Team:

Penelope Huang (18032371)

Yu Tang (18015903)

Client name: Ramesh Lal

Mentor name: Stephen Thorpe

Date: 2/8/2023

V4.0

R&D Client Portfolio Management

Project ProposalExecutive Summary

This proposal aims to show the overall flow of the project. The project was designed for client Ramesh Lal on top of an original semi-automatic management system. He wants our team to write reports for Client portfolio Management system and analyze whether there were ways to improve the current management system and replace it with a new ideal system. This project will develop suggestions for improving, replacing or retaining existing systems based on customer needs.

Our team uses PMI‘s phases, chose this approach because we felt the need to have a collaborative management, approach to problems in problems in a self-organizing way, reflect on successes and failures so we didn't get off track. We also want some flexibility to adequately handle uncertainty during the project, such as unfamiliarity with technology and system operations.

In addition, our teams will employ management plans for communication, change, risk and quality assurance. Our teams have daily stand-ups and retrospectives where feedback is shared for communication. Change and risk management will be accomplished through change request forms and risk registers. For language challenges in non-coding parts, we will use language assistance tools such as Grammarly to detect grammatical and language issue, and we will ensure quality assurance through reviews, unit testing, and customer feedback.

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# Terms reference

As the number of our academic research and student projects increased, AUT's semi-automated portfolio management system was no longer sufficient. Our client, Ramesh Lal, Senior Lecturer at AUT, felt the need for efficient portfolio management flatform, especially in terms of automation and reporting capabilities.

His goal is to replace AUT’s current system with a new platform that is consistent in line with the school’s management department’s processes and automation, hoping to provide every student with the opportunity to work on industry projects.

SharePoint used by AUT system currently supports some automated functions, such as automatically sending emails to students. Apart from this, almost all other parts require manual operations, such as collecting student’s status, GPA and interest measurement, etc. This made it difficult to assign students and mentor into the right teams at the beginning of each semester and achieve the desired results.

Our project will investigate and analyse the original platform and other project portfolio management platforms to reduce the human-dependent part of the management system, and then recommend platforms that can be adopted.

To ensure our academic research and student projects can be managed more efficiently, our ability to report accurate data is critical to our analysis of research trends, course needs and opportunities for collaboration with industry.

# Rational of the project

The existing system is inefficient, with most tasks requiring manual operations and sometimes falling short of expectations. This results in a subpar experience for students and clients. Automating processes can significantly enhance the current workflow, bringing more benefits and value to project portfolio management (Lahmann, 2018). Therefore, finding a more efficient project and management system is necessary.

**Key issues and opportunities:**

1. Improve efficiency and reduce labour costs: Portfolio management involves many complex links and tasks, such as data collection, project allocation, team coordination, etc. If you rely entirely on manual processing, it will consume a lot of time and labour costs. Automated processes can drastically reduce processing time, improve efficiency, and reduce labour costs.
2. Real-time monitoring and feedback: The automated process can monitor the progress of the project and the work of the team in real time and discover potential problems and bottlenecks in time. This allows the team to respond to issues more quickly, keeping the project on track.
3. Data Analysis and Insights: Data generated by automated processes can be used for in-depth data analysis and insights to help identify patterns, trends and opportunities. This will provide more insight into portfolio management, enabling more precise decision making.

Although the implementation of automated management brings many benefits, there are also risks that need to be recognized for converting systems, such as transfer of existing data , system dependencies, and unexpected events. These risks need to be fully considered during project selection process and appropriate measures should be taken to reduce the impact of the risks. Overall, the project aims to maximize returns while managing potential risks for more efficient, accurate and sustainable portfolio management.

# Project objective and scope

## Project objective

From the perspective of stakeholders, understand the environment and operating procedures of AUT's management system and provide platform recommendations as well as automation and environmental solutions. In the first phase, we conducted a survey on the project management system. Our client has requested two reports:

* A report analysing the existing AUT management system.
* A report analysing and studying the ideal portfolio management system.

In the second phase, we need to select a portfolio management system that meets the client's needs from the market based on the analysis reports, and after the client has chosen the recommended portfolio management system, provided a feasibility report and propose a system migration plan.

## Scope Report requirements

Report 1: Requires a thorough understanding and research of the existing SharePoint system, identifying areas that client believe are flawed or need improvement.

Report 2: Requires an investigation into customer management systems available in the market, and based on client needs, finding one or several ideal systems, recognizing the improvements of the ideal systems over the original system.  
Report 3: A feasibility report for the recommended portfolio management system, providing methods for migration and deployment of the system.

