PROJECT MANAGEMENT PLAN

RAMS Corner: ITRO Ticketing Service System

Asia Pacific College

Information Technology Resource Office

3 Humabon Place, Brgy. Magallanes

Makati City, 1232

June 2023

Table of Contents

1. Company Profile

Registered Name	Asia Pacific College – Information Technology and Resource Office
Company Logo	 *Figure 1: ITRO Logo*
Address	5th Floor, Asia Pacific College, 3 Humabon Place, Barangay Magallanes, Makati City, Metro Manila 1232
Line of Business	Information Technology Assistance
Type of Customers	School Faculty and Students
Date of Registration	1994
President	Jose F. Castillo
Number of Employees	10

Table 1: Company Profile

APC, being an IT focused school, has a need for a unit/department/group who would take care of IT equipment and get it ready for classes. The group "prepared" the IT equipment in the back office without needing to involve the students and the faculty. The objective was to keep the IT facilities ready for use during classes and practically anytime needed.

ITRO mainly maintains IT-involved equipment, so knowing how computers work was very important. The same is true in making sure software was always updated, which includes license management and maintaining software compatibility. The ITRO also plays a crucial role in managing costs, making sure the software gets appropriate hardware support to run it.

Aside from these main tasks for ITRO, here are also some of the specific works that is managed by this department:

- APC Portal handling
- ID making
- Network ITRO Administration
- ITRO Administrative technological issues
- Computer hardware issues
- Computer laboratories issues

- Cloud laboratories
- Software Development and maintenance

Now burdened with the task of being the go-to of everyone needing IT-related queries and maintenance services, Mr. Castillo, along with the rest of the ITRO, has a huge role in the implementation of Flexible Learning in APC. Especially now, (March 2022) that the personnel are limited to just himself, as he referred to himself as a "one-man army" with little-to-no assistants to back him up, the office has been very much busy to the point that they could no longer reply to emails and requests from teachers and students needing their expertise. With the staggering number of requests, they have been pending for the past few months even before the pandemic, and with the limited workforce available, it is no surprise that they are really in need of something to at least make their work more convenient and efficient.

In summary, the ITRO is the team who makes sure APC's mission/vision statements and plans are achieved.

Project: RAMS Corner – ITRO Ticketing Service System

For the betterment of the ITRO and the whole school as well the team offers to create a web-based application that would make use of ticketing method similar to that of Discord and other outsourcing companies—to be used on any browser accessible through a desktop computer or a laptop—that would not only help the students and teachers get an equal chance to be given audience by the ITRO, but also to provide automated answers to frequently-asked-questions through a dedicated Knowledge Base that would be done by asking the ITRO about their clients' commonly-asked questions before the development phase. This will make self-troubleshooting easier and much more convenient. Furthermore, the ITRO as Admins could set the prioritization for certain emails based on how they see it in terms of urgency. This way, those who need urgent help would not find themselves lost waiting for a reply with their hardware/software issues left unattended. The goal is to have the system run smoothly with all functions intact, during the early development stages, until fully rolling it out after polishing the prototype that would be approved. So that at least two or three people from each classroom could report immediately to the ITRO if they happen to need assistance.

2. Business Case

2.1 Problem Definition

2.1.1 Problem Statement

The Asia Pacific College ITRO Department lacks a system that would help them address the school's technical-related problems. They only use email system which oftentimes. ITRO personnel tend to miss out on the students, teachers, or staff emails regarding the problem they encountered. This might lead to a bigger problem since there are problems that need attention and action.

2.1.2 Organizational Impact

The Nacor Industries' RAMS Corner: ITRO Ticketing Service System will make a significant change in the ITRO Department. Some of the changes that will immediately take effect is the current system that they are using.

Tools:

Once the RAMS Corner: ITRO Ticketing Service System is up and running. It will replace the old email system that the Department is currently using. This will require training for the ITRO personnel because the software is new and fresh. The training will provide much smoother work as they will navigate each button and functions continuously and they won't need to guess the functions of a specific button.

Processes:

The new system made will boost the ITRO's productivity as the system will ask its users for full details of the problem they encountered. This will reduce the time of the personnel trying to figure out what the users are trying to convey. It will reduce the manual assigning of tickets as the system will automatically assign personnel to resolve the problem.

Roles and Responsibilities:

The department is divided into two groups. One that handles all hardware-related problems and another for all software-related problems. With the new system, all the ITRO personnel can focus on the fields of their expertise. In this way, the job gets to be done in a short time as the personnel who handle the problem know what they are doing resulting in a smooth resolution for the users.

Hardware and Software:

The hardware will not be much of a problem as the Department already has a laptop/desktop that can run the software. As for the software needs, it does not require much, and it only needs a stable internet connection to run properly.

2.1.3 Technology Migration

Since the legacy system utilized by the client is only email-based and the team's system, RAMS Corner runs on the web on an entirely new environment, the team decided to pursue the migration through a systematic approach to avoid any conflicts regarding the ongoing processes within the legacy system (email-based reporting):

Phase 1:
- The development team would pull a handful of the existing accounts within the project stakeholders through their APC outlook emails for isolated testing purposes.

Phase 2:
- If the test cases were all satisfactory, then the backend developer would proceed to pull all existing accounts and build their own accounts with pre-determined credentials to be modified later by each of the stakeholders and fill the Knowledge Base with past issues raised and solved by the ITRO.

Phase 3:
- With the acknowledgement of the ITRO Head, Mr. Jojo Castillo, the ITRO are encouraged to promote the newly developed web-application by informing their clients of its existence through pre-established communication channels such as their APC emails or through a formal press release.

Phase 4:
- Since most inquiries sent through email are only being recorded and handled manually, the complete transfer of the already ongoing processes from emails to the RAMS Corner Ticketing Service System would not be advised, therefore, all new inquiries would be made in the web application, while the already ongoing ones are meant to be handled separately until completion. Inquiries that are sent through email, but have long been pending, however should be sent to the RAMS Corner to be handled.

2.2 Project Overview

2.2.1   Project Description

RAMS Corner Ticketing System is a web-based application that would make use of a ticketing method similar to that of Discord and other outsourcing companies that would not only help the students and teachers get an equal chance to be given audience by the ITRO, but also to provide automated questions to frequently-asked-questions through a dedicated knowledge base that would be done by surveying them before the development phase. Making troubleshooting easier and much more convenient.

2.2.2   Goals and Objectives

The business objectives for this project are to direct support of our team's strategic plan to provide an alternative work environment for the ITRO and improve their workflow efficiency.

- Complete implementation of the RAMS Corner Ticketing System within the next 90 days (about 3 months) to replace the current email-based system.
- Shorten time duration of ITRO's interactions with their clients by 85% after the app deployment.
- Minimize the number of inquiries that does not reach the ITRO by at least 70%—within the next month after the full app deployment.

2.2.3   Project Performance

The objectives which mutually support the milestones and deliverables for this project have been identified. In order to achieve success on the ISA project, the following objectives must be met within the designated time and budget allocations:

- Finish the improvement of the app's user interface within the next 50 days (about 1 and a half months)
- Retrieve all the necessary data of the ITRO and their clients for the database within the next 60 days (about 2 months)
- Present a working prototype with at least 85% of its functions realized within the next 50 days (about 1 month and 2 weeks)
- Present the beta version of the application with all its functions intact within the next 100 days (about 3 and a half months)
- Conduct an isolated deployment of the application within the next 100 days (about 3 and a half months)
- Deploy the application for the use of ITRO and their clients within the next 120 days (about 4 months)

2.2.4   Project Assumptions

Listed below are the team's project assumptions revolving regarding the deployment of RAMS Corner Ticketing System.

- The ITRO, as well as their clients have access to the internet through APC RAMS Wi-Fi (or personal data/ISP) along with the necessary devices to use the web application.
- The ITRO Staff would be trained in using the new web application.
- The web application will be developed without any major technical issues or roadblocks.
- The web-app will be deployed by the client using their resources with sufficient processing power, memory, and storage.
- The web application will be developed within the given timeline.

- The APC faculty and students would utilize the new system instead of the email-based reporting system.
- The ITRO would properly launch and promote the new system.
- The email notification system will work without any issues.

2.2.5 Project Constraints

Listed below are the possible project constraints revolving around RAMS Corner's design and implementation which involves—but are not limited to--the following:

- Data Privacy
  - Upon takeover, the ITRO would be the one fully responsible for the web-application, and any other authorization regarding the APC faculty and the user's credentials.
- Deployment Budget
  - The ITRO would be the ones in charge of the system's deployment within their budget, along with any other preceding financial needs that the app might incur.
- Manpower / Workforce
  - The web-application has been made with the limited manpower that the ITRO currently has, however, their lack of workforce should be dealt with to have more hands-on deck to ensure that there would always be an eye out to see the updates within the system.
- Training / System Migration
  - The ITRO staff are bound to learn and familiarize themselves with the new system to utilize it to its fullest extent along with its features and functionalities.

2.2.6 Major Project Milestones

Summary Milestone Schedule	
Project Milestone	Target Date (MM/DD/YYYY)
• Project Idea	03/24/2022
• Project Proposal Approval	05/12/2022
• Project Management Plan Approval and Sponsor Acceptance	07/11/2022
• System Design Approval	11/14/2022
• Low/High-Fidelity Wireframe Approval	12/13/2023
• Verified Use Case Requirements	07/25/2023

• Successful Testing	08/24/2023
• Discovery and Feedback	09/13/2023

Table 2: Major Project Milestones

2.3 Strategic Alignment

A. The ITRO follows the following mission and objectives for each of the ITRO sub-department:

Objectives of the Infrastructure Team:

1. Provide IT hardware, cloud services, technical support services, where and when needed by the members of the APC Communality
2. Maintain the equipment ready for use by everyone.

Objectives of the Development Team:

1. Develop software needed by the organization for its efficient operations.
2. Maintain these applications to go with the times including any process changes.

B. External environment analysis:
   - Mostly, it is the growing trend and increase in volume of the demand for cloud-based technologies.

C. Internal resources and capabilities analysis:
   - People: ITRO only has a few staff. These staff are highly skilled in terms of technology handling.
   - Process: Follows specific receive-process-deliver steps in completing a request/solving a problem. No data gathering tools are used for better decision-making.
   - Technology: Equipped with latest technology tools

D. Strategic goals
   - Launch an app that is specifically used to manage the problems and inquiries of APC Community
   - Lower the requests/inquiries that are frequently asked to the ITRO by 10% very year
   - Increase the percentage of the people who are accommodated by 20% within a year
   - Keep track of the interaction between ITRO and its clients as a basis for decision-making and for record-keeping

E. Strategic plan
   - Develop a web application that is accessible both in desktop, laptop, or smartphone, with or without connectivity issues, with an uptime of 95% a year
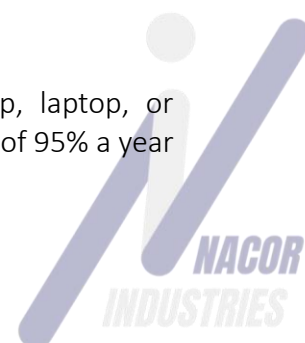
- Include a library for solutions as a feature of the web app to lower the percentage of receiving redundant request
- Create Service Level Agreement (SLA) for the problems/request raised to the ITRO according to its impact and severity to an individual, a group of individuals or the whole APC Community
- Data analytics

By following this strategic alignment, the ITRO can leverage or improve its internal resources and capabilities to be able to manage the external environment issues and achieve the objectives of their department whilst retaining their success in providing service for the APC Community in the following years.

2.4 Cost and Benefit Analysis

The cost and benefits section will provide an overview of the analysis of the expenditure versus the benefits that the ITRO can incur from the RAMS Corner: ITRO Ticketing Service System Project. The expected primary benefits will include work efficiency, transparency, accountability, and improved customer service.

Listed below are the identified specific intangible benefits that the ITRO can gain from this project:

- Efficient Issue Management: RAMS Corner will allow the users to submit their issues or requests, and the ITRO Staff can prioritize and address them accordingly. This ensures that all requests are properly attended to in a timely manner.
- Streamlined Communication: RAMS Corner will have centralized communication between the APC Residents and the ITRO. Clients can submit tickets with detailed information about their issues, and ITRO Staff can respond and provide updates within the system. This eliminates the need for back-and-forth emails or phone calls (in which they are currently using), making communication more streamlined and reducing the chances of miscommunication.
- Accountability and Transparency: Using the report generation of RAMS Corner, it will become easier to track the progress of each request, be it by the status, prioritization, or the person assigned to the ticket. The system records all actions taken on a ticket, including who is working on it and when updates were made. This improves accountability within the ITRO and allows ITRO Head to have a clear overview of the team's workload and performance.
- Efficient Problem Resolution: By having an automated categorization and prioritization of issues based on their severity or impact, the ITRO can set

service level agreements (SLAs) for different types of tickets, ensuring that critical issues are resolved immediately. This helps in managing resources efficiently and ensures that IT Staffs can focus on resolving issues effectively.

- Knowledge Base Creation: Over time, from the ITRO's current system (the email-based), ITRO has accumulated a wealth of information about common IT problems raised by APC Residents as well as their solutions. This can become a foundation for the knowledge base that can be used to create a library of self-troubleshooting articles or FAQs, which can be made available to both the ITRO and their clients as a resource for troubleshooting common issues. This reduces the workload on ITRO staff and empowers users to find answers to their queries independently.

- Data-driven Insights: By using the data analytics collected within the RAMS Corner, the ITRO Head can gain insights as to what are the recurring issues, service trends, and resource requirements. This information can be used to identify areas for improvement, optimize allocation of resources, and make data-driven decisions for enhancing the ITRO Services.

- Customer Satisfaction: RAMS Corner enhances customer satisfaction by providing an efficient customer support experience. Clients receive timely updates on the progress of their tickets, and ITRO Staff can provide better support by having access to complete ticket histories, knowledge base, and related information. This will allow them to resolve issues faster and more effectively that leads to improved customer satisfaction.

On the other hand, listed below are the expected cost that the development of RAMS Corner will incur from the ITRO:

- Planning, analysis and design, development, and implementation cost is approximately *PHP 870,397.58*
- During the testing phase, the team will need hosting services, which will cost *PHP 3,948.00*. Although this can be lowered or removed if the ITRO will use in-house servers in the actual deployment

RAMS Corner Ticketing System, and the team of developers behind it: Nacor Industries would be working for 21 months within the specific budget allotted for the project—RAMS Corner: Ticketing Service System as referenced in the table below:

RAMS Corner: Ticketing Service System

PROJECT DURATION (MONTHS)			21	

LABOR COST

ROLE	HOURLY RATE	NUMBER OF WORKING HOURS	TOTAL	
Project Manager	₱ 191.00	391	₱	74,681.00
Product Owner	₱ 317.00	340	₱	107,780.00
Scrum Master/Junior Full-Stack Developer	₱ 471.88	875	₱	412,890.63
Junior Laravel Developer/UI-UX Designer	₱ 282.73	552	₱	156,064.20
QA Tester	₱ 125.00	121	₱	15,125.00
System Trainer	₱ 92.50	24	₱	2,220.00
Documentation Manager	₱ 156.25	347	₱	54,218.75
Cost Estimate for Manpower	₱			**822,979.58**

HARDWARE COST

ITEM	TOTAL	
Dedicated Server and Computers	Legacy	
Cost Estimate for Hardware	₱	-

HOSTING AND SECURITY

ITEM NAME	UNIT PRICE	TOTAL UNIT PRICE(12 months)	COUNT	TOTAL	
Domain Subscription					
SSL Subscription	₱ 329.00	₱ 3,948.00	1	₱	3,948.00
Professional Email					
Storage(25GB)					
Cost Estimate for Hosting and Security	₱				**3,948.00**

DEPRECIATION EXPENSES

TEAM MEMBER	CURRENT VALUE (After depreciated in years)		DEPR. VALUE(20%)	
Allan Vincent Nefalar(Laptop)	₱	22,800.00	₱	7,980.00
Bryan Denylle Geneta(Laptop)	₱	14,400.00	₱	5,040.00
Kieyl Ponce(Laptop)	₱	27,000.00	₱	9,450.00
Patrick Cortez(Laptop)	₱	20,000.00	₱	7,000.00
Ruth Morallos(Laptop)	₱	16,000.00	₱	5,600.00
Vincent Nacor(Laptop)	₱	24,000.00	₱	8,400.00
Estimated Depreciation Expenses	₱			**43,470.00**

INDIRECT COST

UNIT	UNIT PRICE	TOTAL UNIT PRICE	COUNT	TOTAL	
Equipments					
Administrator			Covered by APC-ITRO		
Utilities					
ESTIMATED PROJECT COST	₱				**870,397.58**
MAINTENANCE (YEARLY)	Covered by APC-ITRO				

Figure 2: Budget Summary

Within the entirety of the timespan attributed to the development of the project, it is important to note that the only expenses that the client—APC-ITRO—would consider will only be the salaries for each member, along with the hosting and security expenses, and the depreciation expenses. Utilities and devices used will be made from the project team's own devices, and the work environment will be from their own homes, if not within the premises of Asia Pacific College, making it more cost-effective and beneficial for the client as opposed to hiring other professionals nor subscribing to pre-existing services available online.

3. Project Charter

3.1 Project Purpose/Justification

3.1.1 Business Need

RAMS Corner Ticketing System is a web application that aims to modernize and introduce a more efficient and manageable workflow for the ITRO to replace their current email-based reporting system. The software to be developed could be accessed by them, and their clients through the use of any device supporting browsers with a web/desktop interface.

3.1.2 Business Objectives

The business objectives for this project are to direct support of our team's strategic plan to provide an alternative work environment for the ITRO and improve their workflow efficiency.

- Complete implementation of the RAMS Corner Ticketing System within the next 120 days to replace the current email-based system.

- Shorten time duration of ITRO's interactions with their clients by 85% after the app deployment

- Minimize the number of inquiries that does not reach the ITRO by at least 70%— within the next 4 month after the full app deployment

3.2 Project Description

RAMS Corner Ticketing System is a web-based application that would make use of a ticketing method similar to that of Discord and other outsourcing companies that would not only help the students and teachers get an equal chance to be given audience by the ITRO, but also to provide automated answers to frequently-asked-questions through a dedicated knowledge base that would be done by surveying them before the development phase. Making troubleshooting easier and much more convenient.

