit
Hardware	Work Laptops	Lenovo ThinkPad X1 Carbon Gen 11 (2023) Intel Core i7-1355U	\$1,100	Per Unit
	Servers*	Amazon EC2	\$450	Per month
		Amazon S3	\$50	Per month
		Amazon RDS	\$500	Per month
Software	IDE License	Visual Studio Enterprise	\$400	Per license per month
	DBMS License	SQL Server Enterprise	\$400	Per license per month
Service	Office Cleaning		\$650	Per month
	Training Programs		\$5000	Per occasion
	Communication Services		\$350	Per month
Amenity	Floorspace Cost		\$2500	Per month
Miscellaneous	Catering for working lunches		\$1,000	Per month
	Taxi/Uber vouchers		\$500	Per month
	Car Parking		\$300	Per month
	Office Stationery		\$165	Per month
	Printer Ink & other consumables		\$165	Per month
	Other Expense & Reimbursements		\$700	Pet month
Office Asset	Fittings & Furniture Depreciation		\$165	Per month
	Building Depreciation		\$500	Per month

Utility	Electricity	\$1000	Per month
	Water	\$200	Per month
	Gas	\$100	Per month
	Council Rates	\$200	Per month

*The values provided for servers are rough estimates for hosting an average-sized web platform; actual costs will vary greatly based on server load.

4.2 Costing Methods & Techniques

We use bottom-up estimation approach to estimate costs for this project. This technique works by breaking down the work into its constituent elements and estimate the cost of each element based on the market price estimates. Bottom-up approach is suited for projects that has been planned in detail like this project. While this approach has allowances for known risks, it's limited in its ability to account for unknown risks that may contribute to the total cost (Pugh et al., 2010).

4.3 Budget Overview

Cost Category	Cost	Estimate Cost (AUD)
Direct Costs	Labour	\$80,040
	Hardware	\$13,900
	Software	\$28,800
	Service	\$9,000
	Miscellaneous	\$8,120
Indirect Costs	Amenity	\$8,000
	Office Asset	\$2,000
	Utility	\$7,200
Contingency (20%)		\$31,412
Total		\$188,472

DIRECT COSTS

[illegible]

4.5 Budget Estimation Accuracy

The accuracy of our budget estimation is 75%

This accuracy value is determined by:

Estimation Accuracy: The use of the bottom-up estimating techniques have allowed us to achieve a detailed and accurate budget estimation.

Risk Management Plan: Our risk management plan has allowed us to factor in potential financial risks and their implications.

Scope and Schedule Accuracy: An accurate scope and schedule have also contributed to the accuracy of the budget.

Server Cost: It's difficult currently to gauge the server load which lower of accuracy value.

Service, Miscellaneous, and Indirect cost: At the time of writing, we didn't have access to cost data from other projects. As a result, these values are estimated based on market values for an average-sized office. If cost data from other projects are accessible, we will be able to refine the budget estimation using analogous estimation technique.

Section Summary: Based on market rates in Australia, we've estimated the total direct cost and total indirect costs for this to be \$219,500 and \$23,500, respectively. With a contingency cost of 20% total estimate, the total budget for this project is \$291,600. This value was estimated with 75% accuracy. In the next section, we will discuss risk management and provide strategies to address risks throughout the project lifetime.

5. Risk management plan:

5.1. Planning Assumptions

All projects come with a level of risk with varying degrees of complexity. This is done in a context of constraints and assumptions, while responding to the ever changing and sometimes conflicting stakeholder expectations. Organisations should take project risk in a controlled and intentional manner. (PMBOK guide,2013, p.397)

Project management aims to identify and manage risks so that the project can be executed smoothly and help with the success of the project.