**High-level requirements:**

1. Interviews with multiple stakeholders are needed for an in-depth analysis of the existing AUT management system.
2. Based on client needs, multiple ideal systems need to be identified for the client to choose from.
3. Instructions for the migration and deployment of the system must be provided.

**Non-Functional and Functional Requirements for the Ideal Portfolio Management System:**1. Assignment system: The system can automatically assign students to appropriate projects

2. Automated Email Notification System: It can automatically send emails to students and teachers when specific events occur.

3. Dashboard: Information that can display and track the number of software development projects, the number of service science projects, and the number of students participating in a specific project. Identify long-term clients, the types of projects they offer, etc.

4. Report Generation: The system can automatically generate monthly reports on project allocation and progress.

5. Approval system: Request modification notifications are sent to relevant approval personnel, notifying them that there are new approval requests that need to be processed. Timely discovery and processing of problems can improve work efficiency.

**Stakeholders：**

Understanding the beneficiaries in portfolio management is critical as it helps to ensure that investment strategies and decisions truly meet the needs and expectations of relevant stakeholders. Key stakeholders include client, mentors, and students.

Details on the Appendix 2

**Risks and Mitigation Strategies**

**Risk:** Insufficient resources leading to project delays - The current project team has only two participants, which may not be enough to complete all project tasks within the scheduled time.

**Mitigation Strategy**:

* Task prioritization - Work with the team to prioritize tasks to ensure the most critical tasks are completed first.
* Obtain additional resources: Communicate with project stakeholders to explore possible additional resources.

**Risk**: Key requirements may be missed, resulting in the system not meeting the basic needs of users.

**Mitigation Strategy**: Conduct multiple rounds of requirements gathering and validation with all key stakeholders before the project begins.

## Infrastructure and human resource requirements

**technical infrastructure:**

1. Visual Studio & Visual Studio Code: for code development.
2. GitHub: for version control.
3. Trello: For task management and tracking.
4. Teams: For group communication and file sharing

**Alternative plan：**

Use SVN for collaborative work and version control, but because the project developers have used GitHub before, they chose GitHub.

**Technical infrastructure：**

Technical infrastructure enables the operation and management of enterprise IT services and IT environments (Indeed, 2023).

Networking: This CPM needs to access the network to use the API and send emails and process data

Computing: This CPM requires hardware and software equipment for user computers, servers, operating systems, databases and storage systems.

**Skills Analysis:**

The business skills required for a portfolio management system include project management skills, technical capabilities, analytical skills, and communication skills. Project management skills encompass project planning, resource management, and risk management, including the ability to create detailed project plans, allocate resources, identify potential risks, and formulate mitigation strategies. Additionally, technical capabilities necessitate a understanding of both front-end and back-end technologies and related tools. In terms of analytical skills, critical thinking, forecasting, and root cause analysis abilities are needed to address complex issues and make data-driven decisions. Lastly, communication skills involve effective communication with stakeholders at all levels to convey project progress, research findings, and recommendations.

|  |  |  |  |
| --- | --- | --- | --- |
| **PROJECT SKILLS** | **DESIRED SKILL LEVEL** | **GROUP MEMBERS**  **CURRENT SKILL LEVEL** | |
| **Yu** | **Penelope** |
| **RELATED SKILLS** | | | |
| Budget Management | HIGH | MODERATE | MODERATE |
| Resource Management | HIGH | MODERATE | LOW |
| Project Planning and Scheduling | HIGH | MODERATE | LOW |
| Risk Management | HIGH | LOW | MODERATE |
| **IT- SPECIFIC** | | | |
| Concept of agile project management | MODERATE | MODERATE | MODERATE |
| Statistical Analysis | MODERATE | MODERATE | LOW |
| **PERSONAL** | | | |
| Communication | MODERATE | LOW | LOW |
| Time Management | MODERATE | LOW | HIGH |
| Self- Management | MODERATE | MODERATE | HIGH |
| Leadership | LOW | HIGH | LOW |

Agile project management is the management style in which our teams successfully complete projects within specified time frames. The skill level required is moderate, but still critical, as agile management allows teams to be flexible with stakeholders and allows for frequent feedback. One of the skills in agile management is organization and time management to ensure we fit the management style. A deeper understanding will be gained once the project begins. As a team, we use Google as a research platform to increase our knowledge.

# Project management methodology

Our team will use the PMI's phases as management methodology. the project management skill sets, tasks, processes, stakeholders, and involved organizations for each of the project phases would differ. Still, repeating processes across all Process Groups is an excellent way to add a degree of control within each phase (Eby Kate, 2018).

Due to the limited number of team members, PMI's phases collaboration and self -organizing principles are very suitable for our environment.