3.2.1 Project Objectives and Success Criteria

The objectives which mutually support the milestones and deliverables for this project have been identified. In order to achieve success on the ISA project, the following objectives must be met within the designated time and budget allocations:

-   Finish the development of the app's user interface within the next 30 days

-   Retrieve all the necessary data of the ITRO and their clients for the database within the next 30 days

-   Present a working prototype with at least 95% of its functions realized within the next 35 days

-   Present the beta version of the application with all of its functions intact within the next 70 days

-   Conduct an isolated deployment of the application within the next 80 days

-   Deploy the application for the use of ITRO and their clients within the next 120 days

3.2.2 Requirements

This project must meet the following list of requirements in order to achieve success.

-   The application must be tested by the team within the vicinity of Asia Pacific College with the presence of the project beneficiary.

-   Solution must be implemented without disruption to operations

Additional requirements may be added as necessary, with the beneficiary's approval, as the project moves forward.

3.2.3 Constraints

The following constraints pertain to the ISA project:

-   All security hardware and software must be compatible with ITRO's current platforms

-   Every work and tasks to be filled upon the application's development

- All hardware and software accessible to the team are limited only to the ones they own themselves or those readily available at the Asia Pacific College

3.2.4 Assumptions

The following is a list of assumptions. Upon agreement and signature of this document, all parties acknowledge that these assumptions are true and correct:

- This project has the full support of the project beneficiary, stakeholders, and all parties associated

- The purpose of this project will be communicated throughout the ITRO prior to deployment

3.2.5 Preliminary Scope Statement

RAMS Corner Ticketing System will be designed, developed, and tested by Nacor Industries to deliver an alternative working environment for the ITRO to modernize and improve their workflow efficiency. All project-related work will be independent of daily and ongoing operations and all required testing will be done either within the APC school grounds or the team's individual workplaces. Nacor Industries would also not be obliged to comply with or entertain all changes made or requested for the application after the end of the said subject's duration, unless done so voluntarily.

3.3 Risks

The following denotes all the risks that have been identified upon the possible implementation of the RAMS Corner Ticketing System. To ensure the success of the project and to minimize the threat and possibilities of any of the following to occur, the team will be sure to mitigate and create an effort to minimize its effects.

- Potential disruption to operations during solution deployment
- Possible hardware/software specific bugs that may occur upon system access
- Incompatibilities with the pre-installed software/hardware within the ITRO and their clients
- Probable refusal or lack of knowledge of some ITRO Clients about the newly implemented system

3.4 Project Key Deliverables

The following deliverables must be met upon the successful deployment of the RAMS Corner Ticketing System. Any changes to these deliverables must be approved by the project beneficiary.

- Fully deployed and accessible web application for ITRO and their clients

- Technical reports for the first weeks of deployment must be made to ensure the integrity of the web-application

- Post-deployment surveys would also be given to the ITRO and their clients to assess the satisfaction rate as well as to receive any feedback regarding the concerns and recommendations regarding the application.

3.5 Summary Milestone Schedule

The project Summary Milestone Schedule is presented below. As requirements are more clearly defined this schedule may be modified. Any changes will be communicated through project status meetings by the project manager.

Summary Milestone Schedule	
Project Milestone	Target Date (MM/DD/YYYY)
• Project Idea	03/24/2022
• Project Proposal Approval	05/12/2022
• Project Management Plan Approval and Sponsor Acceptance	07/11/2022
• System Design Approval	11/14/2022
• Low/High-Fidelity Wireframe Approval	12/13/2023
• Verified Use Case Requirements	07/25/2023
• Successful Testing for Release 1	07/31/2023
• Successful Testing for Release 2	08/03/2023
• Successful Testing for Release 3	08/07/2023
• Successful Integration Testing	08/11/2023
• Successful User Acceptance Testing	08/15/2023
• Successful Performance Testing	08/17/2023
• Successful Production Readiness Testing	08/22/2023

• Successful Parallel Testing	08/24/2023
• Discovery and Feedback	09/13/2023

Table 3 Summary Milestone Schedule per Phases

3.6 Budget Summary

The image below pertains to the detailed summary of the budget allotted for the RAMS Corner Ticketing Service System. This includes the proposed budget for labor, hardware, hosting, and unit costs. This budget is necessary for the completion of the project.

Laptop Depreciation Rate(%)	Years					
20%	1.75					
DETAILED DEPRECIATION EXPENSES						
Team Member	*Laptop Price*	*Years Used*	*Current Value*	*Depr. Value*	*Working Hours*	*DV per Hour*
Allan Vincent Nefalar	₱ 38,000.00	2	₱ 22,800.00	₱ 7,980.00	391	₱ 20.41
Bryan Denylle Geneta	₱ 36,000.00	3	₱ 14,400.00	₱ 5,040.00	121	₱ 41.65
Kieyl Ponce	₱ 45,000.00	2	₱ 27,000.00	₱ 9,450.00	340	₱ 27.79
Patrick Cortez	₱ 50,000.00	3	₱ 20,000.00	₱ 7,000.00	347	₱ 20.17
Ruth Morallos	₱ 40,000.00	3	₱ 16,000.00	₱ 5,600.00	875	₱ 6.40
Vincent Nacor	₱ 40,000.00	2	₱ 24,000.00	₱ 8,400.00	552	₱ 15.22

Figure 3: RAMS Corner Budget Summary – Laptop Depreciation Cost
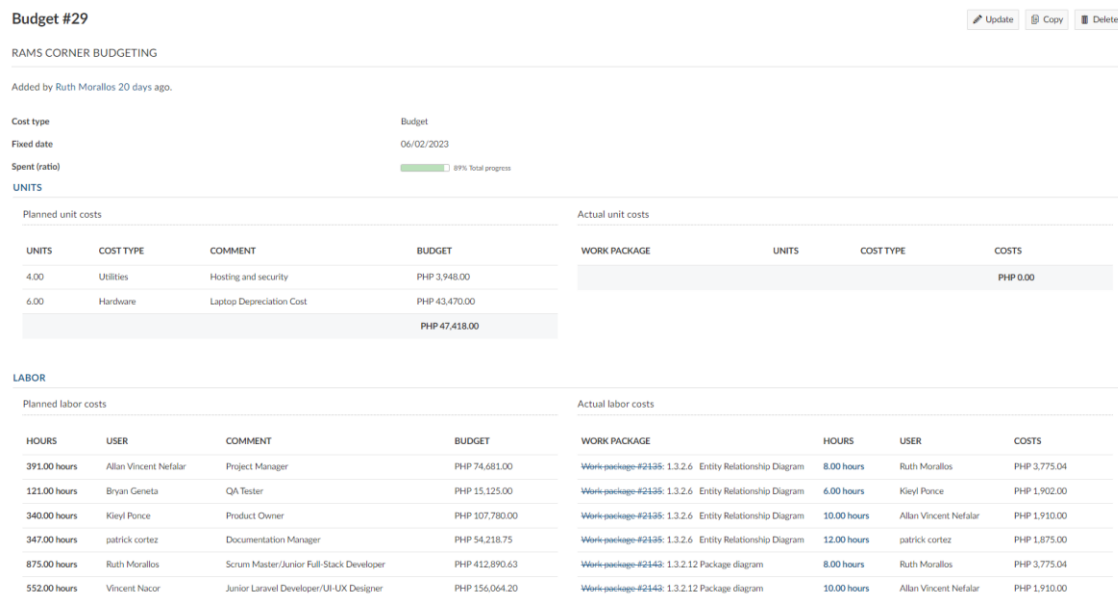
Figure 4: RAMS Corner Budget Summary - Labor Cost/Unit Cost

RAMS Corner: Ticketing Service System

PROJECT DURATION (MONTHS)	21		

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HOSTING AND SECURITY

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Domain Subscription	₱ 329.00	₱ 3,948.00	1	₱ 3,948.00
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Administrator				
Utilities				
ESTIMATED PROJECT COST		₱		870,397.58
MAINTENANCE (YEARLY)		Covered by APC-ITRO		

Figure 5: RAMS Corner Budget Summary - Estimated Project Cost

3.7 Project Approval Requirements

RAMS Corner Ticketing System's success will be achieved when fully fleshed-out software is published and is installed within the devices of the ITRO Office and their clientele within the time and cost constraints indicated in this charter. To further assess the success of the project, post-deployment surveys would be done in order to gauge the effectivity of the solution, along with any other possible recommendations or suggestions that might be useful for the betterment of the system which would be determined by the Project's Beneficiary, Mr. Jojo Castillo, the ITRO Head, who will authorize the completion of the project.

4. Project Management Approach

The Project Sponsor is the one responsible for the initiation and the funding of the whole project. Meanwhile, the responsibility of the Project Manager is the overall planning, execution, and project delivery, all according to how the project should run based on the Project Management Plan. The Scrum Master will be the one to facilitate the execution of the Agile methodology used in the Project Lifecycle. Lastly, the documentation team is the group responsible for maintaining the project documentation – which includes the meeting minutes, plans, technical documentation, and any other relevant records.

Documentation Team, together with the Project Sponsor, Project Manager, and Scrum Master must ensure that all documentation is up to date, organized, and accessible by all the Stakeholders. Any changes, updates, and approvals should be included in the writings and be signed mainly by the Project Sponsor and Project Manager.

5. Project Technical Approach

5.1 Product Development Methodology

The lifecycle approach that the team is using for this project is the hybrid of Waterfall Methodology and Agile Methodology. Waterfall Methodology is utilized to make sure that the project development follows specific steps that are within the budget all through out until the project completion. On the other hand, Agile is utilized to make sure that the completion of steps from Waterfall will be iterated and discussed with the stakeholders by two-week sprints. In this way, the team will have visible deliverables where the stakeholders can give periodic suggestions or recommendations for alterations and approvals, thus, will help a more efficient and effective use of resources available.

This methodology will follow these steps:

- Initiating the Project
- Planning
- Systems Analysis and Detailed Designing

- System Prototyping and Development
- Testing
- Deployment and Control
- Closeout

5.2 Technical Architecture

- The web-app is built using Laravel framework.
- The web-app utilized MySQL for the database to store and retrieve data from user profiles and ticket contents.
- The accounts would be pulled from the pre-existing pool of credentials of the Asia Pacific College through their Microsoft APC email accounts.
- Microsoft Outlook would be the primary email service used by the system's emailing notification feature.
- The web-app is built upon a Microsoft Windows-based system but can be run and accessed on any desktop or mobile device with any operating system.
- The data processed within the system include—but are not limited to—user credentials, ticket contents, KB contents, and messages sent within each ticket per update.
- The web-app serves as an extension of the ITRO to promote digitalizing their processes.
- There are no specific implementation constraints identified.
- The data will be held privately by the ITRO and could only be shared within the premises and authorization of their office.

6. Project Management Plan

6.1 Stakeholders Strategy Management Plan

6.1.1 Introduction

The Stakeholder Management Strategy for the project is a crucial aspect of effective project management. It involves identifying and engaging with all relevant stakeholders to ensure their interests, concerns, and expectations are considered and addressed throughout the project's lifecycle. In this section, we will discuss the goals and objectives of the Stakeholder Management Strategy and highlight its significance in project success.

Proper stakeholder management is essential as it helps in gaining support and buy-in from stakeholders, while also proactively addressing any potential resistance, conflict, or competing objectives. By actively involving stakeholders, we can

minimize risks and maximize project success by aligning their interests with the project's objectives.

In this section, we will outline the key goals and objectives of the Stakeholder Management Strategy, which will serve as a guiding framework for effectively managing stakeholders throughout the project's duration.

Strategies that could be implemented to improve the stakeholder management for the RAMS Corner: ITRO Ticketing Service System:

- **Communicate regularly and transparently:** The team Nacor Industries will establish an open and transparent communication channel with stakeholders. Provide regular updates on project progress, risks, and changes. Be clear, honest, and consistent in communication to build trust and maintain positive relationships with the stakeholders.
- **Involve stakeholders in decision-making:** Involving stakeholders in the decision-making of the project RAMS Corner can foster their ownership and commitment to the project. Seek their input, feedback, and suggestions when making important decisions, and incorporate their perspectives as appropriate.

By implementing these strategies, our team can improve stakeholder management and cultivate positive relationships with stakeholders, leading to greater project success and organizational effectiveness for the Project RAMS Corner.

6.1.2 Identify Stakeholders

Stakeholder analysis was used by the project team to identify the project's stakeholders   and highlight the ways in which they demonstrate their "proposed actions" for the project's advancement. This may include their impact, influence, engagement techniques, and how they primarily impact the project development lifecycle, such as if they caused delays in particular development phases or brought success and failure with their suggested activities.

Identified Stakeholders:

1.   Project Sponsor

Mr. Jose Castillo, as the head of the ITRO department office, facilitates discussions among the project team providing the necessary technical aspects needed for system development. He is also identified as the project sponsor.

2.   APC ITRO

APC ITRO is identified as a project stakeholder since they provide continuous feedbacks upon the accessibility and usability of the Ticketing System, which they fill a big role as the staff who will use the system as the development team will turnover the full working system for the ITRO Department Office specific use case.

3.   APC Students and Faculties and Staffs

Students and faculties are identified as project stakeholders since they are the specific users of the Ticketing System, in which they will utilize to further communicate with ITRO customer service using the Ticketing System and using the application will be their greatest contribution as they provide with the feedback and usability of the system.

6.1.3 Key stakeholders

Identified Key Stakeholders:

1. ITRO Department Office of Asia Pacific College Headed by Mr. Jose Castillo

- One of the key stakeholders in the Project entitled RAMS Corner Ticketing System is the ITRO Department Office. Especially since the department office happens to be the project's client, which is under the supervision of Mr. Jose Castillo. After the whole project development is complete, the ticketing software as the byproduct of the project will be utilized by the ITRO. The head of the ITRO Department Office, Mr. Jose Castillo, is the representative of the department that facilitates communication between the project team including all the discussions, meetings, and updates. With his great knowledge in the technical field of information technology, he managed to bring great impact and influence towards the decision making with regards to the development during the course of the project.

6.1.4 Stakeholder Analysis

Stakeholder Analysis

Name	Department / Company	Position	Advisers	Objectives, Requirements, Interests	Influence	Project Contribution	Assumed Resistance
Sir Jojo Castillo	APC ITRO	Project Sponsor		Improve client service, Accommodate reequest/inquiries in timely manner, keep the data from the history of engagement of the client/staff and cooperate with the team of developers	High	Provide necessary information for the development op the app (business goals, etc.), supervise the development of the project, provide feedback to the current progress, suggest improvements and additional details to the project, approve the result of the project and the project itself	Refusal to deploy the new System
APC-ITRO	ITRO	Stakeholders		Improve client service, Accommodate reequest/inquiries in timely manner, keep the data from the history of engagement of the client/staff	High	Provide input/feedback upon the usability and accessibility of the ITRO Ticketing System as a Staff	Refusal to learn the new system
APC Students, Faculty & Staff	Asia Pacific College	Stakeholders		access a more intuitive and user-friendly website for their ITRO-related request and inquiries, easier communication, categorized issues for better filtering and	High	Provide input/feedback upon the usability and accessibility of the ITRO Ticketing System as a Staff	Refusal to use the new system

Figure 6: Stakeholder Analysis

6.2 Scope Management Plan

6.2.1 Introduction

Towards the start of the project: RAMS Corner Ticketing System, the team, Nacor Industries has already set a list of scope and limitations that would enable the group to focus on the tasks at hand and not be swayed nor distracted by minor issues nor inconveniences prior, during and after the development phase. This Scope Management Plan aims to identify and elaborate the necessary processes used to define, control, approach, delegate, and verify the project's scope which involves—but are not limited to—the following:

1. Requirement Collection
   - This process would be done through collective and regular meetings with the group and the client through a Scrum-Fall methodology-based workflow. This ensures that the needed data and resources would be gathered and verified simultaneously while also allowing freedom for the team in case of revision, as referenced in the figure below:
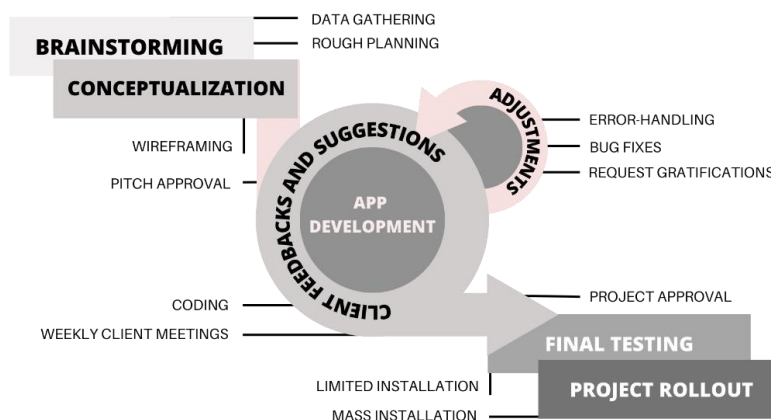
Figure 7: Scrum Fall Methodology

2. Scope Definition
   - Involves the checking of all the necessary documents such as contracts, agreements, and statements of work to ensure that they align with the project's goals, objectives, and constraints.
3. Work Breakdown Structure (WBS) Creation
   - The WBS is comprehensive and accurate visual representation of the tasks and goals that the team came up with through various sessions and meetings which entails all the work packages required to complete the project.
4. Scope Verification
   - This would be done through performing a walkthrough of the project deliverables with stakeholders to ensure that they meet their needs and expectations. Furthermore, it will allow stakeholders to provide feedback and make suggestions for improvement as indicated accordingly through the team's Scrum-Fall Methodology.
5. Scope Control
   - Controlling the project's scope is needed to reflect any changes in the project's goals, objectives, or constraints. Prior to any changes the team would make sure that the stakeholders are aware of the project's scope.

6.2.2 Scope Management approach

The scope of the web application, RAMS Corner: Ticketing System is pre-determined in Scope Definition, Project Scope Statement, Work Breakdown Structure (WBS) and WBS dictionary. The primary objective of the project is to develop the said application for the client, APC-ITRO, and provide a platform for them to use in lieu of their current email-based reporting system. The scope of the project revolves mainly around the main project documentation and the creation phase would include the planning of the system's functionalities, design, actual development, test cases for usability and performance, along with the provision of user manuals, training, and support for the stakeholders and clients.