There are two levels of risk in every project. Problems may still arise from the combination of multiple individual project risks. There are two types of project risks. (PMBOK guide,2013, p.397)

Individual project risk:

Uncertain event or condition that if it occurs, has a positive or negative effect on the project objectives

Overall project risk:

The effect of uncertainty on the project as a whole comes from uncertainty including individual risks, representing the exposure of stakeholders to the implications of variations in project outcome, both positive and negative.

5.2. Risk management methodology

For the risk management methodology, we will be following principles from PMBOK and ISO 31000. ISO (International Organization for Standardization) 31000 is a set of guidelines on managing risks faced by organisations made by the Worldwide federation of national standards. (ISO 31000, 2018)

The risk management process involves systematic application of methods, procedures and policies to monitoring, reviewing, recording, reporting and treating risks. (ISO 31000, 2018)

For identifying potential risks in the project, we will use the PESTLE framework. The PESTLE stands for political, economic, social, Technological, Legal, Environmental risks. (Hillson, D., 2014)

Pestle analysis, 50 minutes.com

Variable Type	Factors (examples)
Political	Government rules, policies etc
Environmental	Environmental sustainability.
Economic	GDP, tax rates, purchasing power etc.
Socio- cultural	Demographics, age distribution etc.
Technological	R&D, quality testing etc.
Legal	Labour laws, trade laws, etc.

(Pestle analysis, 50 minutes, 2015) page 8

Effects of overall project risk:

Overall project risks need to be also considered as they present as either an opportunity or a threat for the project.

Assessing Overall Project risk – Qualitative:

Project risk is defined as the uncertainty as a whole. (PMI, 2009, 2013) or as “the exposure of stakeholders to the consequences of variations in outcome” (Association for project Management, 2004, 2012). Assessments can be done for risks based on the uncertainty with terms like probability, frequency or likelihood and assessment scales could be high, medium or low for example. (Hillson, D., 2014)

Assessing Overall Project risk – Quantitative:

Quantitative assessments can be used to find the answers relevant to model the effect of uncertainty on the project as a whole and to determine the potential magnitude of variation of the overall outcome. (Vose, 2008)

5.3. Risk Assessment

Some risks that can be associated with the project are:

Risk	PESTLE Type	Impacts
Data security issues which can include data leaks, hacks and other breaches of private information.	Technology, Legal	Reputation damage, loss of sales volume, loss of budget, Legal penalties etc. (Poremba, 2021)

Authentication issues where users who do not have access can infiltrate the system.	Technology	Loss of data, cyber threat, leads to secondary attacks, Legal penalties etc. (Nelson, Feigenbaum, 2021)
Application does not fit organisation needs	Technology, Political	Loss of resources and investment, interest, and delayed publishing of application. (Cox,2012)
Cultural barriers between different stakeholders including language, time zone difference and work culture	Socio- cultural	Communication issues, loss of time and resources. (Psychol,2022)
Tensions between China and U.S.A can cause issues	Geopolitical	Political conflicts, difference in opinion. (Snyder, 2023)
ICT environmental footprint caused by the quality/ over usage of equipment. (servers, systems etc)	Environmental	Environmental emissions, sustainability issues. Legal issues (Mahdavi, 2021)
Cost and inflation of equipment and services in South Korea	Economic	Budget constraints (Kang, PLoS One, 2022)

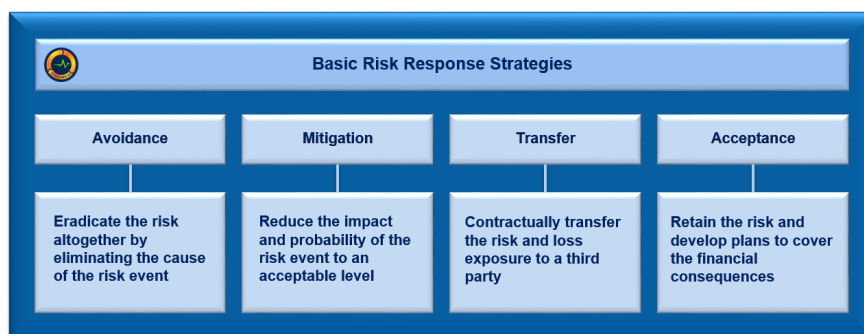
Probability	Impacts				
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
Very high (5)	5	10	15	20	25
High (4)	4	8	12	16	20
Medium (3)	3	6	9	12	15
Low (2)	2	4	6	8	10
Very low (1)	1	2	3	4	5

Dash, S.N. (2018).