**PMI methodology**：

1.1 Teams meeting and investigate.

1.2 Investigate Technologies and Research on the web for similar products and the client organization.

1. 3 Team meeting with mentor.

1.4 Investigate Project method.

1.5 Meeting with the client to confirm project rationale, objective, and scope.

1.6 Develop project plans.

1.7 Develop project plans 2.

1.8 Proposal writeup

1.9 Proposal presentation

Deliverable- approved proposal (baseline), ready to execute.

**Method Practices:**

Regular Meetings: Meet daily to discuss progress, address any obstacles and set goals for the day.

Backlog Management: Continuously update and prioritize product backlog items based on client feedback and project needs.

Iteration: The team continuously researches and refines features, adding new features based on the changing needs of the project.

# Team roles and work behaviour & practices

Roles**:**

Each role has its own responsibilities, and through cooperation and coordination, the entire team will be able to achieve the smooth running of the project.

|  |  |
| --- | --- |
| Client | Ramesh Lal |
| Project Manager | Tang Yu |
| Scrum Master | Penelope Huang |
| Mentor | Stephen Thorpe |

* Details in Appendix 5.

## Schedule and milestone report:

The schedule is developed by determining the duration of each task of the project. Due to our agile project management methodology, these dates are not final and may change during project development. We provide guidance on what tasks we need to accomplish to achieve the desired outcome and when. Detail in Appendix 8。

## Risk and Issues Register

The stand-up meeting two times a week will significantly reduce risks. On top of that, our team will share imminent blockers on the MS Teams chat room at any time so that they can be solved. Risks will be managed through the Risk Register, seen in Appendix 6 and 7.

## Success factors

1. Team members all know what the project wants to achieve and why.

2. Implemented operational procedures, the scope definition should be within the budget set by the client.

3. Client recognize and support our proposal.

4. Make the client realize that we have a sufficient understanding of both the existing and ideal project management systems, and they are satisfied with the report we delivered in the early stage of the project

## Cost analysis

* As per the project guideline (150 hours per semester). Our team will get feedback from the mentor weekly according to the project cycle, which calculates to 1 hour per week for the working hour of the mentor (14 weeks per semester).
* The cost of team members' working hours is based on the minimum wage in NZ, which’s $22.7 pre-Hour (including GST).
* The mentors' cost is based on the project guideline, which’s $142/Per Hour (including GST).
* Software license fees are from each website. The reserve amount is for unexpected risks.
* The total project cost of estimate is $5393(GST included) in semester 1.
* The total project cost of estimate is $8662.08(GST included) in semester 2.

# Appendix

## *Appendix 1 –* Business Case

With the increase in the number of AUT academic research and student projects, students' participation in various projects is one of the important ways to improve practical ability and cultivate teamwork spirit. Traditional manual project management methods can lead to problems such as untimely information processing, uneven team distribution, and difficulty in monitoring progress. In order to solve these problems, we plan to develop an automated project management and team collaboration platform to assist AUT to better manage the projects that students participate in. The platform will cover the entire lifecycle of a project, from project screening to final delivery, to ensure that projects can be completed on time and with high quality.

The platform will automatically screen and organize potentially valuable projects, thereby reducing the workload in the manual screening process. Based on multi-dimensional data such as students' interests, abilities, and academic performance, the platform will automatically assign students to appropriate projects. The platform will not only consider students, but also assign tutors. The platform will provide real-time project progress monitoring to ensure that the project progresses as planned. Customers can view project status and issues at any time.

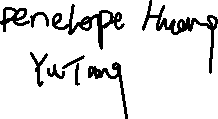
## *Appendix* 2*–* Stakeholder register

|  |  |
| --- | --- |
| Project Name: AUT Portfolio Management System | Date: 1 Aug 2023 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Stakeholder’s Name | Role | Group | Category | Contact Email |
| Stphen Thorpe | Mentor | AUT | Internal | stephen.thorpe@aut.ac.nz |
| Yu Tang | Project Leader | AUT | Internal | xmk7520@autuni.ac.nz |
| Penelope Huang | **Project Coordinator** | AUT | Internal | ryq1234@autuni.ac.nz |
| Ramesh Lal | Client | AUT | External | ramesh.lal@aut.ac.nz |

Sign-off: (Signatures of all above stakeholders. Can sign by their names in table above.)

Penelope Huang \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Yu Tang \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Stephen Thorpe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ramesh Lal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## *Appendix* 3*–* Stakeholder management strategy

When designing and implementing an automated project management and team collaboration platform, multiple stakeholders are involved, including students, mentors, and project leaders. To ensure the successful launch and smooth operation of the platform, a comprehensive stakeholder management strategy needs to be developed to meet the needs and expectations of all parties.

student:

Participation in decision-making: In the early stages of platform design, invite students to participate in requirements gathering and feature design to ensure that the platform meets their actual needs.