6.2.3 Roles and Responsibilities

In order to promote organizational harmony and present a systematic and effective development procedure, each member of the team, Nacor Industries, along with other stakeholders has been assigned with roles according to their interests and areas of expertise, with the roles being listed below:

ROLES	RESPONSIBILITIES

Project Manager	- Assigns work to all team members - Ensures that project deliverables are done on time - Facilitates team meetings with the project client and development team for possible changes and requests within the system and project documentations. - Executes scope change requests from project client and development team if changes will be necessary as discussed in consultations.
Product Owner	- Defines and prioritizes the project requirements and ensures that the final product meets the needs of the stakeholders. - Works closely with the Project Manager and Scrum Team to ensure that the project deliverables align with the scope. - Represents the stakeholders and clients' best interest during meetings.
Scrum Master	- Facilitates the Agile Development process with regards to the Scrum framework - Works closely with the Project Manager and Product Owner to ensure that the project is progressing according to the defined scope.
Documentation Team	- Oversees the project documentation deliverables and ensures that the documents are presentable and free from errors. - Ensures that the project documents are adjusted and updated according to what the project client and project manager discussed on change requests.
QA Tester	- Ensures that the system is free of bugs and is usable - Oversees the development to assess the quality of the system prior to its deployment
Junior Developer	Responsible for testing the source code to identify and fix any issues or bugs. They collaborate with quality assurance (QA) engineers to ensure the software meets the desired functionality and quality standards.

Project Sponsor	- As a key stakeholder, the client provides all the necessary information needed by the project team in their work organization, if necessary, in the project development - Suggests changes in the system according to their work organization that should ensure the system is properly developed before deployment

Table 4: Scope Management - Roles and Responsibilities

6.2.4 Scope Definition

The project, RAMS Corner: ITRO Ticketing Service System, is designed for the use of the (1) APC organization; (2) APC staff and faculty members, (3) APC students, will help the ITRO in their workflow in identifying problems within the building. This ticketing system that the team is developing allows the ITRO Admins to have more control over how it tracks and resolves the ITRO Client complaints. The team's ticketing software has a set of processes that enable the ITRO to efficiently oversee incidents and service requests logged or reported by its ITRO clients which involves—and is specifically limited to—the following:

- Infrastructure-Based
- Desktop Support
- Server/Cloud Services Support
- Audio/Video Equipment Support
- Software-Based
- Backend Development Support
- Business Analysis/QA
- Data Analysis
- Software Development Support

The flexible ticketing solution increases IT service delivery and overall ITRO Client satisfaction by integrating native IT service management modules such as IT problem management and asset management. But this ticketing system will not cover the management of the requests to ITRO that are raised via phone calls. This application serves only as Ticket Management and does not include ITRO's Problem Management and User Management. This project will be used and be made available only to the APC staff, personnel, and students.

6.2.5 Project Scope Statement

Product Scope Description

The project team's goal is to develop a deployable IT ticketing service system that will be complete and functional as a requirement for the team's Project-Based Learning (PBL) course with the following features stated below:

- Dashboard
  - The dashboard is meant to provide information and updates at a glance, customized to each user and user type.
    - ITRO Client:
      - A simpler version which aims to give ample information about the possible concerns of the client at a glance which includes ticket status, number of tickets sent, and KB shortcuts.
    - ITRO Admin/ITRO Staff:
      - The admin and staff dashboard has a more technical and professional look but has the same functions related to their concerns that involves—but are not limited to—the following: received tickets, assigned tickets, statuses of tickets concerning them, ticket summary, active clients, and agents, etc.
- Notifications
  - The notifications pane would be available to every user type and would provide them with the latest updates regarding their tickets and other issues that may be of concern to them.
- Ticket Table
  - The ticket table lists all of the tickets received by the ITRO, along with their current status and details which entail the date and time it is created, along with its prioritization, assignment, etc.
- Knowledge Base
  - The Knowledge Base is a collection of common IT problems and their resolutions that would aim to empower the users and give them the ability to troubleshoot their problems by themselves.
    - ITRO Admin:
      - Could view, add, modify, hide, and approve KB entries to be viewed by the ITRO Clients.
    - ITRO Staff:
      - Could view, add, modify, or hide KB entries from the ITRO Clients.
    - ITRO Client:
      - Could view the knowledge base for self-troubleshooting.

- Generate Reports
  - This feature was made exclusively for the ITRO Admin/Staff interface so that they may be able to view the data regarding the tickets sent depending on their choice of date frame that could be downloaded in PDF format.
- Tags
  - This feature allows the users tagged through the CC section of the tickets to be notified about any updates and progress made to the tickets.
- My Personal Tickets
  - This pane allows the users to see the tickets that the clients have sent personally.

The project team also aims to hand over the said deployable IT Ticketing Service System for the ITRO Department of Asia Pacific College in November since they are the main project beneficiaries as well as their respective clients (APC community.)

Acceptance Criteria

Success for the project will be measured on three factors: deliverables, quality of work, and deployment. If these three were deemed to be complete by the stakeholders and project client, then the project would be considered a success.

Project Deliverables

Upon successful project completion, the team would be able to provide the fully-functional and finished system, along with the source code through GitHub with the Software Requirement Specification along with several other project documentations which include—but are not limited to the following:

- User Manual
- Drafted Project Proposal Documentation
- System Analysis and Detailed Design Documentation
- Business Case
- Project Charter
- Stakeholders Management Strategy Plan
- Scope Management Plan

- o Cost Management Plan
- o Time Management Plan
- o Human Resource Management Plan
- o Communication Management Plan
- o Procurement Management Plan
- o Project Status Reports Distribution Plan
- o Change Request Documentation
- o Project Execution Monitoring Report
- o Implementation Plan
- o Risk Management Plan
- o Change Management Plan
- o Project Status Reports
- o Transition-Out Plan
- o Project Turn-Over Plan
- o Post Project Review Plan

Project Exclusions

The limitations and exclusions that the team found out has been compounded and listed below and were limited to the design and implementation constraints that the RAMS Corner web application will encounter:

- – Data Privacy
  - o Upon takeover, the ITRO would be the one fully responsible for the web-application, and any other authorization regarding the APC faculty and the user's credentials.
- – Deployment Budget
  - o The ITRO would be the ones in charge of the system's deployment within their budget, along with any other preceding financial needs that the app might incur, which ,may include labor cost, depreciation cost, and web-hosting cost.
- – Manpower / Workforce
  - o The web-application has been made with the limited manpower that the ITRO currently has, however, their lack of workforce should be dealt with in order to have more hands-on deck to ensure that there would always be an eye out to see the updates within the system.
- – Training / System Migration
  - o The ITRO staff are bound to learn and familiarize themselves with the new system to utilize it to its fullest extent along with its features and functionalities.

Project Assumptions:

1. The ITRO, as well as their clients have access to the internet through APC RAMS Wi-Fi (or personal data/ISP) along with the necessary devices to use the web application.
2. The ITRO Staff would be trained in using the new web application.
3. The web application will be developed without any major technical issues or roadblocks.
4. The web-app will be deployed by the client using their resources with sufficient processing power, memory, and storage.
5. The web application will be developed within the given timeline
6. The APC faculty and students would utilize the new system instead of the email-based reporting system.
7. The ITRO would properly launch and promote the new system.
8. The email notification system will work without any issues.

Project Dependencies:

1. The team will use Laravel, an open-source PHP web framework for developing web applications.
2. The team will use MySQL as their database for the web application.
3. The ITRO would provide the developers with accurate information about their office and services.
4. The users need access to the internet and the necessary devices to use the web application.
5. The web application needs to be hosted on a reliable and secure server provided by ITRO.
6. The web application should have access to a reliable and fast internet connection.
7. The email notification system should have access to a reliable and fast internet connection.
8. Microsoft Outlook should function accordingly in order to send the email-based notifications.
9. The web browser/s upon which the application would be opened should be free of viruses or malware and is reliable.

6.2.6 Work Breakdown Structure

1. *RAMS Corner : ITRO Ticketing System*
   1.1 Initiation
   > 1.1.1 Initial Planning/Brainstorming
   > 1.1.2 Client Selection
   > 1.1.3 Project Kick-off meeting
   > 1.1.4 Milestone: Project Idea

   1.2 Planning
   > 1.2.1 First Project Meeting with Members
   > 1.2.2 First Project Meeting with Client
   > 1.2.3 Project Proposal Initial Creation
   > 1.2.4 Second Project Meeting with Members
   > 1.2.5 Second Project Meeting with Client
   > 1.2.6 Initial Project Proposal Editing
   > 1.2.7 Initial Project Proposal Proofreading
   > 1.2.8 Third Meeting with Members
   > 1.2.9 Third Meeting with Client
   > 1.2.10 Deliverable: Project Proposal
   > 1.2.11 Project Proposal Revision
   > 1.2.12 Fourth Meeting with Members
   > 1.2.13 Fourth Meeting with Client
   > 1.2.14 Milestone: Project Proposal Approval
   > 1.2.15 Kick-off meeting for project management planning
   > 1.2.16 Project Management Plan Drafting
   > > 1.2.16.1 Business Case
   > > 1.2.16.2 Project Charter
   > > 1.2.16.3 Stakeholder Analysis
   > > 1.2.16.4 Stakeholder Management Analysis
   > > 1.2.16.5 Cost Management Analysis
   > > 1.2.16.6 Cost Management Plan
   > > 1.2.16.7 Schedule Management Plan
   > > 1.2.16.8 Scope Management Plan
   > > 1.2.16.9 Work Breakdown Structure
   > > 1.2.16.10 Work Packages
   > > 1.2.16.11 Human Resource Management Plan
   > > 1.2.16.12 Quality Management Plan
   > > 1.2.16.13 Risk Management Plan
   > > 1.2.16.14 Communications Management Plan
   > > 1.2.16.15 Procurement Management Plan

1.4.5 Deliverable: High Fidelity Wireframe

1.4.6 tenth meeting with member

1.4.7 tenth meeting with client

1.4.8 Milestone: Wireframe Approval

1.4.9 UI/UX Design

1.4.10 UI/UX Evaluation

1.4.11 11th meeting with members

1.4.12 Backend Development

1.4.13 Milestone: Verified Use Case Requirements

1.4.14 11th Meeting with the client

1.5 Testing

1.5.1 Unit Testing for Release 1

1.5.1.1 Milestone: Successful Testing for Release 1

1.5.2 Unit Testing for Release 2

1.5.2.1 Milestone: Successful Testing for Release 2

1.5.3 Unit Testing for Release 3

1.5.3.1 Milestone: Successful Testing for Release 3

1.5.4 12th meeting with members

1.5.5 Integration Testing

1.5.5.1 Milestone: Successful Integration Testing

1.5.6 User Acceptance Testing

1.5.6.1 Milestone: Successful User Acceptance Testing

1.5.7 Performance Testing

1.5.7.1 Milestone: Successful performance Testing

1.5.8 Production Readiness Testing

1.5.8.1 Milestone: Successful Production Readiness Testing

1.5.9 Parallel Testing

1.5.9.10 Milestone: Successful Parallel Testing

1.5.10 13th Meeting with Members

1.5.11 12th meeting with client

1.6 Deployment and Control

1.6.1 Deployment and Control Kickoff meeting

1.6.2 Train General Users

1.6.3 Set up Kiosk for Localize Deployment

1.6.4 Deploy the hosted app

1.6.5 Milestone: Discovery and Feedback

1.6.6 14th Meeting with Members

1.6.7 13th meeting with client

1.6.8 Promotion and Advertisement

1.6.9 Update Documentations

1.7 Closeout

1.7.1 Auditing

1.7.2 Reports and Documentations Handover

1.7.3 Gain Formal Acceptance

1.7.4 Archive Files/Documents

1.7.5 Closeout Meeting with Members

6.2.7 Scope Verification

The project team, Nacor Industries, will conduct scope verification upon each meeting with the client to ensure that the deliverables are in line with the original scope. In accordance with the scrum-fall methodology *(see Figure 7 for reference),* this will guarantee that the deliverables are accepted by the client to ensure that the project will be finished on time and within the scope and budget.

6.2.8 Scope Control

Prior to any pivotal changes that may occur within the project's development, the team ensures that each decision would need to first be approved by the stakeholders, especially the client: APC-ITRO, before getting greenlit. This process would be documented accordingly.

6.3 Cost Management Plan

The purpose of the Cost Management Plan for the RAMS Corner Ticketing Service System is to efficiently manage all expenses related to the project from start to finish. The plan establishes guidelines and criteria for measuring, reporting, and regulating the project's costs.

1. **Cost Management Responsibilities**

   - In addition to overseeing the project's cost management, the Project Manager will collaborate with the project team and stakeholders to establish cost management objectives, develop cost estimates, and monitor and control project expenses to ensure that the project stays within budget.

2. **Cost Change Approval**

   - The designated authority would review the proposed change and assess its impact on the project's budget, schedule, and overall goals. They would then decide whether to approve or reject the change based on these factors.
   - If the additional cost represents less than 10% of the total project budget, approval from the Project Manager is needed. However, if the cost increase
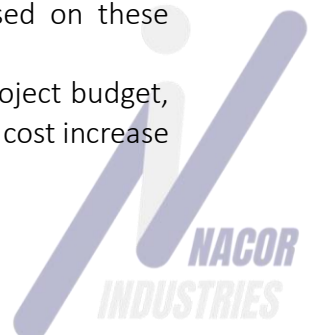
exceeds 10% of the total project budget, there is a need to seek approval from the Project Sponsor.

3. Cost Measurements and Reports

- Cost performance can be quantitatively measured and reported upon by analyzing the planned versus actual costs incurred during a project.
- These reports may include metrics such as Cost Performance Index (CPI) and Schedule Performance Index (SPI), which provide a quantitative assessment of cost and schedule performance, respectively.

4. Budget Format

- The budget for the project will be presented in a straightforward and easy-to-understand format, using a spreadsheet program such as Excel. The budget will be itemized into individual line items, each with a detailed cost estimate, and updated monthly with any changes clearly marked.

In essence, the Cost Management Plan devised for the RAMS Corner Ticketing Service System aims to guarantee that every expense related to the project is efficiently handled and regulated, thus enabling the project to be executed within the agreed-upon budget. Such a plan would contribute to the successful and timely completion of the project.

6.3.1 Cost Management Approach

The Cost Management Approach of the RAMS Corner: ITRO Ticketing Service System will be based upon the following.

- **Planning**

  The team will monitor project expenses, regularly report on deviations from the budget, and take corrective action when necessary, ensuring transparency and accountability throughout the project's lifecycle.

- **Cost Estimation**

  The cost estimate will be regularly updated to reflect any changes in the project's scope or budget and will serve as a baseline against which all

project costs will be measured. This will enable the team to track and manage project costs effectively, adjusting as needed to ensure that the project is completed within budget and on schedule.

- **Budgeting**

The budget will serve as a guide for managing project expenses, and it will be regularly monitored and adjusted as necessary to ensure that the project remains on track. The project team will use the budget to prioritize expenditures, allocate resources effectively, and make informed decisions that maximize the value delivered to the community.

- **Cost Reporting**

These reports will be reviewed by project stakeholders to ensure that everyone is aware of the project's financial status and can take appropriate action if necessary. The team will use the reports to identify trends and patterns in project costs, allowing them to adjust their cost management strategies accordingly. In addition, these reports will provide transparency and accountability, ensuring that stakeholders can make informed decisions based on accurate and up-to-date information.

- **Risk Management**

The project team will conduct ongoing risk assessments to identify potential risks that may impact project costs and develop strategies to mitigate these risks. The team will also regularly monitor the effectiveness of these strategies and maintain a risk register to document all identified risks and their corresponding mitigation plans.

The Cost Management Approach we have devised intends to guarantee that the RAMS Corner Ticketing Service System is executed within the authorized budget, adheres to project objectives, and provides a product of superior quality that caters to the community's requirements.
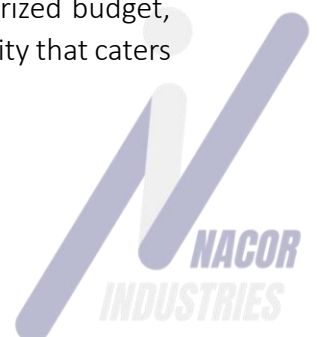
6.3.2 Measuring Project Costs

Measuring cost performance is a crucial aspect of controlling project costs, and there are several techniques that can be used for this purpose. These techniques include methods such as cost variance, earned value management (EVM), cost performance index, and the Schedule Performance Index.

Below, we'll provide more information about each of these methods for measuring cost performance.

1. **Cost Variance**

   Cost Variance (CV) is a technique used for measuring the difference between the Earned Value (EV) and the Actual Cost (AC) of the work completed. It provides an indication of whether the project is under budget or over budget. CV is calculated by subtracting the AC from the EV

   CV = EV- AC

2. **Earned Value Management**

   - Earned Value Management (EVM) is a widely accepted and effective technique for measuring project performance in project management. The technique integrates the three key elements of scope, time, and cost, providing a holistic view of the project's progress and performance.

   (SV) = EV – PV

3. **Cost Performance Index**

   - The CPI provides a measurement of the value of work accomplished in relation to the actual cost of the work completed. It is calculated by dividing the EV by the AC.

   (CPI) = EV / AC

4. **Schedule Performance Index**

   - The Schedule Performance Index (SPI) is a technique used to measure the project's schedule performance. The SPI provides a measurement of the progress achieved in relation to the work scheduled. It is calculated by dividing the Earned Value (EV) by the Planned Value (PV). The SPI value greater than 1 indicates that the project is ahead of schedule,
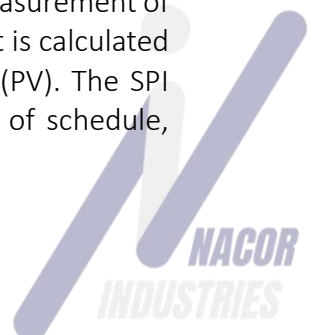
while an SPI value less than 1 indicates that the project is behind schedule.

$$(SPI) = EV / PV$$

6.3.3 Reporting Format

The stakeholders will receive a progress report on a weekly basis to update them on the cost status of the project. The report will have a section called "Cost Management" which will provide information on the Earned Value Metrics (EVM), including Schedule Variance (SV), Cost Variance (CV), Schedule Performance Index (SPI), and Cost Performance Index (CPI), for evaluating the project's progress and cost performance. If the project's cost goes beyond the predefined limits, the report will include details of the issue and the corrective actions planned. The report will also monitor change requests resulting from cost overruns to ensure they align with the project budget. These updates will be shared with stakeholders weekly to ensure timely decision-making and maintain transparency.