Based on the above chart we can see how the risks will be assessed. The probability of the risk will consider the chances of the risk occurring while the impact of the risk will show the effect of the risk in the project.

5.4 Risk response & risk managers delegation

The following response strategies are taken to decide the action needed to be taken for each risk.



(Zoran, Bojic, 2015)

One example of risk management is from Apple who had to change supplier for to manage their supply issues with Taiwan and planned to change suppliers to China as to not lose revenue. This is a high severity risk which was mitigated. (Phillips, Will, 2023)

After the Optus data breach, Optus invested in a new cybersecurity team to reinforce them from further attacks in the future as data breach is a high severity risk and needs to be avoided. (Optus,2023)

Based on the stakeholders on the panel, we can assign risk managers based on their skillset and their responsibilities.

Risk Manger's Name	Risks ID & Short Description	Risk Management role and responsibility	Risk Management Availability (%)	Contact Details
Jessica Jake	1.Data security. Data leaks and breaches	Security specialist. Needs to be ahead and in charge of all the security measures which are to be put in place.	100%	0412346789
Sarah Ahmed	2.Authentication issues. (No trust, login controls)	Testing and QC. Should have regular check for any issues in authentication and have the latest up to date standards.	100%	0412377789
Bao Hoang	3.Applicaiton does not meet the needs of the project	Project Manager. Needs to be informed and well-versed on the happenings of the projects.	80%	04123775789
Rene Park	4.cultural differences between the stakeholders	PPD. Should keep the cultural constraints in mind when designing the team structure.	50%	04123525789
Park Ji	5.Geopolitcal issues causing tensions in project	CEO will oversee external political factors which may affect the project in any way.	40%	04132322322
Chris Lim	6.Environmental issues caused by ICT equipment	Enterprise Architect should make sure the company is an environmentally friendly as possible.	60%	04123325789

Jeny Jun	7. Cost and inflation of equipment of services in South Korea.	Enterprise Architect should be updated on the cost and supply of IT equipment and plan the system, based on that.	60%	04122325789
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5.5. Risk Register Dashboard

The risk register can be used to keep track of the potential risks that are stated in the project and the risk occurrence management sheet can be used to keep track of the risks so that the team is well ahead and informed of the risks that might impact the project negatively.