Personalized experience: Provide personalized project recommendation and interest expression functions to ensure that students can choose projects that match their interests and abilities.

Client:

Transparent delivery process: Provide customers with project progress and delivery status that can be viewed at any time to ensure that customers have a clear understanding of project progress.

Technical Team:

Requirements collection and design: Establish a close cooperative relationship with the technical team to ensure that the platform meets the needs of various stakeholders. Conduct continuous testing and feedback loops to ensure the quality and stability of the platform.

Data security and privacy protection:

Protect user data: strictly abide by data privacy laws and regulations and protect the security and privacy of users' personal information and project data.

Transparent data use: Explain to stakeholders how the platform collects, stores and uses data to ensure transparent data use.

## *Appendix* 4*–* Project charter including roles and responsibilities

This project aims to design an automated portfolio management and team collaboration platform to provide a comprehensive solution for schools, universities, and other educational institutions to help effectively manage the projects that students participate in and improve the success rate of projects and the efficiency of teamwork.

Design an intelligent platform to support the full lifecycle management of projects, from project selection to delivery. Analyse the student's project interest list and GPA, so that students can be matched with projects that match their abilities. Automatically assign students to appropriate projects, ensuring balanced team composition and efficient collaboration. Provide real-time project progress monitoring and problem-solving support to help the team advance projects efficiently. Reduce labour and costs and ensure project delivery meets customer expectations.

Roles and Responsibilities:

The Project leader will be responsible for the leadership of the entire project to ensure that the project team collaborates efficiently, and the project achieves the expected goals as planned. He or she will develop plans, make decisions, and coordinate the efforts of the various team members. The team lead will ensure the successful implementation of the project and work closely with all roles to ensure the smooth running and optimization of the project. The team is responsible for the design and performance of the platform.

Scrum Master is responsible for maintaining the team's Scrum process, facilitating Scrum events such as daily stand-ups and retrospectives to ensure they meet their intended goals. They need to foster collaboration and effective communication both within the team and with stakeholders, ensuring smooth information flow.

Instructors participate in the functional design of the platform, provide training and support for instructors, and ensure that the educational nature of the project is guaranteed.

Client participates in project requirements gathering, represents external clients, and ensures project delivery meets client expectations.

Risk Management:

Ensure that the technical team has sufficient technical capabilities to avoid technical challenges affecting project progress.

Strengthen data security measures to ensure the privacy and security of user data.

Strengthen data security measures to ensure the privacy and security of user data.

Project timeline:

Planning and needs analysis phase: 12 months.

Evaluation and Improvement Phase: Ongoing

## *Appendix* 5*–* Team contract

|  |  |  |  |
| --- | --- | --- | --- |
| Role | Name | Organization/Position | Content Information |
| Client | Ramesh Lal | AUT CMS Professor | Ramesh.Lal@autuni.ac.nz |
| Project Manager | Tang Yu | AUT Student | xmk7520@autuni.ac.nz |
| **Project Coordinator** | Penelope Huang | AUT Student | Ryq1234@autuni.ac.nz |
| Mentor | Stephen Thorpe | Lecturer | stephen.thorpe@aut.ac.nz |

## *Appendix* 6*–* Risk register (version 1)

**Risk Register**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Risk | Date | Description | Resolution Description | Status |
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## *Appendix* 7*–* Issue register (version 1)

**Issue Register**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Issue | Date | Description | Priority | Resolution Date |
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## *Appendix* 8*–* Milestone report (version 1)