6.3.4 Cost Variance Response Process

The process for responding to cost variances involves identifying the root causes of the variance, assessing its impact on the project, and developing a plan to address it. First, the project team will investigate the causes of the cost variance, which could be due to changes in scope, resource allocation, or unexpected expenses. Once the causes have been identified, the team will assess the impact of the variance on the project's budget and schedule to determine the severity of the situation.

Based on this assessment, the team will develop a plan to address the cost variance. This plan may involve cutting costs in other areas of the project, renegotiating contracts with vendors, or requesting additional funding from stakeholders. The plan will be presented to the project sponsor or steering committee for approval before any action is taken. Once the plan has been approved, the team will implement it and monitor its effectiveness to ensure that the project stays on track.

The Control Thresholds for this project are a CPI or SPI of less than 0.8 or greater than 1.2. If the project reaches one of these Control Thresholds a Cost Variance Corrective Action Plan is required. The Project Manager will present the Project Sponsor with options for corrective actions within five business days from when the cost variance is first reported. Within three business days from when the Project

Sponsor selects a corrective action option, the Project Manager will present the Project Sponsor with a formal Cost Variance Corrective Action Plan. The Cost Variance Corrective Action Plan will detail the actions necessary to bring the project back within budget along with how the effectiveness of the actions in the plan will be measured. Upon acceptance of the Cost Variance + Corrective Action Plan it will become a part of the project plan and the project will be updated to reflect the corrective actions.

6.3.5 Cost Change Control Process

The RAMS Corner Ticketing Service System aims to provide APC Staffs, Faculty, and Students to have an easier access to the ITRO, to create a single software application that receives and automatically sorts out and manage tickets of clients' requests and queries received by the ITRO.

- **Identification for Change**
  - o The initial phase of the Cost Change Control Process is the Identification for Change, which entails identifying and documenting potential changes that could affect project costs. For a RAMS Corner Ticketing System Service project, potential changes may involve additional features, hardware or software upgrades, or changes in scope that could necessitate additional resources.
- **Asses the Change Request**
  - o In evaluating a change request, it is crucial to use objective measures such as the project's goals, objectives, and requirements. Furthermore, the project team must consider the potential risks associated with the proposed changes and determine whether additional mitigation strategies are necessary.
  - o If the change request is deemed necessary and feasible, the project manager should seek approval from the project sponsor or other appropriate stakeholders before proceeding with the change. If the change request is not approved, it should be documented and the reasons for the rejection should be communicated to the requester.

- **Analyze the Change Request**
  - o In this phase, the project team must collect all relevant information to assess the scope of the change request's impact. This includes identifying which areas of the project will be affected by the change, evaluating the resources necessary to implement the change, and analyzing the potential risks linked with the change.

- o Once the analysis is complete, the project team should provide a detailed report that includes an estimate of the cost and schedule impact of the change. The report should also include any recommendations for alternative solutions or mitigation strategies to minimize the impact of the change.
- **Implement the Change Request**
  - o It's important to note that implementing a change request may have implications beyond just cost, including impacts on project scope, schedule, and quality. The project team should carefully consider all of these factors and communicate any potential impacts to stakeholders as part of the implementation process.
  - o Once the change has been implemented, the project manager should review the results and update any relevant documentation to reflect the change. This may include updating project budgets, schedules, and status reports to reflect the impact of the change on project costs.
- **Change Request Closure**
  - o During the Change Request Closure step, the project team should conduct a final review of the change log to ensure that all approved changes have been properly implemented and that their impact on the project's cost baseline has been accurately reflected in the project's financial records.

6.3.6 Project Budget

The budget for this project, together with the other possible expenses for this project are presented in various categories in detail through the Budget Summary. See Budget Summary for reference.

6.4 Schedule Management Plan

6.4.1 Introduction

The schedule management plan plays a vital role in the accomplishment and documentation of each task so that the team may be able to work as efficiently as possible. By going through this section, readers can appreciate the approach of the team to finish their project from scratch along with their milestones done within the timeframe of the project and how the team was able to develop the software and thought process whilst developing the project.

6.4.2 Schedule Management Approach

Throughout the project's lifetime, the team is able to submit all deliverables needed. Each work that was assigned to each member has a specific deadline to help the team estimate how many resources will be needed to finish all the needed tasks before proceeding.

To create the project schedule, the team used software named 'Open Project' to create a Gantt Chart. In this Gantt Chart, all the activities and deliverables are listed and recorded. In this way, it is much easier to monitor the project's growth over time.

See reference below of the start and end date of deliverables for project schedule:

Initiation Phase:
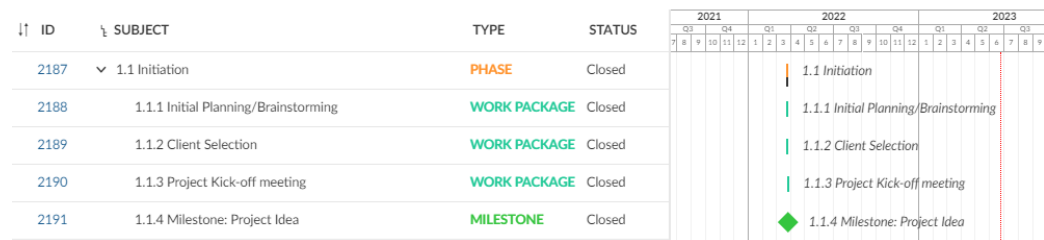
Figure 8: Gantt Chart - Initiation Phase

Planning Phase:
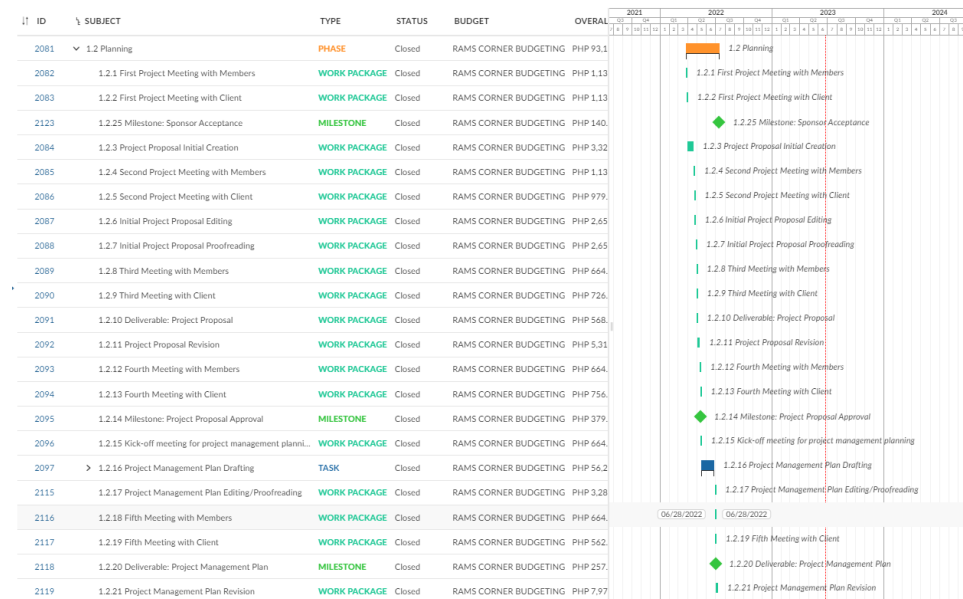
Figure 9: Gantt Chart - Planning Phase

System Analysis and Detailed Design Phase:
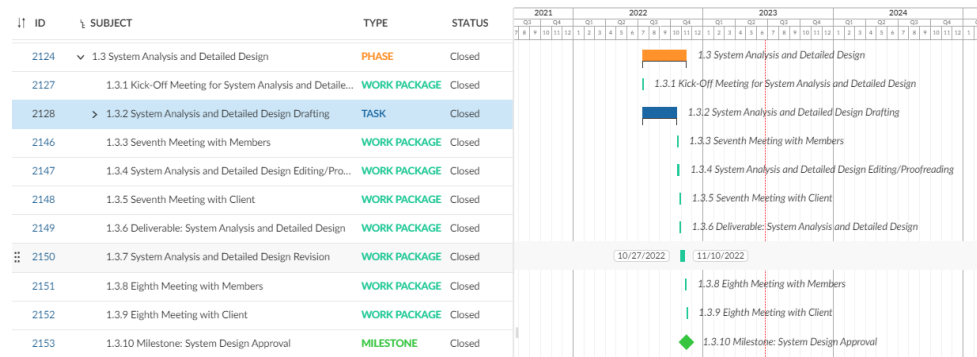
Figure 10: Gantt Chart - System Analysis and Detailed Design Phase

System Prototyping and Development Phase:
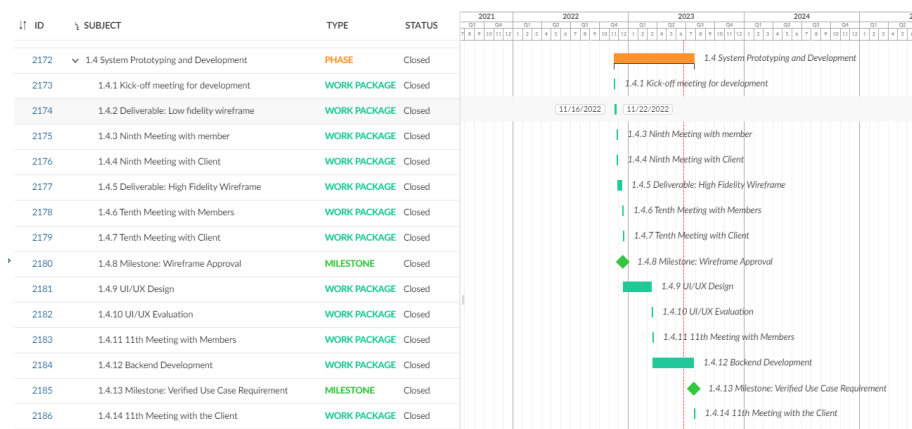
Figure 11: Gantt Chart - System Prototyping and Development Phase

Testing Phase:
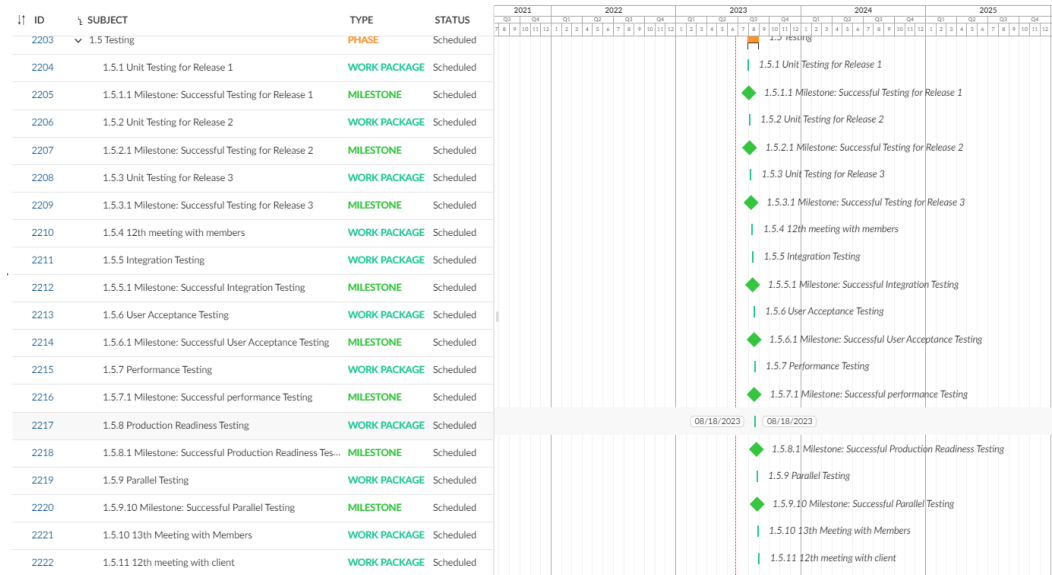
Figure 12: Gantt Chart - Testing Phase

Deployment and Control Phase:
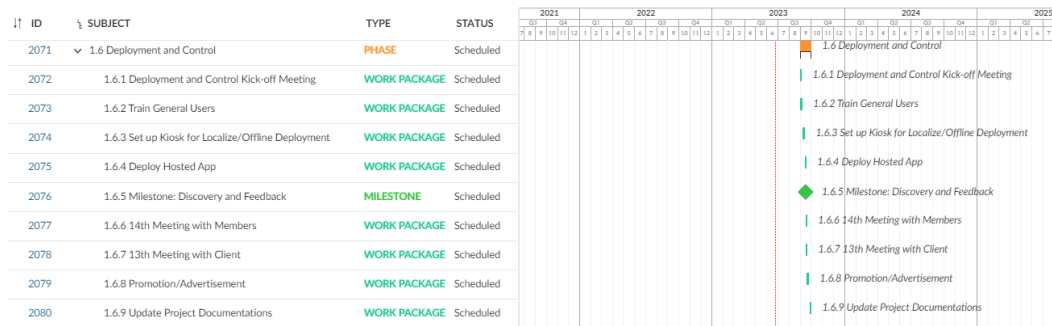
Figure 13: Gantt Chart - Deployment and Control Phase

Closeout Phase:
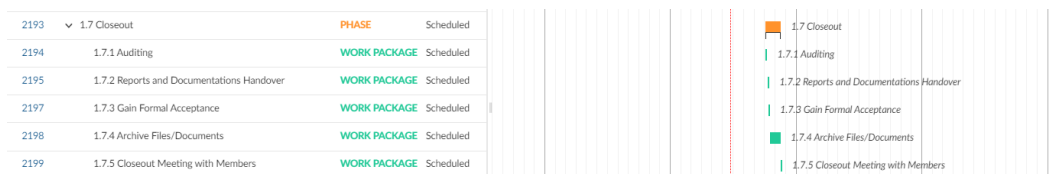
Figure 14: Gantt Chart - Closeout Phase

One of the benefits of finishing the activities first is that it may reveal changes that are overlooked and need immediate revisions. In this case, this may slow down the progression of the project. When this happens, the team needs to weigh which changes that can have a significant impact. If changes happen, the project manager is consulted before implementing the changes. In the roles and responsibilities

section, you can determine here the scope of work of the people who are assigned to the roles.

Roles	Responsibilities
Project manager	• Spearheads the project • Overlooks the documentation and software changes/updates • Approves the changes/updates made within the software and paper under his/her authority
Product owner	• Communicates with the project leader and scrum master for product vision • Responsible for making sure that the deliverables are on time and presentable.
Scrum master	• Develops the project deliverables • Oversees that the methodology that is used is consistent

Table 5: Schedule Management - Roles and Responsibilities

6.4.3 Schedule Control

Throughout the project lifetime. Updating, deleting, and revising information are bound to happen. Changes within the project are monitored in case the changes are getting slightly off the scope of work. The team would collaborate with the project manager to see if the requested changes were significant to the project.

The project manager will lead the meeting together with the team to discuss the ideas that were added to the equation. The project manager will be managing the schedule of the meetings, updates made within the project, and identifying which tasks are to be done first.

Upon successful compliance, the rest of the team would collaborate to brainstorm and present their ideas since the team's communication is one of the keys to the success of the project.

6.4.4. Schedule Changes and Thresholds

When developing a project, it is common to have some delays throughout the duration of the project, when the team feels the project will be delayed and it will require more time to finish. Setting a limit or parameter is important so that in case the project is delayed, less resources are to be used to make up for the loss of time.

If the team requests an extension, the project manager should submit a schedule change request. The person who is responsible for approving the request would be the project sponsor. The project sponsor would review the request and have the power to grant the request under his/her authority.

If the change request is approved, the team would then set up a meeting and begin to thoroughly review and examine the adjustments needed for the project. One of the many factors that affect the schedule is poor management skills. This should be addressed so that it will not happen with other future projects to come.

The product owner and project client must have a meeting and discuss which part of the project will be affected by the potential change. It would then be reviewed to gauge how much resources it would require to be able to finish the project, and most importantly, how it will affect the project scope. It is also important to take note that the project schedule will also be affected by the changes. Finding alternatives is also crucial as it may help to resolve the problems.

6.4.5. Scope Change

If an issue is overlooked and immediate change is needed. Revising or updating the project scope is the best option there is. Throughout the project's lifetime, changes are inevitable. It is always to be expected that changes might happen from time to time.

6.5 Staffing Management Plan

6.5.1 Introduction

The staff or team serves as a model for how the project will be led and organized, and it helps to guarantee that the correct individuals, with the necessary credentials, are there at the appropriate time. The strategy includes metrics for performance management as well as roles and responsibilities and communication

procedures, because the success of the project depends on a solid human resource management plan.

The project manager and project team can successfully manage the project by making sure that everyone on the team is aware of their duties and responsibilities, that communication is clear and efficient, and that performance is tracked and managed in a way that supports the project's success.

6.5.2 Roles and Responsibilities

A project must have a team that has a strategy in place in order to succeed as it clarifies the duties and responsibilities of each member of the project team and the client, and to make sure that everyone in the team is aware of their own contributions.

To ensure that resources are distributed and used efficiently, the plan guarantees that the appropriate individuals are in the appropriate roles to accomplish project successfully by explicitly identifying competences and skill needs.

Overall, the project team is guided toward effective project execution and delivery by the human resources management strategy, which serves as a road map.

Role	Authority	Responsibility	Competency
Project Sponsor	One that provides the ideas and asks for help for the project team to fulfill. the one who also approves the project's business case and budget. able to assign project resources and give high-impact approval for modifications to the project's scope, timeline, and budget.	Ensures the team produces good results. Gives insights and advice to the team and project manager. Assists in updating the company on the status and advantages of the project.	strong capacity for strategic thought and leadership communication. Profound comprehension of the organization's mission, objectives, and values. Possibility of providing the initiative with resources and support.
Project Manager	Handles the team and makes the decisions, can distribute project resources, and provide the go-ahead for low-impact adjustments to the project's scope, timetable, and budget.	Has the authority and the ability to oversee all the aspects of the project including its, planning, implementation,	Solid understanding of the project, leadership skills, communicating skills, and project management skills, risk management skills, team management and can learn continuously and

		monitoring, and release.	develop their knowledge.
Internal Users of the system (Developers)	Has access to the system and the power to improve and decode errors when necessary.	In charge of coding the software and UI/UX of the project and handles the system.	Has the technical expertise, background, talents, and experience necessary to build software solutions successfully.
External users of the system (Documentation)	Handles the paper and documents the process of the project from start to end.	In charge of the documentations and the deliverables of the project.	The ability to efficiently develop and manage project documentation is possessed by a documentation specialist, who possesses a range of abilities, expertise, traits, and skills.