Risk Register Dashboard - Summary of Risk Mgt Information for Aiding Collaborative Risk Monitoring & Control												
RISK Assessment						Stimulated First Risk Occurrence Management						
ID	Risk Statement	Risk Owner	Risk Probability	Risk Impact	Risk Score	Risk Response strategy	Revised Risk Probability	Revised Risk Impact	Revised Risk Score	Risk Response actions	Risk Status	Comments
1	Technology and legal risk: Data security issues which can include data leaks and breaches	Jessica Jake	3	5	15	AVOID: Set up preventive measures so that data breach or hacks are not possible. Have a team dedicated to cybersecurity	1	3	3	Cybersecurity team was able to identify and resolve a possible data breach attempt	Avoided	
2	Technology issue where user access is not authenticated	Sarah Ahmed	2	4	8	AVOID: Set up preventive measures so that unauthorised logins are not possible. Have a team dedicated to cybersecurity and test checks	1	2	2	No trust authentication was set up to prevent user access issues which might arise	Avoided	
3	Technology, Political: Application does not fit organisation needs and needs to be altered	Bao Hoang	3	3	9	Reduce: Try to reduce risk by allocating a team to verify the progress of the project constantly	2	1	2	The project was verified and checked at multiple checkpoints to make sure it was on the right track	Mitigated	
4	Socio - cultural risks when there are cultural barriers between the stakeholders including: work culture, language, time zone difference etc.	Rene Park	4	2	8	Transfer: Hire a translator and a coordinator so that these issues can be tackled by them	1	1	1	Translator was able to set up schedules for the entire team and coordinate between them.	Transferred	
5	Geo-Political issues like China-USA tensions can cause project risks	Park Ji	2	2	4	Accept: Not much can be done to geo political risks but best to have backup options in case there is any issues in terms of supply of equipments.	2	1	2	Due to high supply costs from china, India was taken as an alternative supplier for ICT equipment.	Transferred	
6	ICT environmental footprint concerns	Chris Lim	2	1	2	Reduce: Try to reduce the risk by putting in measures to reduce the environmental footprint	1	1	1	Set up a energy saver plan through out the company and trained all stakeholders	Reduced	
7	Cost and inflation of equipment and services in South Korea	Jeny Jun	1	3	3	Reduce: Costs related to inflation can be reduced if external suppliers can be founded with better pricing.	1	2	2	Due to high supply costs from Local suppliers, An alternative supplier was chosen to get ICT supplies.	Reduced	
				Average risk exposure LOW	7			Average risk exposure LOW	3			

5.6. risk management cost estimation

Risk management plan	Risk type	Budget	Cumulative Total
Stakeholder training for risk handling	All types	10000\$	10000\$
Technical risks budget	Technical and ICT risks	100000\$	110000\$
Translator/ communicator	Socio-cultural risks	50000 \$	160000 \$
3 rd party vendor budget (Quality issues and equipment/software problems)	Enviromental, Geopolitical and Economic risks	70000 \$	230000 \$
Attorney and lawyers	Legal risks	80000\$	310000 \$

Based on this budget we can add it to the project budget so incase these risks occur there is a fund to mitigate or resolve the risk without it affecting the execution of the project.

Section Summary:

This summary of the report gives the risks that are associated with the project and how they can be assessed and responded to if they occur. Risks are rated based on their severity (impact and probability). Based on their severity they are associated with a responsible stakeholder and a response action which should be executed if the risk occurs. The section also has the project risk budget which will be included in the project budget to handle these risks if they occur.

6. Project Planning Conclusion

Summary of Planning Highlights

In the first part of this project plan, we provided guidelines on how to achieve the project objectives and ensure smooth processing through stakeholder management techniques. Primarily, we developed a comprehensive stakeholder management plan, communication plan, and human resource management plan.

In the second part of the project plan, we delve deeper into project execution and monitoring. We have designed a scope management plan that includes a requirements traceability matrix and a Work Breakdown Structure (WBS). Our schedule management plan offers a PERT (Program Evaluation and Review Technique) framework alongside a Gantt chart to track project timelines and milestones effectively. The budget management plan has provided a budget estimate of AUD \$ 188,472 with an accuracy of 75%. Lastly, to mitigate and manage uncertainties, our risk management plan includes a detailed risk management table.

Conclusion Statement

In conclusion, this small pilot project will be used to gauge the scale and complexity of redeveloping and redeploying HYPE's Weverse platform to use Kakao's infrastructure. The project will set out to complete two objectives, to redesign Weverse's landing page and redesign the service of customizable merchandizes for artist from different companies. To accomplish these objectives, the project will require an estimate budget of AUD 291,600. This budget was estimated with 75% accuracy.

Next step

This project plan provides an overview of the project planning, execution, and monitoring processes. It is recommended that the clients and project sponsors thoroughly review the plan to identify any confusion and discrepancy. Feedback should be provided to the project manager, Bao Hoang, who will correct such problems. Once the project plan is approved by the sponsors and clients, the project's kick-off phase will be initiated according to the schedule provided in this plan.

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