|  |  |  |  |
| --- | --- | --- | --- |
| **Milestone** | **Date** | **Status** | **Issues/Comments** |
| **Part1** |  |  |  |
| Project Team Allocation | 9/8/2023 | Finish |  |
| Team Meeting with the client | 17/8/2023 | Finish |  |
| Project Proposal | 18/8/2023 | Finish |  |
| **Part2** |  |  |  |
| Deliver research results | 10/4/2024 | InProgress |  |
| Complete portfolio | 7/5/2024 | Pending |  |
| Poster show case | 13/6/2024 | Pending |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Task name | Duration | Start | Finish |
| Project Proposal | 16 days | 2/8/2023 | 18/8/2023 |
| Identify Project | 7 days | 2/8/2023 | 9/8/2023 |
| Investigate Technologies | 7 days | 2/8/2023 | 9/8/2023 |
| Requirements gathering | 7 days | 2/8/2023 | 9/8/2023 |
| Executive Summary | 3 days | 12/8/2023 | 14/8/2023 |
| Term of reference | 6 days | 12/8/2023 | 18/8/2023 |
| Rationale for the project | 6 days | 12/8/2023 | 18/8/2023 |
| Scope and objectives | 6 days | 12/8/2023 | 18/8/2023 |
| Project method | 6 days | 12/8/2023 | 18/8/2023 |
| Project plan | 3 days | 15/8/2023 | 18/8/2023 |
| Skills analysis | 2 days | 16/8/2023 | 18/8/2023 |
| costs analysis | 2 days | 16/8/2023 | 18/8/2023 |
| Prepare presentation | 4 days | 14/8/2023 | 18/8/2023 |
| Complete Project Proposal | 0 days | 18/8/2023 | 18/8/2023 |
|  |  |  |  |
| Organize and update last semester's work | 8 days | 26/2/2024 | 6/3/2024 |
| Interview stakeholders | 14 days | 8/3/2024 | 28/3/2024 |
| Make analysis report | 9 days | 28/3/2024 | 10/4/2024 |
| Preparation and presentation to client | 7 days | 10/4/2024 | 19/4/2024 |
| Complete feasibility report | 7 days | 19/4/2024 | 30/4/2024 |
| Technical guidance | 5 days | 30/4/2024 | 7/5/2024 |
| Complete portfolio | 7 days | 7/5/2024 | 16/5/2024 |
| Make Poster | 10 days | 16/5/2024 | 30/5/2024 |
| Poster show case | 10 days | 30/5/2024 | 13/6/2024 |

## *Appendix* 9*–* Communications management plan & communication stakeholder register

|  |
| --- |
| **Communication Management Plan** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder Group** | **Require** | **Frequency** | **Vehicle** | **Owner** |
| Project Team | Analyse and research CPM system  Design and make CPM system prototype | Daily | Teams  Meeting | Project Manager |
| Project Mentor | Give advice help the team | Weekly | Teams  Meeting | AUT |
| Client | Propose the project and give scope | Weekly | Meeting | AUT |

|  |
| --- |
| **Communication Stakeholder Register** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder’s Name** | **Role** | **Communication Preferences** | **Power** | **Contact Information** |
| Stphen Thorpe | Mentor | Teams Email | Low | stephen.thorpe@aut.ac.nz |
| Yu Tang | Project Leader | Teams  Email  Meeting | High | xmk7520@autuni.ac.nz |
| Penelope Huang | **Project Coordinator** | Teams  Email  Meeting | High | ryq1234@autuni.ac.nz |
| Ramesh Lal | Client | Email  Meeting | High | ramesh.lal@aut.ac.nz |
|  |  |  |  |  |

## *Appendix* 10*–* Change management plan

This change management plan is designed to ensure that changes to automated portfolio management projects can be effectively managed and controlled to minimize adverse impacts while ensuring that project objectives are achieved.

**Change process：**

1. Identification：

Any member or stakeholder can submit a change request. A change request shall include a description of the change, reason, expected impact, and proposed resolution.

1. Evaluation：

The project lead and relevant team members will evaluate the change request to determine its impact and necessity. A risk assessment will be performed if necessary.

1. Approve：

After the change is evaluated, the team will decide whether to approve the change. If the change is approved, a detailed change plan will be developed including resources, timing and expected results.

**Change control**：

1. Every change must go through an evaluation and approval process to ensure the rationality and necessity of the change.
2. The change must have a detailed plan, including resources, timing, and

implementation methods.

1. Before implementing a change, sufficient analysis and verification must be carried out to ensure that the change will not affect existing functions and data.
2. For each change, a risk assessment must be performed to identify potential risks

and possible problems. According to the risk, formulate the corresponding mitigation plan to reduce the adverse impact.

**Change Requirements：**

1. During the change process, the project team and stakeholders must provide the

team members and stakeholders with the change information in a timely manner to avoid unnecessary guesses and misunderstandings.

1. Every change must have detailed records, including the reasons for the change,

decision-making process, implementation steps and results.

1. The change management process is regularly reviewed to ensure the

effectiveness and suitability of the process.