Table 6: Staffing Management - Roles and Responsibilities

6.5.3 Project Organizational Chart

Project organizational chart of RAMs Corner: ITRO Ticketing Service System provides a visual representation of the project team and the relationships between the key stakeholders, where the client of the project is on the top, followed by the project manager, who oversees the project's resources, scope, and timeline, is often listed below the project sponsor on the organizational chart. Lastly the team projects members, who are responsible for the success of the project and fulfilling the request of the client.
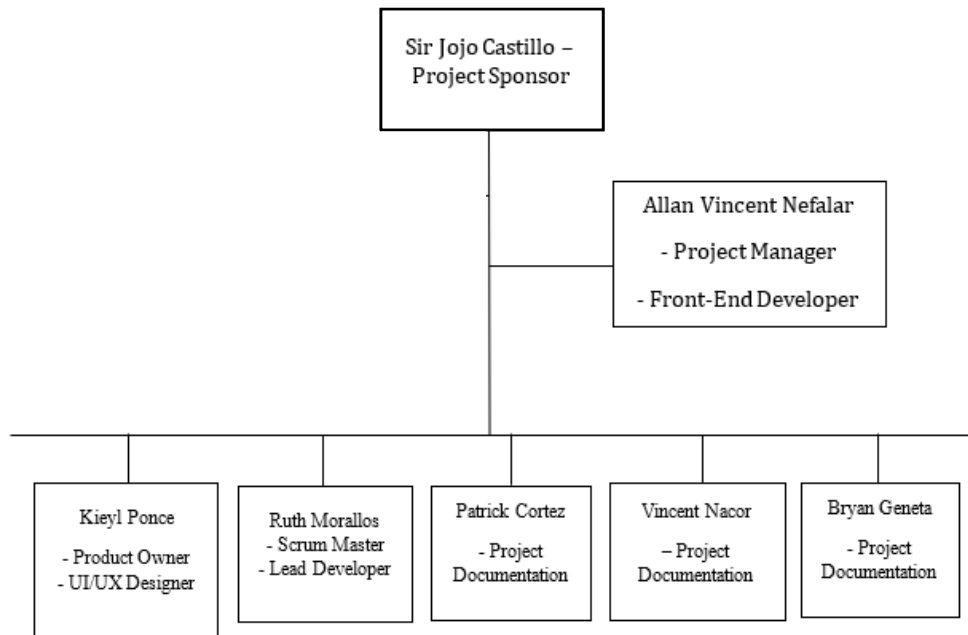
Figure 15: Project Organizational chart

6.5.4 Staffing Management

A vital element in guaranteeing the APC ITRO Ticketing System project's effective execution is the staff management plan. Throughout the project lifetime, it describes the tactics and procedures for recruiting, supervising, and releasing human resources.

- To guarantee that the required skills and knowledge are available when needed, human resource acquisition will be completed promptly. This can entail using internal workers or engaging contractors in addition to existing employees. To guarantee that resources are accessible when required, the acquisition timeframe will be coordinated with the project schedule.

- To evaluate team members' performance and pinpoint areas for development, performance evaluations will be done on a regular basis. The effectiveness of the team's performance in reaching the goals and expectations of the project will also be evaluated through these evaluations.

- A rewards and recognition system will be implemented to acknowledge and motivate outstanding performance.

The project's goals and requirements will be taken into consideration when the Staffing Management Plan is periodically reviewed and amended as appropriate. To ascertain if any extra things need to be included in the staffing management plan, it is critical

that the project manager perform a comprehensive examination of the project's unique requirements and rules.

Role	Project Responsibility	Skills Required	Number of staff	Performance Reviews	Performance Reviews
Project Manager	Is the project team leader and oversees efficient planning of the project and its execution. Creates a thorough project strategy and establish a project goal. Communicates or conveys the project status and progress to the client.	Leadership Communication Problem Solving Analytical Skills Adaptability Technical Knowledge	Depending on the project's size and complexity. formulated in cooperation with other stakeholders	The project manager will collaborate with team members to establish realistic performance targets and monitor their advancement.	The project manager will implement a recognition and rewards system to motivate team members and encourage high performance.
Project Team Members	Execute the tasks and duties given by the project manager and implement the voted idea. Guarantee that project activities are finished on schedule and within the budget while properly	Time management Communication Collaboration & Cooperation Technical Skills Problem-solving	Depending on the project's size and complexity. formulated in cooperation with other stakeholders	Evaluations will be based and determined from the performance of the team members and reporting regarding the project's progress. according to the demands of the project and the rules	The project manager or adviser will implement a recognition and rewards system to motivate team members and encourage high performance.

	managing their time and Inform the project manager or leader of the progress and status. Participate in project meetings and discussion by contributing ideas.			of the business.	
Project Sponsor	Following up on project developments and giving the project team direction and assistance Ensure that the project is in line with the objectives and vision of the company. Give the project strategic leadership and direction.	Leadership Strategic Thinking Communication Risk Management Budget Management	The client is a top executive or board of directors' member. Possibly assisted by project management office or other support personnel.	The client may assess the recipient's performance by to make sure they are adhering to the standards and objectives of the company for the project. The client could also receive updates regarding the project's progression from the project manager	The client may recognize and reward the project team for their achievements and progress towards the project's goals.

Table 7: Staffing Management - Roles and Responsibilities 2

6.6 Change Management Plan

6.6.1 Introduction

The Change Management Plan was created for the RAMS Corner: Ticketing Service to monitor the targeted goals andexpectations on how the changes will be dealt with, what features are added and removed, the purpose and the why's that the said feature was added and removed, and the overall changes made in the process until the project is complete. The Project Beneficiary (ITRO Department) will be expected to submit or require changes to the Project to furthermore cater for the needs of the said department. In accordance with this Change Management Plan, the department will be expecting an explanation and the submission for the request will be processed.

CHANGE MANAGEMENT APPROACH

The Change Management approach for the RAMS Corner: ITRO Ticketing Service System will guarantee that all proposed changes are detailed, fully analyzed, and acknowledged upon making the changes so that they are properly implemented throughout the project. And before applying the changes, it is to be certain that the team and the Project Beneficiary had a meeting and agreed on the changes. In this way, the changes made in the system are verified by the Project beneficiary and it is still in the scope of the project.

- The changes are only within the scope of project
- Find an efficient way to implement the changes
- Record the changes that was and being made throughout the project

The Change Management process has been designed to make sure this approach is followed for all changes. By using this approach methodology, the RAMS Corner: ITRO Ticketing Service System will prevent unnecessary or unappropriated changes from happening and will only focus its time and effort on the necessary updates and such.

DEFINITIONS OF CHANGE

Changes should be applied in the project depending on the circumstances that will encounter by the project team, all the significant changes will be consulted first directly to the Project beneficiary which is ITRO Department Office through Mr. Jojo Castillo the ITRO Head, this is to ensure that proposed changes for both system and project documentation should still be correlated in the scope of their work. Also, the weekly team consultation and collaboration will provide necessary details to guide the project team to plan and apply appropriate

changes in the system and project documentation, this is to ensure that changes applied will still be accepted in an industry standard approach

These changes may include:

- Documentation Changes, as the Project Beneficiary thorough examine that project documentation, system design, and prototypes allowing them to point out the changes needed for both project documentation and system. All the recommended changes from the panelist will be optional in such circumstances as the Project Beneficiary will confirm if the recommended changes will be certain for the project. As said, if these recommended changes should take place, extra time for work should be rendered by the project team in order to fill the gaps whether it's minor or major adjustments.

- Consultation Schedule Changes, the project team consults with the Project beneficiary as well as the project manager to ensure that the project keeps on the right track of development. Both the development team and the ITRO head have tentative schedules due to their nature of work, that is why project consultation schedules might change anytime thus making the team delay on a specific task in the project waiting for clarifications before changing anything in the documentation and the system.

6.6.2. Change Control Board

Name	Position	CCB Role
Mr. Jose F. Castillo	ITRO Head	Project Beneficiary
Kieyl Ponce	UI/UX Designer	Product Owner

Table 8: Change Control Board

6.6.3. Roles and Responsibilities

The following are the roles and responsibilities for all change management efforts related to the RAMS Corner: ITRO Ticketing Service System

Project Manager
- Works on both project Documentation and System Development
- Leads the project team
- Assign and distribute work to the team

Frontend/Backend Developer
- Develops the Backend and Frontend of the System
- Tests and maintains the system development

UI/UX Designer

- Designs the UI/UX of the System
- Implement System Design

Project team role

- List down the comments and suggestions for all the changes in the system
- Consult with the ITRO Department Head about the request changes on the system to be made
- Provide all applicable information and detail on change request from the ITRO Department Head
- Consult the team to list all information on what standard processes and execution should be done appropriately before applying the changes in the system.
- Be prepared to address questions regarding any submitted changes in the system

6.6.4. Change Control Process

The Change Control Process for the RAMS Corner: ITRO Ticketing Service System will follow the organizational standard change process for the ongoing project. The project manager has overall responsibility for executing the changemanagement process for each change request.

1. Identify the need for a change (Stakeholders) - apply the necessary revisions based on the panelist's comments.

2. Log change in the change request register (Project Manager) - list's and records the comments. The team would then conduct a meeting with the client.

3. Evaluate the change (Project Manager, Team, Requestor) – before applying the necessary changes, a meeting should be held by the team and the project beneficiary analyzing and reviewing the change requests.

4. Submit a change request to CCB (Project Manager) – upon a careful review, the team would then list the important points made by the project beneficiary that would help to deliver a quality system.

5. Obtain Decision on change request (CCB) – together with the project manager, the CCB would discuss if the proposed changes would still be in the scope of the project.

6. Implement change (Project Manager) – If a change is approved by the CCB and the project sponsor. The necessary changes would then be applied and added to

the paper.

6.7 Communications Management Plan

6.7.1. Introduction

The Communication Management Plan (CMP) is an essential tool for ensuring that the RAMS Corner: ITRO Ticketing Service System project is successful. It provides a framework for effective communication between the project team and stakeholders, which is essential for ensuring that the project stays on track and meets its objectives.

Here are some additional details about the CMP:

1. The type of information that will be communicated, such as project updates, progress reports, risks, and issues.
2. The plan outlines the ways we will communicate, such as meetings, emails, phone calls, and web portals, so that everyone stays informed on time.
3. The plan establishes a schedule for project communications, encompassing both formal and informal methods, to regularly update stakeholders and keep them well-informed.
4. The communication management plan designates the project communication responsibility to the person or team assigned as the project's official spokesperson, ensuring they are accountable for conveying project information effectively.
5. The plan delineates the distinct communication requirements of each stakeholder and describes how those needs will be addressed, including considerations for language preferences and accessibility accommodations.
6. The plan specifies the allotted resources, including budget and personnel, to ensure effective and efficient communication.
7. The strategy outlines the procedures for sharing private or important information, including those in charge of permitting the release of the information.
8. The strategy lays forth a framework for managing changes to communication or the communication process, including the procedures for proposing, evaluating, and approving changes. This ensures that all parties are updated on any changes and keeps the communication channel open throughout the project.
9. The project's communication mechanics are depicted in the plan, along with the channels by which team members, stakeholders, and other project participants can exchange information. This helps to ensure that information is shared quickly and effectively and that all stakeholders are kept informed.

10. The strategy identifies any internal or external constraints, such as legal or regulatory requirements, that could affect project communications and provides an approach to deal with them.
11. The project plan specifies the use of standardized templates, forms, or papers to convey project information, such as minutes of the meeting or progress reports. This guarantees that all interested parties receive reliable information.
12. The strategy includes a process for escalating conflicts or communication problems that can come up throughout the project. By doing this, it is ensured that any communication-related problems are quickly addressed and fixed.

In conclusion, the Communications Management Plan is an essential tool for ensuring that the RAMS Corner Ticketing Service System project's stakeholders are fully informed, and that communication is effective and efficient.

6.7.2. Communications Management Approach

As a Project Manager, it is crucial to have an effective communications management approach to ensure smooth project execution and minimize potential problems. Here is an overview of a comprehensive communications management approach:

1. **Clear Project Objectives:**
   Make sure that all stakeholders are informed of the project's goals and expectations. In addition to facilitating efficient communication throughout the project lifetime, this clarity helps bring everyone's understanding of the project goals into alignment.
2. **Two-way Communication:**
   By cultivating a culture where team members feel comfortable sharing their thoughts, worries, and updates on progress, you can promote open and honest communication. Give stakeholders a chance to voice their opinions and offer forums for discussion.
3. **Regular Reporting:**
   Implement a reporting structure that gives all stakeholders regular information on the status, milestones, and hazards of the project. Based on the requirements and preferences of the stakeholders, decide on the reporting schedule and format.

   Project managers may encourage effective cooperation, reduce risks, deal with problems quickly, and make sure that project stakeholders are
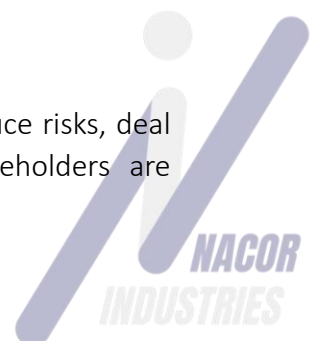
informed and involved throughout the project lifecycle by putting this communications management method into practice.

6.7.3. Communications Management Constraints

The RAMS Corner's communications management constraints play a critical role in the detailed project management plan. The limitations and boundaries that may impact the project's communication processes and tactics are established with the help of these constraints. The project team can take proactive steps to address potential difficulties by being aware of and addressing these limits, enabling a smooth flow of information throughout the project.

When implementing the RAMS Corner, it is important to consider the communications management constraints mentioned.

1. **Time Constraints:**

   Time-sensitive deliverables and deadlines are a common feature of projects, which can make communication difficult. The whole flow of communication may be compromised by the limited time available for meetings, decision-making, and delivering feedback.

2. **Language Barriers:**

   If team members or stakeholders communicate in different languages, there might arise a necessity for translation services or supplementary resources to enable effective communication.

3. **Technology Limitations:**

   The sorts of communication that can be employed and the population that can be reached may be constrained by the accessibility and capabilities of communication technology. It could be challenging to organize live videoconferences, for instance, if a project team is dispersed across several time zones.

4. **Technical Difficulties:**

   Problems with network connections, power interruptions, hardware failures can disrupt communication channels, leading to delays or interruptions in transmitting information. This can hinder real-time communication and affect the overall efficiency of communication management.

6.7.4. Stakeholder Communication Requirements

The Stakeholder Communication Requirements play a vital role in the RAMS Corner: ITRO Ticketing Service System by defining the unique communication needs of stakeholders and the project team. By understanding and addressing the communication requirements of various stakeholders, project teams can ensure that project information is disseminated efficiently, and that stakeholder interests and expectations are properly managed.

Here are some steps to develop a stakeholder communication management plan:

1. **Communication Channels:**
   The team should identify the most suitable communication channels and methods for reaching each stakeholder group. This can be achieved by considering a combination of communication tools such as email, meetings, newsletters, website updates, social media, and dedicated customer support lines.

2. **Transparency:**
   Establishing transparent and open communication builds trust and credibility among stakeholders as it involves sharing information regarding the project's progress, goals, objectives, and expected outcomes.

3. **Feedback Mechanisms:**
   Establish channels for stakeholders to provide feedback, ask questions, or raise concerns. This can be in the form of dedicated feedback sessions, surveys, email addresses, or designated contact persons. Ensure that stakeholders have a means to express their opinions and that their feedback is actively solicited and acknowledged.

4. **Document and Archive:**
   The plan should be a living document that is regularly updated to reflect any changes in stakeholders, objectives, or communication requirements. Share the plan with the project team and stakeholders to ensure alignment and understanding.

6.7.5. Roles

1. Stakeholders

   Stakeholders have the responsibility to contribute their input regarding the project's scope, including requirements and expectations. Additionally, they are accountable for accepting the project deliverables as outlined within the project's scope. Maintaining regular communication between the Project Manager and stakeholders is crucial to ensure ongoing alignment of the project with their needs and expectations.

2. Project Manager

   The role of a project manager is essential in effectively planning, executing, and delivering projects. Project managers are responsible for overseeing the entire project lifecycle and coordinating various aspects to achieve project objectives.

3. Scrum Master

   The Scrum Master facilitates the Scrum process by organizing and leading various Scrum events, such as daily stand-up meetings, sprint planning sessions, sprint reviews, and sprint retrospectives. They ensure that these events are conducted efficiently and that all team members actively participate.

4. Scrum Members

   The Scrum Team is responsible for delivering value incrementally and iteratively, working in short timeframes called sprints. The team collectively decides how to accomplish the work, collaborates closely, and shares accountability for the success of the project. The roles within the Scrum Team are complementary, with each role bringing its unique focus and expertise to achieve the project's goals and deliver a high-quality product.

5. Documentation Team

   The Documentation Team has the crucial task of supervising the project documentation to ensure its thoroughness and accuracy. They work closely with the Project Manager and the team to ensure that all project documentation aligns smoothly with the project's scope.

6.7.6. Project Team Directory

The following table presents contact information for all persons identified in this communications management plan. The email addresses and phone numbers in this table will be used to communicate with these people.

Role	Name	Email
Stakeholder	Jose F. Castillo	jojoc@apc.edu.ph
Project Manager	Allan Vincent Nefalar	aonefalar2@student.apc.edu.ph
Scrum Master	Ruth Morallos	rrmorallos@student.apc.edu.ph
Scrum Members	Kieyl Ponce	kdponce@student.apc.edu.ph
	Patrick Cortez	pacortez@student.apc.edu.ph
	Vincent Nacor	vanacor@student.apc.edu.ph
	Bryan Geneta	bmgeneta@student.apc.edu.ph

Table 9: Project Team Directory

6.7.7. Communication Methods and Technologies

A comprehensive grasp of diverse communication methods and technologies is essential for the successful implementation of the RAMS Corner Ticketing Service System, enabling effective communication with all stakeholders. It is crucial to consider the capabilities and limitations of each communication method and technology to ensure the timely and efficient dissemination of information. This involves selecting suitable methods for delivering project updates, progress reports, risks, issues, and other pertinent information to stakeholders.