## *Appendix* 11*–* Scope statement

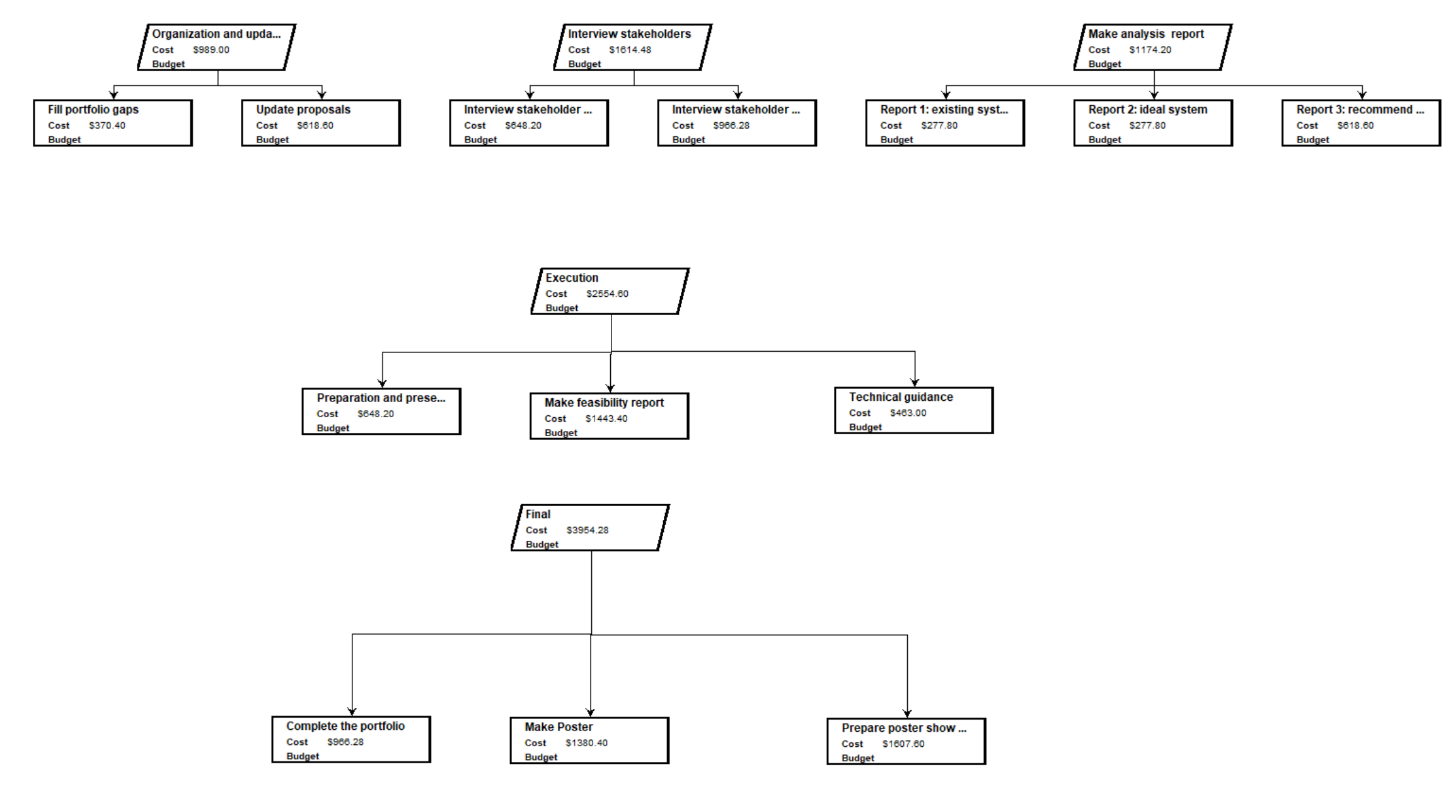
**Project Scope Statement**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Name: | AUT Portfolio Management System | | |
| Project sponsor: | Ramesh Lal | Project Leader: | Yu Tang |
| Date: | 18/8/2023 | Company: | AUT |

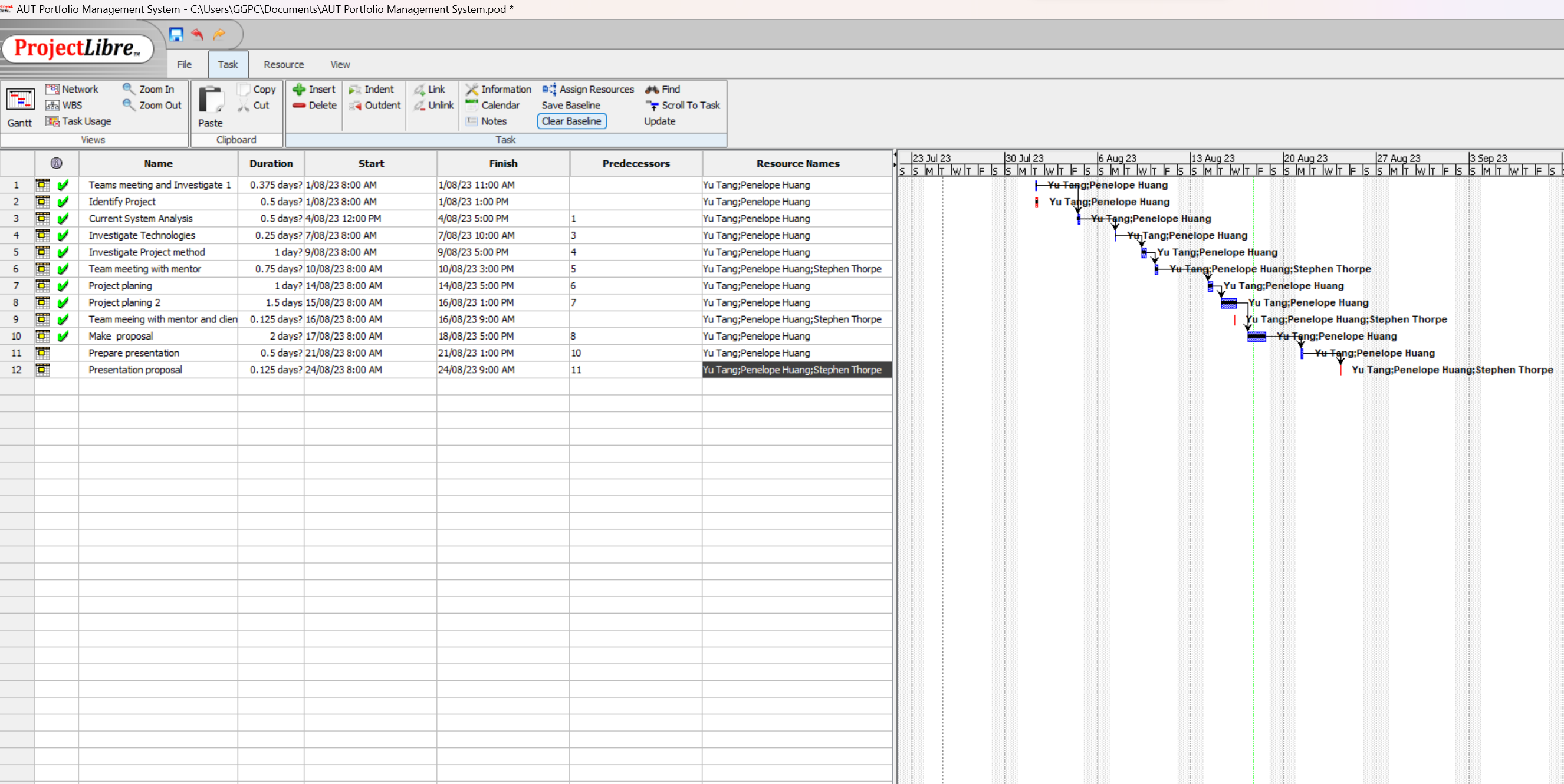
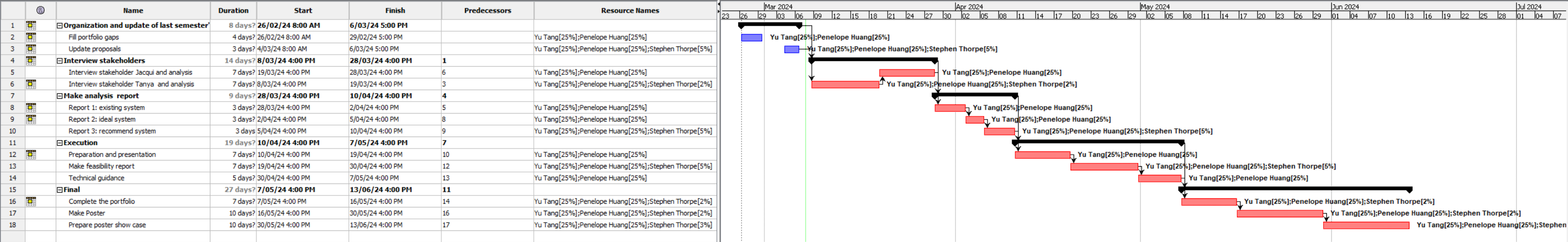
|  |  |
| --- | --- |
| Scope Description | The objective of this project is to investigate the current portfolio management system and workflows utilized in R&D projects through engagement with key stakeholders, pinpointing issues and challenges. Based on this research, to identify an optimal portfolio management system, scout the market for systems fitting the R&D projects, and propose solutions for system migration along with training for the new system. |
| Acceptance Criteria | * An investigation of the existing portfolio management system has been completed through interviews with key stakeholders. * A detailed report on the current portfolio management system is described. All critical workflows have been documented. All issues and challenges mentioned by key stakeholders are listed. * The report investigating the ideal portfolio management system clearly defines the characteristics of the ideal system and where it addresses needs, and based on market research, lists at least three possible portfolio management systems for selection. * In the survey evaluating market systems, each candidate system offers advantages and disadvantages of each system, with a comprehensive functional and cost-benefit analysis. * For the recommended portfolio management system, the report provides a detailed feasibility study on implementation and migration, as well as all potential risks and how to address those risks. |
| Project Deliverables | * A report on the existing portfolio management system, which will investigate the current portfolio management system through key stakeholders, document the workflow, and identify challenges and issues highlighted by stakeholders * A report investigating the ideal portfolio management system. This report will delve into the ideal portfolio management system and evaluate market available systems suitable for R&D projects * A feasibility study report on the recommended portfolio management system, providing detailed implementation and migration feasibility analysis. |
| Project Exclusions | * The project does not include development of a new software system. * Not include physical infrastructure procurement. * System maintenance and operation after project completion are not included in this project * Not all stakeholders are included in the investigation. |
| Project Constraints | * The project must be completed before June 2024. * The project funding depends on the continuous analysis and investigation of the ideal portfolio management system for the project. * The new system must be available for purchase and subscription on the market |
| Project Assumptions | * Understanding of current systems: The project team understands the workflow of the current R&D project and the capabilities and limitations of the portfolio management system currently in use. * Timeline: The project needs to be completed within a scheduled time. * English proficiency: Have sufficient English proficiency to describe the progress and results of the project. * Data migration: Existing data can be transferred to a new system without significant loss or damage. |
| Functional Requirements | * Automated Process: The new portfolio management system should have the capability to automatically assign students to appropriate projects. * Automated Email Notification System: It should be able to automatically send emails to students and teachers when specific events occur. * Dashboard: A display that can show and track the number of projects as well as the number of students involved in the projects. Data on long-term clients, the types of projects they offer, etc., should be visualized on the dashboard. * Report Generation: The system should be able to auto-generate reports on project assignments and progress. * Risk Management Feature: The new portfolio management system should be able to detect potential risks (such as students dropping out or switching projects) and notify the relevant personnel. * User-Friendly: The new portfolio management system should be easy to use, reducing the training time for users. |
| Non-functional Requirements | * Performance Requirements: The system can handle a large number of concurrent users. * User Interface: The user interface is user-friendly and easy to learn. * Data Migration: The system can migrate data from other systems. * Scalability: The system is scalable to accommodate growth in user numbers and data volume. * Data Sharing and Backup: Data stored in the system can be shared among users and backed up. |