When evaluating the most suitable communication methods and technologies for the RAMS Corner: ITRO Ticketing Service System, the following factors should be taken into consideration:

1. Cost and Resources

    Assess the cost implications and resource requirements associated with the chosen communication methods and technologies. Consider factors such as equipment, software licenses, maintenance, and training needed for effective implementation.

2. Time Sensitivity:

    Consider the urgency and time sensitivity of the information being shared. If real-time communication is crucial, options like instant messaging, video conferencing, or collaborative platforms may be more suitable. For less time-sensitive communication, email or project documentation systems may suffice.

3. Accessibility and Availability:

    Consider the accessibility and availability of the chosen communication methods and technologies for all stakeholders. Ensure that everyone has the necessary tools and resources to participate in the communication process effectively.

4. Complexity of Information:

    Evaluate the complexity of the information that needs to be communicated. Some concepts may require visual aids, diagrams, or presentations to ensure clarity and understanding. Assess whether the chosen communication methods and technologies can support such visual elements.

Based on these considerations, it is advisable for the RAMS Corner to employ a blend of communication methods and technologies, which may include:

5. Meetings:

    Face-to-face meetings, either in person or through video conferencing, are an effective way to facilitate communication among project team members. Meetings can be used for project kick-offs, progress updates, issue resolution, and decision-making.

6. Video Conferencing:

   Video conferencing tools like Zoom, WebEx, or Microsoft Teams enable remote team members to have virtual face-to-face meetings, discussions, and presentations. Video conferencing helps maintain a personal connection and can be particularly useful for distributed or global teams.

7. Email:

   Email is accessible to most stakeholders, as it is a common method of communication in professional settings. It can be accessed from various devices, including computers, smartphones, and tablets.

8. Telephone:

   Utilize telephone calls for direct and prompt communication, especially when engaging with stakeholders in proximity or within the same geographical area.

Effective communication with all stakeholders is vital for the successful implementation of the RAMS Corner Ticketing Service System. By considering factors such as cost, time sensitivity, accessibility, and complexity of information, a combination of communication methods and technologies can be utilized, including meetings, video conferencing, email, and telephone calls. This ensures efficient and seamless communication, fostering collaboration and project success.

6.7.8. Communications Matrix

The following table identifies the communications requirements for this project.

Channel	Sender	Recipient	Type	Frequency	Format Used	Delivery media
Project Planning	Project Manager	Stakeholders	Meeting	Prior to commencing the project	Formal	Email, MS Teams,

Release Planning	Project manager, Project team	Stakeholders	Meeting	Revisions will be made as needed before the initiation of the project.	Formal	Email, MS Teams,
Sprint Planning	Project manager	Project team	Meeting	Once a week	Informal	Email, MS Teams,
Management processes	Project manager, project team	Stakeholders	Artifact	The project will be reviewed and updated as necessary before it begins.	Docume nt	Email, Microsoft 365
Product Backlog	Project manager	Project team	Artifact	Once a week	Docume nt	Microsoft365
Project Update	Project Manager	Project team	Meeting	Once a week	Informal	Email, MS Teams,

Table 10: Communications Matrix

6.7.9. Communication Flowchart
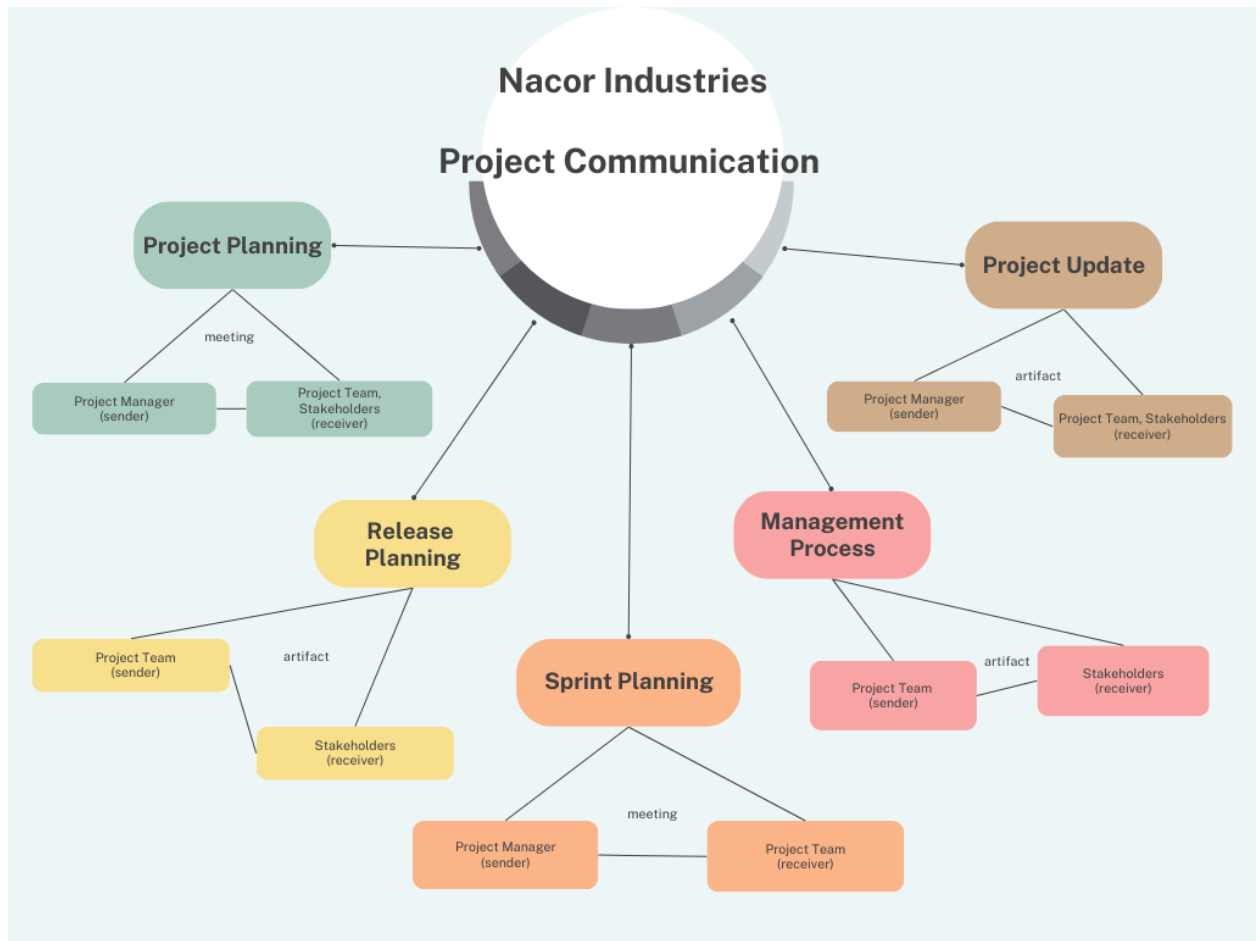
Figure 16: Communication Flowchart

6.7.10. Guidelines for Meetings

Here are some general guidelines to help conduct effective and productive meetings for the implementation of the RAMS Corner:

1. **Objectives**

    Determine the specific objectives of each meeting within the context of the project. Is it to provide updates, make decisions, gather feedback, or solve problems? Clearly define the purpose to ensure focused discussions.

2. **Agenda**

    It is essential to have a pre-meeting discussion to establish the meeting agenda, including its purpose, discussion topics, and desired outcomes. This enables team members to adequately prepare for the meeting and ensures productive and focused discussions.

3. Attendance

Only invite individuals who are essential to achieving the meeting's objectives. Keeping the number of participants reasonable ensures a more focused and efficient discussion.

4. Discussion

Ensure that discussions are focused and productive. Keep the conversation on topic and prevent it from devolving into unrelated or lengthy tangents. Use techniques like round-robin style or go-around to ensure everyone has an opportunity to contribute.

5. Time

Determine the duration of the meeting and stick to it. Time management is crucial for maintaining participants' engagement and ensuring that discussions do not go off track. Begin the meeting promptly as scheduled, even if some participants are still joining. This encourages punctuality and demonstrates respect for everyone's time.

6.7.11. Communication Standards

Creating well-defined guidelines and protocols is crucial for facilitating effective and efficient communication within a team and among stakeholders. It is important to foster open channels of communication, allowing team members to freely express their thoughts and ideas. Encouraging active participation and providing opportunities for input from all team members can lead to more collaborative and innovative outcomes. Additionally, it is essential to ensure that the established communication standards are consistently adhered to throughout the entire web application development process. By maintaining clear guidelines and protocols, teams can minimize miscommunication, streamline workflows, and promote successful project outcomes.

Here are some common communication standards that can be established to promote effective communication within a team during web application development:

1. Responsive Communication:

Encourage team members to respond promptly to messages and requests, ensuring that communication is timely and avoids unnecessary delays.

2. **Regular Project Updates:**

   Set expectations for regular project updates, such as status reports or progress meetings, to keep all stakeholders informed about the project's progress, milestones, and any potential challenges.

3. **Active Listening:**

   Promote active listening skills among team members, encouraging them to attentively listen to others, ask questions for clarification, and paraphrase to ensure understanding.

4. **Collaboration:**

   Encourage collaborative communication practices, such as sharing ideas, soliciting input from team members, and fostering a supportive environment that values teamwork.

5. **Documentation:**

   Emphasize the importance of documenting key decisions, discussions, and actions taken during the project. This ensures transparency, facilitates knowledge sharing, and serves as a reference for future communication.

6. **Feedback:**

   Encourage regular feedback and provide opportunities for team members to share their thoughts and suggestions on improving communication processes. Foster a culture of continuous improvement to enhance communication practices over time.

   Remember that these standards can be tailored to fit the specific needs and dynamics for the development team.

6.7.12. Communication Escalation Process

When establishing a communication escalation process for the RAMS Corner Ticketing Service System, it's important to have a clear and documented procedure that outlines the steps and guidelines for escalating issues when resolution cannot be achieved within the project team. Here is a general framework for a communication escalation process:

1. **Identify the Issue:**
   The first step is to clearly identify the issue or complication that has arisen in project communications. This could be a breakdown in communication, unresolved conflicts, stakeholder disagreements, or any other communication-related problem.

2. **Review Documentation:**
   Collect all relevant documentation, communication records, and any other evidence related to the issue. This will provide a clear understanding of the problem and help in the escalation process.

3. **Define Communication Channels:**
   The development team must determine and establish the main methods of communication to be utilized for their project, such as email, project management software, or specific communication tools. It is essential for every team member to be knowledgeable about and could utilize these communication channels.

4. **Escalation Criteria:**
   Define specific criteria that determine when an issue should be escalated. For example, if the issue has been ongoing for a certain period, or if it involves key stakeholders and significantly impacts project progress or objectives.

5. **Identify Escalation Points:**
   Determine who should be involved in the escalation process. This may include project managers, senior management, or specific stakeholders depending on the nature of the issue. Clearly identify the roles and responsibilities of each escalation point.

6.8 Quality Management Plan

6.8.1. Introduction

In order to maintain quality throughout the project the team, Nacor Industries opted to follow the hybrid Scrum-Fall methodology. This Quality Management Plan will define the quality standards that will be used to evaluate the RAMS Corner: ITRO Ticketing Service System. Furthermore, the plan provides a framework for resolving quality concerns and specifying the roles and duties of team members in addition to outlining quality principles and procedures from the development, through the deployment of RAMS Corner: ITRO Ticketing Service System, with the following goals in mind:

- Make sure the project satisfies or exceeds the expectations of the client and

stakeholders, (APC-ITRO and their clientele)
- List the criteria for quality that will be used to assess the project.
- In order to meet the required standards of quality, it is important to define the specific roles and responsibilities of each team member.
- Identify and resolve any possible quality issues that may arise.
- Create a framework to effectively oversee and maintain project quality throughout
  its duration.

RAMS Corner: Ticketing Service System will be a completely functional web-based application to be used by the ITRO in lieu of their aging email-based system as the Quality Management Plan will contain both the product and process quality standards. The strategy will include detailed procedures to be followed as well as tools and methods to manage and document industry-standard quality which includes the following tools:

- **Definition of Done:** A concise and clear description of the conditions that determine the completion of a product increment.
- **Acceptance Criteria:** Specific requirements that a product increment must meet in order to receive approval from the product owner.
- **Continuous Integration:** A method used to frequently merge code updates into a shared repository to ensure that the final product is consistently ready for release—which would be done through GitHub.

In summary, this Quality Management Plan will offer a comprehensive structure to effectively manage and sustain the quality of the project from start to finish. It guarantees that the project will meet or surpass the expectations of all parties involved. Additionally, the plan outlines specific processes, tools, and roles and responsibilities for identifying and resolving any potential quality concerns. It is essential for all stakeholders to be acquainted with this plan and understand their contributions towards its successful implementation.

6.8.2. Quality Management Approach

The Quality Management Plan for the RAMS Corner: ITRO Ticketing Service System project will utilize the hybrid Scrum-Fall methodology to ensure that the project meets or exceeds all stakeholders' quality expectations. This approach would promote flexibility as they would be directly involved within each step of the way from the development,

through the deployment stage as referenced in Figure 7.

The following are the roles and duties for the quality management plan:

Role	Description
Project Manager	Charged with establishing the acceptance standards and making sure the final product satisfies all stakeholders.
Scrum Master	Oversees the team's adherence to the Scrum framework and works with the Product Owner and Development Team to enhance the final product.
Product Owner	Represents and interprets the stakeholder's best interests to make sure that it adheres to their preferences while collaborating with the team to ensure the project's feasibility without sacrificing quality.
Project Development Team	Responsibilities include producing a top-notch product and upholding the specified quality policies and standards that adheres to the needs of the client.
Project Sponsor	Provides executive support for the project.

Table 11: Quality Management Roles and Responsibilities

Quality management will be integrated into every aspect of the project and will be handled by the entire team—each being a part of the quality management team. Nacor Industries will strive to deliver a Minimum Viable Product (MVP) and will continuously incorporate customer feedback to refine and improve the product.

The approach will include the following steps:

1. **Establishing Quality Standards:** The project team will define precise quality standards aligned with Agile and Scrum methodologies, emphasizing the delivery of value to the customer.
2. **Quality Planning:** Working closely with stakeholders, the team will identify project requirements and prioritize essential features. They will create a Product Backlog and set quality objectives to ensure that each product iteration provides value and meets the defined quality standards.
3. **Quality Control:** Throughout the sprint, the team will implement quality control measures to ensure compliance with established

requirements and quality goals. This will involve conducting testing and reviews during each sprint to identify and address any defects or issues.

4. **Continuous Improvement:** The team will continuously monitor and evaluate the project's performance and adjust as necessary. This will involve collecting and analyzing feedback from stakeholders, identifying areas for improvement, and implementing changes to improve the project's overall quality.

5. **Communication:** The team will maintain constant communication with stakeholders to ensure that they are aware of the product's quality status and can provide feedback as needed.

Throughout the span of this project, the team will incorporate Agile and Scrum practices, including user stories, sprints, and retrospectives, to ensure that quality is built-in throughout the project's lifecycle and meets the organization's quality standards and the needs of the project stakeholders. In addition, a risk management plan will be developed to proactively identify and mitigate potential quality risks throughout the project's lifecycle.

Overall, the Quality Management Approach for the RAMS Corner: ITRO Ticketing Service System project will prioritize delivering a high-quality product that meets customer requirements through an Agile and Scrum method. The approach will be flexible and continuously refined to ensure that the project meets or exceeds all quality expectations.

6.8.3. Quality Requirements / Standards

The RAMS Corner: ITRO Ticketing Service System project places a high focus on quality, and the team will cooperate to create and record quality requirements and standards. Client comments, testing, and assessments will be used to guarantee adherence to these criteria. The following requirements and standards for quality will be followed by the RAMS Corner: Ticketing Service System.

Requirements for Product Quality:

- The RAMS Corner: Ticketing Service System will be fully operational and adhere to the product backlog's technical requirements.
- The interface shall be simple to use, with prompts and instructions that are obvious to users.

- The solution will work and be compatible with the company's current technological infrastructure.
- The system will have a layer of data security to safeguard the customer's private information through password authorization.

Requirements for Ensuring Quality of Processes:

- The product owner and development team will review and approve all project deliverables prior to being provided to the client.
- The development team will implement an ongoing process of testing and quality assurance to ensure that the system meets all technical specifications and requirements.
- A version control tool will be used by the development team to ensure that any modifications to the system are properly documented, reviewed, and authorized.
- Regular sprint reviews will be conducted by the development team to identify and promptly address any quality issues.
- The development team will follow a defined configuration management process to ensure consistent development, testing, and deployment of the system.

Compliance Demonstration:

- The Ticketing Service System will be tested and evaluated against the established quality requirements and standards before being deployed to the client.
- The development team will maintain comprehensive documentation of all testing and quality assurance activities, which will be made available to the client upon request.
- The development team will conduct a formal acceptance test with the client to ensure that the system meets their requirements and expectations.
- The development team will provide ongoing support and maintenance services to ensure that the system continues to meet the established quality standards over time.

Continual Improvement:

The development team will design a method for continual improvement by routinely gathering and analyzing client

feedback, monitoring system performance, and carrying out internal audits to spot potential improvement areas. A procedure for identifying and resolving any non-conformities that may emerge throughout the project should be established by the development team. This may entail recording the non-conformity, figuring out the underlying cause, taking corrective action, and assessing how well it works. These procedures can be incorporated into the project to guarantee that the Ticketing Service System is not only adhering to set quality standards but must also be actively working to fulfill customers' changing needs.

6.8.4. Quality Assurance

The QA process for RAMS Corner: Ticketing Service System project will be integrated into the Agile and Scrum method to ensure that quality is achieved through collaborative effort and continuous improvement. The following steps will be undertaken:

- **Defining Quality Standards:** The project team will collaborate with stakeholders to define and document the quality standards for the project in the Quality Management Plan. The quality standards will be communicated to all stakeholders.
- **Agile Quality Auditing:** The project team will conduct regular quality audits with the project manager using Agile practices such as peer reviews, test-driven development, and continuous integration to make sure that quality standards are being met and identify areas for improvement.
- **Quality Metrics:** The project team will use quality metrics to track and report on the project's performance against the quality standards.

  To monitor the quality process, the following metrics will be used:

  o Agile Metrics such as Velocity, Burn-Down Charts, and Sprint Reviews
  o Defect Density: The number of defects found per unit of measure

  o Defect Severity: The classification of defects based on their impact on the system.

  o Test Coverage: The percentage of the system that has been tested
  o Test Case Pass Rate: The percentage of test cases that have

been passed

- o Root Cause Analysis Effectiveness: The percentage of issues that have been resolved at the root cause level.