## *Appendix* 13*–* Work Breakdown Structure (WBS)

A screenshot of a computer

Description automatically generated

## *Appendix* 14*–* Project schedule

## *Appendix* 15*–* Quality assurance plan

Our team will prioritize ensuring product quality with the concept of Total Quality Management (TQM). It will not only focus on specific project cycles but also the entire process. Unlike reactive quality control that traces failures, developing a quality assurance plan can significantly reduce risks and shorten project timelines.

UI

Before entering the next development cycle, our team will ensure the following principles are met:

* Design Clarity: This is to ensure other team members can clearly understand the design, reducing risks when making design changes.
* Review Meetings: These are aimed at improving the upcoming sprint processes.
* Solution Inspection: This involves identifying any errors from the perspective of other team members and enhancing the solutions.
* Customer (or Mentor) Feedback: This will narrow the gap between customer expectations and the anticipated functionality of the final product.

# Appendix 16 - Disclaimer

**Auckland University of Technology**

**Bachelor of Computer & Information Sciences**

**Research & Development Project**

**Disclaimer:**

**Clients should note the general basis upon which the Auckland University of Technology undertakes its student projects on behalf of external sponsors:**

*While all due care and diligence will be expected to be taken by the students, (acting in software development, research or other IT professional capacities), and the Auckland University of Technology, and student efforts will be supervised by experienced AUT lecturers, it must be recognised that these projects are undertaken in the course of student instruction. There is therefore no guarantee that students will succeed in their efforts.*

*This inherently means that the client assumes a degree of risk. This is part of an arrangement, which is intended to be of mutual benefit. On completion of the project it is hoped that the client will receive a professionally documented and soundly constructed working software application, some part thereof, or other appropriate set of IT artefacts, while the students are exposed to live external environments and problems, in a realistic project and customer context.*

*In consequence of the above, the students, acting in their assigned professional capacities and the Auckland University of Technology, disclaim responsibility and offer no warranty in respect of the “technology solution” or services delivered, (e.g. a “software application” and its associated documentation),both in relation to their use and results from their use.*

# References

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