- **Continuous Improvement:** The project team will use the feedback received from quality audits and quality metrics to continuously improve the product and the quality process. The project team will work with stakeholders to identify opportunities for improvement and implement changes.
- **Compliance with Industry Standards:** The project team will ensure that the Ticketing Service System adheres to relevant industry standards such as accessibility standards, security standards, and data privacy regulations. Regular audits will be conducted to verify compliance with these standards.
- **Reviewing Customer Feedback:** The project team will regularly review customer feedback to identify any issues or areas for improvement. This feedback will be used to inform the continuous improvement process and ensure that the product meets customer needs and expectations.

The quality assurance metrics will be closely monitored, tracked, and reported on a regular basis to ensure that the project produces a high-quality outcome. Any violations of these standards will be swiftly reviewed and corrected. The project team will receive regular reports from the software application that will be utilized to gather data on these parameters. The quality assurance procedure will also be reviewed frequently to find and implement improvements. The goal is to ensure that the Ticketing Service System meets the highest quality standards, and that all quality assurance metrics are closely monitored to ensure the project's success.

6.8.5. Quality Control

In Agile and Scrum methodology, quality control is embedded into the development process, and the focus is on continuous testing and quality feedback. The Quality Control process for the Ticketing Service System project will involve the following steps:

- **Unit Testing:** The project team will perform continuous testing to identify defects and ensure that the product is meeting customer requirements. The testing will be automated wherever possible, and the results will be tracked in a continuous integration/continuous delivery (CI/CD) system.

- **User Acceptance Testing (UAT):** A representative group of end users will test the system to ensure it satisfies their needs and expectations. The UAT will be performed at the end of each sprint, and any necessary modifications will be made based on feedback from the users.
- **Compatibility Testing:** The Ticketing Service System will be tested on multiple platforms, including mobile devices and browsers, to ensure compatibility and address any difficulties that may arise when the system is used in various settings.

  The following quality metrics will be used to monitor and assess the system's performance:

  - Defect Density: The number of defects found per unit of measure (e.g., per KLOC) o Defect Severity: The classification of defects based on their impact on the system.
  - Test Coverage: The percentage of the system that has been tested.
  - Test Case Pass Rate: The percentage of test cases that have been passed.
  - User Satisfaction: Measured through surveys and feedback from users.
  - Response Time: The time taken for the system to respond to user requests.
  - System Uptime: The percentage of time the system is available and functioning as expected.

- **Tracking and Documenting Quality Evaluations:** The project team will track and document the outcomes of the Quality Control process, which will be used to monitor the project's progress and the effectiveness of any remedial actions that are taken.
- **Continuous Improvement:** The Quality Control process will be reviewed frequently, seeking opportunities for improvement, and implementing them as necessary.

In conclusion, the Quality Control process for RAMS Corner: ITRO Ticketing Service System project will be an integral part of the development process, with a focus on continuous testing, user feedback, and performance monitoring. The project team will continuously monitor and assess the quality of the product as part of the Quality Control process, ensuring that it meets the required quality standards and customer requirements.

6.8.6. Quality Control Measurements

The Agile and Scrum techniques will be employed to promote continuous inspection and modification throughout the project lifecycle for the project, which will adopt a transparent and collaborative approach to quality control.

To guarantee that the product fulfills the standards and criteria, quality control measures will be made at each stage of the development process and documented on a shared, viewable platform, such as a project management tool, as opposed to a static spreadsheet or table.

The following details will be on the platform:

- Measurement date
- Measurement type (e.g., QA testing, source code review, peer review, user story acceptance)
- The measurement's findings (such as passed/failed, the number of flaws discovered, and the percentage of code coverage)
- Requirements and standards for comparison
- Member of the team in charge of measuring
- Team member responsible for assessing the measurement results
- Taking any required corrective actions
- The date that the remedial measures were finished
- Team member in charge of carrying out corrective measures

To track quality control measurements in real-time, the team, Nacor Industries, will utilize software applications such as Microsoft Teams, GitHub, and Open Project as collaborative platforms. These tools will enable all team members to easily access and comprehend the data related to quality control. Through the use of these, the team would be able to monitor each and every update that would be made within the span of the project. The dashboards provided by these tools will highlight patterns and areas of concern, allowing the team to promptly identify issues and take appropriate actions. This proactive approach will facilitate quick adjustments and ensure that the necessary measures are implemented to maintain and improve the project's quality standards.

During regular team reviews, such as sprint reviews and retrospectives, the quality control metrics will be thoroughly assessed and reviewed. If necessary, adjustments will be made to the methodology to ensure its effectiveness— even though no adjustment has been made prior to deployment thus far. The team will also collaborate to identify areas for improvement and actively implement solutions for any identified issues. This iterative process will enable the team to
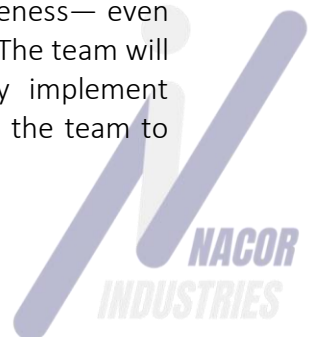
continuously enhance the quality control methods and ensure the project's overall success.

To summarize, the RAMS Corner: ITRO Ticketing Service System project will employ Agile and Scrum methodologies to establish a collaborative and adaptable quality control strategy. The team will consistently evaluate the product's quality and make necessary enhancements to meet the imposed standards and requirements set by the team and the client. All quality control measurements will be collected and monitored in real-time on a shared platform. The team will work together to address any issues that arise and implement improvements as needed.

6.9 Risk Management Plan

6.9.1. Introduction

RAMS Corner Ticketing System aims to modernize and introduce a more efficient and manageable workflow for the Information Technology Resource Office of Asia Pacific College by replacing their current email-based reporting system into a more organized ticketing system that addresses all inquiries or incidents that needs the ITRO expertise.

By following a hybrid model of project lifecycle, this risk management plan will follow specific steps that will be consolidated upon sprints. This includes identifying potential risks, developing quick risk response techniques, controlling, and monitoring the potential risks, that will help the entirety of project to adhere to the allotted time and budget, as well as to mitigate the risk whilst continuing to provide the solution aimed by the project.

This risk management plan will include the risk assessment, risk response, risk control, risk monitoring, while having all these details further reviewed and revised based on the recent technology advancements and how they will affect the execution of the application that will enable the team to mitigate, or minimize the risk involved in a ticketing system.

6.9.2. Risk Management Approach

This risk management plan will follow these steps:

- Risk Identification – this is the first, and most crucial step to be able to analyze the potential risks that will affect the deployment of RAMS Corner

Ticketing System greatly. This can include technical problems, Staff problems, customer management problems, or the security problems.

- Risk Assessment – during this step, the prioritization of risk-handling will occur. After identifying the risk, they will be analyzed to see which is most likely to occur. In this sense, the focus of the allotted time and budget can be given to a risk with higher potential.
- Risk Analysis – after having put the risks in hierarchy, analysis of the possible root causes for these potential risks will undergo this process. This will help in assessing the possible impacts of certain risk factors and update the existing control measures or create a new plan.
- Risk Treatment – once the risks are analyzed one-by-one, an appropriate contingency plan will be created based on the risk factors.
- Risk Monitoring and Review – it is important to keep the risk under control, so the monitoring and review will help in further improving the risk mitigation strategies or the contingency plan based on the different circumstances
- Communication with the Team and the Stakeholders – regular reporting of progress in risk mitigation will be held so that each and every one of the team members as well as the stakeholders will be informed of what is going on within the system, and what to expect upon the existing risk mitigation procedures.
- Documentation – lastly is to document all the risk mitigation processes that the project has undergone. It is important to have historical data as a reference if the risk management plan adhered to the rules set to the project.

By following these steps, this will ensure that the RAMS Corner will run smoothly and efficiently, with less-to-no potential risk, and produce a satisfactory result for customer service that is one of the aims of the project.

6.9.3. Risk Identification

Top three Risk in RAMS Corner Ticketing Service System

After identifying the risk, they are categorized intro three major types, these are:

1. Vulnerabilities in System Security – as a ticketing system, this application will typically handle sensitive information of its customers such as their personal details. A weak authentication system may not be able to withstand data breaches, that will probably cause not only operational losses for the ITRO, but also reputational damage with its clients.

2. System Failure – since a ticketing system acts mainly as a customer support channel, it is very crucial for the RAMS Corner service to be up all the time, especially if it is within school hours. In the instances where the system is down, maybe due to some technical problems or external problems, the inability to cater to the client's tickets will have a negative impact on the ITRO services as a whole.

3. Performance Issue – this is both true for the hardware and peopleware. A ticketing system is expected to handle a large volume of tickets, maybe not every day, but to a certain point in time. In that instance, it is possible to have performance issues both with the hardware that is being used (be it crashes, slow response time, etc.), and peopleware issues such as taking a long time resolving one ticket. If the ticketing system and its staff were not able to handle a surge of requests and incidents from their customers, there is the operational and reputational risk for the ITRO.

To be specific, here are the possible risks that are identified for the RAMS Corner:

1. Security Breaches – personal information that are stored and is being used in a ticketing system is at risk when there is weak security for the system.

2. Downtime – system downtime can greatly reduce the trust of the client to the ITRO because they will not be able to raise their concerns timely.

3. Inadequate Scalability and Elasticity – a ticketing system is expected to handle customer support efficiently. If the system is not scalable or elastic enough that it will not be able to handle the increase or decrease in the volume of tickets received daily, the system is bound to produce customer dissatisfaction.

4. Lack of Integration – since RAMS Corner will be adapted by the ITRO, it is expected to be able to integrate well with the current software and hardware equipment that is used by the ITRO, as well as the Asia Pacific College Residents being the clients. Inability to integrate means a decrease in productivity, that will therefore cause operational damage.

To mitigate these aforementioned risks, the team developed a contingency plan that will allow the ITRO to address these issues in a considerable amount of time. Training before deployment is also a necessary step to familiarize the staff with how they are going to navigate the system. A regular reporting of the progress in risk mitigation will also be held in one-week sprints so that the system can remain up to date to the growing risk potentials and the possible ways to minimize it.

6.9.4. Risk Qualification and Prioritization

After Identifying the risk for the RAMs Corner, we are able to categorize them based on how likely these risks will occur, and how much are its impact both on the ITRO and their client. We have come up with an impact-probability matrix that can help in prioritizing which type of risk needs a focused mitigation strategy.

In the matrix, the probability of risk occurring, and its impact is described as below:

- Extreme: these are the risks that pose highest level with highly likely to occur and has catastrophic impacts for the ITRO.
- High: these are the risks that pose substantial risk that can lead to disastrous outcomes.
- Medium: these are the risks that has a moderate likelihood of occurrence and can result to negative impacts within the ITRO
- Low: these are the risks that has a lower likelihood of occurrence, but there is still noticeable impact to the ITRO
- Negligible: these are the risks that are not likely to occur and have insignificant impact on the ITRO if it were to happen.

The table below depicts the matrix of impact-probability of the risk identified:

Risk Assessment – Impact-Probability Matrix					
Impact Probability	Insignificant	Minor	Significant	Disastrous	Catastrophic
High	N	L	M	H	E
Medium	N	L	M	H	E
Low	N	N	L	M	H
Very Low	N	N	N	L	M

Table 12: Risk Assessment - Impact-Probability Matrix

The identified risks are prioritized as follows:

1. Lack of Integration – Medium probability with significant impact
2. Downtime – medium probability with disastrous impact
3. Inadequate Scalability and Elasticity – medium probability with disastrous impact
4. Security Breaches – medium probability with disastrous impact

After the assessment, we will focus on developing solutions for the risks that are considered in extreme and high priority. The risks on the low to medium priority will be constantly monitored as well, and there are no negligible risks since we

firmly believe that all risks must be considered and should have a minimum possible solution whenever they occur.

This risk assessment is subject to revisions after reviews and monitoring. This process will happen during sprint meetings so that all the team members and the stakeholders are up to date with the current risk management plan should there be any changes to be made.

6.9.5 Risk Monitoring

Risk monitoring is a very important step in risk management of the RAMs Corner. It will allow the team, as well as the stakeholders, to be involved in the ongoing risk management process that could impact the achievement of the long-term goals of the project. This is also to ensure that the identified and assessed risks are being reviewed and monitored thoroughly so that the ITRO can make informed decisions to make timely actions in preventing or minimizing a risk potential.

In this step, the project manager and the development team will be the overseer for the risk management. They will be the one responsible for overseeing the ongoing risk mitigation process, continuously monitoring the system logs, security alerts, and performance metrics. They will also provide the team with reviews for user feedback, support ticket, bug reports, and implement Key Performance Indicators to measure how effective is the current risk mitigation.

They are expected to report on the status of ongoing risk management regularly in every sprint meeting. After the assessment from the report, the team will then collaborate for further reviews if there are risk mitigation plans that should be changed, should be added, or should be maintained.

To sum it all up, having an effective risk monitoring that incorporates the agile methodology, the ITRO can have an early risk detection, which will lead onto improved decision-making when dealing with potential risks, that can also therefore improve the operational efficiency of the system in servicing its clients, and continuous improvement of the system as a whole.

6.9.6. Risk Mitigation and Avoidance

As mentioned in the previous risk management plan sections, the risk mitigation will be based upon the identified risk and their prioritization as described in the hierarchy from the risk assessment. The risks labeled as Extreme will be given the highest priority when allocating resources, down until the risks labeled Low. This
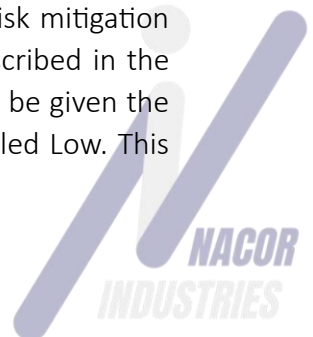
step will allow the team to have an overview of the suitable mitigation plan per assessed risks while continuing to improve, monitor, and review the overall health of the system.

The following are the available mitigation plan that is ongoing or to be implemented:

- Contingency Plan – It is important to develop contingency plans that outline the steps that should be taken should there be any security mishaps or some kind of operational disturbance within the system. To make sure that there is an effective contingency plan, the project manager will supervise all of the development and execution phase of the project.
- Regular Assessments and Audits – It is also absolutely crucial that there is a periodic review of the current plans. This will be attained by applying the Hybrid(Waterfall-Agile) Methodology, wherein the team must follow the specific steps in risk management while also submitting reports regarding monitoring and reviewing of currently implemented actions every sprint meeting.
- Implement robust access controls – while the users are already defined for the RAMS Corner, it is still imperative to have a definite access control to ensure that there would be no unauthorized access to the ticketing system. This will include user authentication, requiring using strong passwords, role-based access controls, and periodic access reviews by the assigned ITRO Staff.
- System Backups – consistency in backing up the RAMS Corner data must be implemented to ensure that there will be no information and data loss in an event of system failure, data corruption, and some unforeseen circumstances should occur. Reviewing the restoration process and verifying integrity of the back-up data must also be included in the regular assessments.
- Employee Training – provide a detailed training plan for the employees regarding the use and management of the RAMS Corner Ticketing Service System so that the staffs are educated on the proper handling of tickets, as well as providing them the details for the risk mitigation should there be any threats occur within the system or when using the system.
- Regular Communication – while all other technical aspects are important, communication within the team is also important to ensure that every stakeholder is informed regarding the ongoing plans, especially when tackling about the risk that the system is facing. This is to make sure that no resources are lost while still maintaining the efficacy of the system.
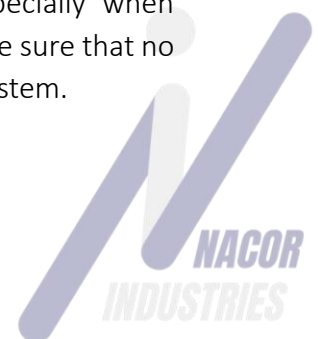
- Change Management Plan – there must be a distinct change management plan for when there are any changes that need to be made to the system. It is important to document and gain the approval of every stakeholder when applying changes within the project. This will allow the team to handle potential risks without creating any ambivalence within the project stakeholders' ideas.

6.9.7. Risk Register

In the risk register section, the risk management plan that will be intended for the top categories of identified risks will be constantly revised throughout the project. This will include all necessary details such as the probability of these risks occurring, their impacts, and the mitigation and avoidance procedures.

The risk registry will be available for viewing for all the stakeholders to make sure that there is transparency when it comes to risk management. This file will be kept in a shared location where all the stakeholders can access it.

The aim for this risk register is to allow the stakeholders, especially the team, to have an overview of the history of risk management planning for comparison and improvement basis, as well as the ongoing measures taken for risk mitigation. In this way, the RAMS Corner project team will be able to manage the potential risks in a timely and efficient manner.

The following are the list of elements in the Risk Register
- Risk ID – each risk identified will have their own unique identifier
- Risk Description – brief and concise description of the identified risk
- Risk Category – classify the type of risk as Vulnerability in Security, System Failure, and Performance Issues
- Risk Owner – project team member that is responsible for monitoring and reviewing current potential risks
- Probability – probability of risk occurrence scaling from 1 – 4, 1 indicating Very Low Probability and 5 indicating High probability
- Impact – impact of the potential risk scaling from 1-5, 1 having Insignificant impact, and 5 having the Catastrophic impact
- Risk Score – product of probability and impact score
- Mitigation Procedure – specific measures intended for the listed potential risk
- Status – historical status of the risk. It can be Open, Ongoing, or Closed.
- Target Resolution Date – date for the resolution of the listed risk.
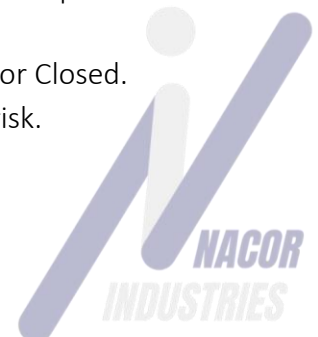
Risk ID	Risk Description	Risk Category	Risk Owner	Probability	Impact	Risk Score	Status	Target Resolution Date
RID 001	**Security Breaches** - personal information can be compromised when there is weak security for the system.	Vulnerability in Security	Developer Team	3	5	15	Closed	12/2022-03/2023
RID 002	**System Downtime** - inability to raise and resolve tickets in a timely manner	System Failure	Developer Team, Project Manager	3	4	12	Open	03/2023-06/2023
RID 003	**Inadequate Scalability and Elasticity** –unscalable or inelastic system will not be able to handle the increase or decrease in the volume of tickets received daily	System Failure	Project Manager	3	5	15	Open	07/23-09/23
RID 004	**Lack of Integration** –Inability to integrate means a decrease in productivity, that will therefore cause operational damage.	System Failure	Developer Team	3	3	9	Open	06/23-08/23

Table 13: Risk Register

6.10 Procurement Plan

6.10.1. Introduction

The procurement management plan plays a vital role in the making of RAMs Corner: ITRO Ticketing Service System. It serves as a guide and outlines to make all the things needed to make the software run smoothly. It will justify why using up to date technologies are needed. The procurement management plan will be revised or updated from time to time in case there has been a change in obtaining the necessary materials. Along with this paper, it will also include all the possible risks and will layout its mitigation plan, different types of contracts that will be used, and cost determination.

The procurement management plan outlines all the critical scenarios that are relevant to make the project successful. It will help align all the necessary deliverables to avoid delaying things and keep them on track.

6.10.2. Procurement Risks

All activities have their own risks. This includes procuring all the materials needed, goods, or any services that would be vital in making the project successful and deployable.

The Nacor Industries should plan ahead how to avoid or mitigate the damage a possible risk can cause. The team identified all the possible scenarios that should be considered when procuring all the necessary materials. The list below shows all the possible angles that can happen but not limited to:

1. Failure to deliver all the materials within the project timeline causing delays and higher cost of budget.

2. Receiving not properly integrated hardware resulting in frequent maintenance and poor customer service.

3. Incorrect or lack of research about certain products which may lead to buying wrong materials which can also cause to increase budget.

4. Having a contract with a vendor that doesn't meet the industry standard may impact not only the project's reputation, but also the company.

5. Having poor communication between the team and the vendor acquiring more than enough resources which can cause higher cost of budget without fully utilizing all the materials bought.

This part of the paper is simultaneously updated to keep track of the updated possible risks that can have an impact on the project. This will be updated from time to time throughout the project's lifetime to ensure quality output when launching the finished project.

6.10.3. Procurement Risk Management
1.   Identification of procurement risks

For the company to plan out and mitigate the risk. The company should first take the risk. The possible procurement management risk for the Nacor Industries is below but not limited to:

- Delayed delivery of materials
- Having sub-standard materials
- Lack of materials coming from the same vendor
- Sudden inflation of materials causing higher costs

2. Risk mitigation strategies

After listing all the possible scenarios that can happen when procuring the materials. It is important to establish how to apply certain strategies and how to implement them.

- Have the deliveries advanced for a few days so that there is an ample amount of time in case of delays.
- After looking for a specific product. Look for an alternative without sacrificing the quality to avoid unexpected breakdown of the material/s.
- Look for a back-up vendor that also provides the same resources in case the other vendor is out of products
- Increase the budget by a few percentages to cover for the materials in case the prices increase.

3. Assignment of Responsibilities

Everyone will have their own responsibilities when managing the procuring risks. Specific individuals will be assigned to pinpoint the procuring risks and others will be assigned to determine a possible risk that has been overlooked. Further to that information, the project manager and people who are assigned those responsibilities will be providing feedback on the status of the procurement risk management plans.

4. Communication and Reporting

Proper communication within the team or group is the key essential to success of the project. Regular status reports will be provided by the Project manager and the project team, Procurement risks and risk mitigation will be constantly updated, and the stakeholders would be informed when changes or developments happen in procuring risk management activities.

5. Continuous Improvement

Since procurement risk management is continuously updated, the documents will be saved and used as a future reference when dealing with a certain risk. This would greatly help the future projects to improve on how they will execute their tasks and provide even more quality outputs.

Regular analysis of the procurement risk will also be conducted in case a

certain risk has been overlooked by the project manager and the project team.

6.10.4. Cost Determination

Just like any project, Cost determination is also a crucial part of the project when procuring the essential materials. The project needs to have a high-quality product and be cost effective at the same time. To guarantee this situation, the company may bid on vendors who offers the best deal that would benefit the project.

The project team must review all the costs surrounding the procurement process. This goes from delivery of items to the installation of the said items, and the maintenance costs to keep the materials up and running. During this time around, the team would thoroughly review any potential cost overruns so that they might look for an alternative so that the budget for procuring materials cannot be affected that much and mitigate the possible risks that can happen.

Stakeholders, project manager, procurement manager would then collaborate to guarantee that the budget would be utilized and no resources in making the project successful would go to waste. The procurement budget is also constantly monitored and kept on track to avoid going over the budget.

To make things fast and efficient, the project team will use standardized procurement templates. This would greatly help the team to be constant on the method they are using when calculating costs on different angles of procurement activities.

Cost determination plays a huge role in procurement management plans as it serves as a guide to make sure the budget for the project is correct and utilized well.

6.10.5. Procurement Constraints

The constraints below should be considered as a part of the RAMS Corner: Ticketing Service System project.

1. Schedule constraints: Every project has a strict deadline including

the RAMs Corner: Ticketing Service System project. The deliverables should be made based on their deadline or planned schedule. It is important that individuals pass their deliverables on time to avoid any delays to the project and to ensure the team stays on the right track. Any delays within the deliverables might cause the problem to snowball into bigger issues that can affect the project itself.

2. Budget constraints: the project has an allotted budget for the project.
3. Technology Constraints: The software that Nacor Industries makes (RAMS Corner: ITRO Ticketing Service System) does not demand a higher specification for it to run. A typical office computer/desktop can suffice for the software to run smoothly.
4. Resource constraints: The personnel of the office should be knowledgeable of how to operate or use the newly made software for them.

6.10.6. Contract Approval Process

The contract approval process for the ITRO will be formally handled by the director of the office. The team will formally conduct a meeting with the director and present the idea. The team and the director would then start the process of conducting the contract and make sure no policies are bypassed.

1. Contract initiation: the project manager would first pitch the idea to the head of the ITRO.
2. Contract planning. The director of the ITRO would then make suggestions or customized features that would personally cater to the needs of the office.
3. Contract development: once the contract is set and ready. The team would develop the software and would have a meeting with the client regarding about the status of the software
4. Contract Review: the director and the team would review the software to make sure the project is still within the scope

6.10.7. Decision Criteria

The following decision criteria for the Nacor Industries are the following:

Technical capabilities: the vendor must have ample experience in handling any similar projects of the same nature. This is important for the project to succeed. It is also important to note that the vendor is

knowledgeable in today's technology

Price: The price is one of the deciding factors whether a company would buy the vendor's product or not. If the vendor would set its prices high. The materials should meet the quality and certain specifications for it to be reasonable.

Schedule: The vendor should be able to deliver its expected quality output within the given schedule.

Quality: The vendor should be able to meet the specifications and quality of the materials. The vendor should also be able to consistently provide customer service.

Risk management: the vendor should have a plan to mitigate every risk that may be possibly encountered over the lifetime of the project.

Sustainability: the vendor should be able to sustain the product he/she sells. The materials should also be economic making it easier to build and sustain the products

Compliance: the vendor should abide the laws and have no past issues that possibly taint the project's name and the company's name

6.10.8. Performance Metrics for Procurement Activities

The following metrics that will be used for procurement activities are:

1. Vendor performance rating

A. The project manager and the project sponsor would thoroughly review the product of the vendor's product. In this way, this gives the team a much better point of view since there are people vouching for the product of the vendor.

2. Procurement cycle time

A. These measures the vendor's capabilities or how fast and efficient it is when delivering the items. This starts from the initial ordering of the materials to finishing the project from installing the delivered goods.

3. Cost variance.

A. This metric serves as a purpose to scout the market on the lowest price possible on certain materials. This gives the company a lot of choices settling between couples of vendors who have the best deal possible.

4. Purchase Order Accuracy:

A. This metric tests the vendor's accuracy when delivering the materials in a large quantity. One wrong item can possibly cause a delay in a project.

6.10.9 Procurement Management Approach

The project manager will handle and manage all the things needed to be obtained for the project. The project manager will brainstorm together with the team to discuss all the recent technologies on the market that would potentially help the software to run smoothly. The project manager and the team would then review the materials that are listed for further inspection and look for some alternatives to save budget without sacrificing the quality of the materials. After the meeting, the project manager would then decide if the lists were valid and reasonable to buy.

After making the list of necessary materials for the project, the project would then look for a suitable supplier to either buy or start having a contract with the store.

6.11 Implementation Plan

6.11.9. Schedule

Throughout the project's lifetime, the team is able to submit all deliverables needed. Each work that was assigned to each member has a specific deadline to help the team estimate how many resources will be needed to finish all the needed tasks before proceeding.

To create the project schedule, the team used software named 'Open Project' to create a Gantt Chart. In this Gantt Chart, all the activities and deliverables are listed and recorded. In this way, it is much easier to monitor the project's growth over time.

See Figures for reference of the start and end date of deliverables for project schedule.

6.11.1. Executive Summary

The RAMs Corner: ITRO Ticketing Service System is complete, and as a part of the project closeout, a transition plan is being developed to ensure that when the project team handover the system to its project client, it will be a seamless system
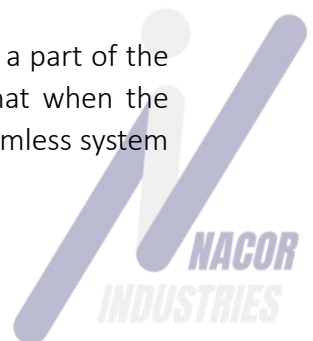
turnover. The purpose of this is to provide an overview of the transition phases, which includes the system current state or to check if it is under the minimum viable product, and how it is planned to transition from project team to the project client.

RAMs Corner: ITRO Ticketing Service System was developed by Nacor Industries in collaboration with Mr. Jose Castillo of the ITRO department office, the project client. The system has been ongoing and under development for the past 5 months, starting from December for UI/UX Designing, and expected to finish in July, which finalizes the overall project from providing a working and deployable Ticketing Service System.

The project client will receive a deployable system that is stable and operational, all the functionalities and features have been validated and undergone various test cases. As the team transition the system to the client, the team aims to provide them with necessary documentation of the Ticketing Service System to ensure that the client will manage the system properly.

The project team will provide all the technical documentation, user manuals, and source code to ensure that the project client will have a comprehensive understanding of the system once it has been turned over to them. The project client will oversee the maintenance and troubleshooting as their scope of work encompasses these things.

Overall, once the transition phase of the system from project team to the project client is done, the project client will be receiving a fully operational Ticketing Service System, and that project team completed all the objectives and requirements set before the development and deployment of the application.

6.11.2. Transition Approach
The approach for the transition of the system will require definite and systematic transfer of knowledge, resources, and responsibility to the new owners of the system, to avoid service interruption.

The transition approach will include the following steps:

a. Communication Plan: The project team together with the project client is fully aware of the transition plan, timelines, and what results the transition should accomplish, emergency meetings will be held if necessary.

b. Transition Planning: the transition plan will be developed and coordinated by the Nacor Industries project team which will include timelines of all the tasks that are needed to be accomplished during the transition.

c. Knowledge Transfer: ITRO Department is packed by IT professionals that are knowledgeable when it comes to technological field including software, that is why it is going to be easy for them to understand the instructions manuals, technical documentation, and the Ticketing Service System itself once they receive and operate the functional system.

d. System Deployment: The project team will hand over the functional Ticketing Service System to the project client.

6.11.3. Transition Team Organization

Timeline

The Transition out plan for this project involves a schedule of activities that will be necessary steps to fulfill until the time of handing over the functional and deployable system to the project client. There are two phases of the transition out plan execution from the project team and closeout from the project client, in this way, the project team will coordinate with the head of the ITRO Department and Mr. Jose Castillo himself will be the one to closeout once the system is handed over to their team.

The handover schedule will take place after all the project team completes all the necessary deliverables for the entire project, including documentation. This is to ensure that the project team have complied with the criteria of the project completion and proceed to the deployment of the system in the platform of the client.

Assumptions

The following Assumptions will be made for the transition approach:

a. Nacor Industries project team members will be able onsite or via online meetings to participate and facilitate handover of the system.

b. The project team will provide all necessary documentation, instruction, and user manuals to the project client.

c. ITRO Department will provide the necessary equipment and software license if necessary to support the handover of the system.
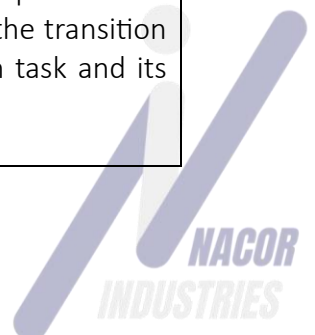
d. The Nacor Industries project team is equipped with knowledge of how the system works and will be able to transfer knowledge to the project client and its team.

e. The ITRO department office of Asia Pacific College is packed with IT Professionals that is knowledgeable in the technological which makes it easy for their team to navigate and understand the Ticketing Service System that they will receive.

Roles and Responsibilities

1. **Transition Project Manager:** is the overall in charge for the success of the transition, is also the one responsible to manage the team involved in the transition team and will check transition task and its compliance.

2. **Developers/Technical Lead:** In charge of providing all the technical expertise in the technological field and of course the project itself. Also, in charge of providing technical expertise to the project client and its team, if necessary, since the client's team is knowledgeable enough to understand how the system works as it encompasses their scope of work.

3. **Quality Assurance Lead:** Responsible for ensuring that the system is functional, tested and passed the quality standards before handing over to the project client, also will lead the quality assurance that the deliverables for the transition tasks and plan is meets the quality standards.

4. **Project Team Members:** Overall assist and facilitate the transition plan, coordinate with the relevant people that have roles in the transition plan and will provide expertise towards their knowledge transfer about the whole project itself.

Transition Project Manager	is the overall in charge for the success of the transition, is also the one responsible to manage the team involved in the transition team and will check transition task and its compliance.

Developers/Technical Lead	In charge of providing all the technical expertise in the technological field and of course the project itself. Also, in charge of providing technical expertise to the project client and its team, if necessary, since the client's team is knowledgeable enough to understand how the system works as it encompasses their scope of work.
Quality Assurance Lead	Responsible for ensuring that the system is functional, tested and passed the quality standards before handing over to the project client, also will lead the quality assurance that the deliverables for the transition tasks and plan is meets the quality standards.
Project Team Members	Overall assist and facilitate the transition plan, coordinate with the relevant people that have roles in the transition plan and will provide expertise towards their knowledge transfer about the whole project itself.

Table 14: Transition Plan - Roles and Responsibilities

6.11.4. Workforce Transition

Workforce transition is still important even if we already know that the project client team the ITRO Department would easily have the knowledge and background to use the system, it is critical that everything will be a seamless transition from the project team system deployment to the project clients work platform, an essential communication between project team and client should still be established as the transition of the overall system takes place.

The Transition Project Manager will be working on assigning and retaining current staff or hiring a new one whichever is fit to handle the Ticketing Service System once it has been handed over to them. It is critical for the overall transition to determine the people who will handle and maintain the system, to ensure that it will be utilized as it should be.

In addition, the necessary training or re-training will be on the side of the project client, since their department office is packed with IT professionals, the budget for training or hiring new staff will come under the department's office budgets.

6.11.5. Workforce Execution During Transition

User briefing: this will involve a short introduction to the Ticketing Service System to the side of the project client's team, this will include discussions on how the system works and its functionality. Proper user briefing will allow the new user of the system to understand the system and execute it properly.

Update Documentations: The project team will record the latest and relevant files which include The lessons learned in the entire project, where the team improves the most and the areas needed to improve as well.

Update Files/Records: The project team is still responsible for recording relevant files and information that reflects the completion of the project, it may involve things such as archiving all project-related files and relevant documents.

Project Closeout Meeting: The project team will facilitate the meeting with the project client either onsite or online. This will discuss the project together with a closure meeting with the relevant stakeholders of the project. After a successful transition of the system to the client open discussions about the areas needed to improve will take place to ensure that all outstanding issues have been resolved.

6.11.6. Subcontracts

There are no existing contracts or subcontract agreements related to this project. Therefore, no transition of contracts related agreements is required aside from the signed official documents and scope of the project that has been pre-determined and agreed upon by the client and the project team.

6.11.7. Property Transition

6.11.7.1 User accounts and Passwords

As part of the transition plan for the Ticketing Service System project, it is also important to take note of how the user accounts and passwords transition. The following steps would be:

1. User Account Inventory
   - A comprehensive inventory of all user accounts and their associated privileges. This includes.
     - o Ticketing Service System Administrator

- o ITRO Staff
- o APC Students, Faculty, and Staff

2. Passwords and security access
   - Once the Ticketing Service System is handed over to the project client, the project client as the new owner of the system should create new or add user accounts depending on the situation if they will hire new staff to use the system or retain the old accounts which are already listed by the project team and secure passwords.

6.7.11.2 Incumbent Owned Equipment

In this case of the Ticketing Service System, If the project client and their team ITRO department office can provide the necessary equipment upon transition, there may not be a need for the project team to transition the equipment to project client, however, it is still important to clearly identify which equipment is incumbent-owned and which will be provided by the project client and its team to ensure a smooth transition and avoid any possible conflicts or misunderstandings.

4.7.11.3 Intellectual Property

During the transition process of the Ticketing Service System, it is important to consider the handling of intellectual property to ensure a smoother transfer of all the necessary documentation, original design and plans and preserve the system as it where is.

6.11.8. Knowledge Transfer

Within the span of development, the team, Nacor Industries have created several documentations and manuals for the product along with user manuals, test cases, risk management, etc. to inform the stakeholders of the various features and capabilities that the user would have to bring to the table, along with various assets that was developed and would be deemed beneficial upon the product's deployment.

6.11.9. Handover and Acceptance

Upon the project's completion—that would be decided by the team and the client, through the criteria of done—the complete handover of the system would be given onto the APC-ITRO, along with all other resources and assets that have been used or would prove to be beneficial for them to continuously deploy and run the product, together with any other documentation that may prove to be useful and vital for the exchange.

7. Sponsor Acceptance

This project acceptance document establishes formal acceptance of all the deliverables for the RAMS Corner: ITRO Ticketing Service System project. The project has met all the acceptance criteria as defined in the requirements document and project scope statement.

Approved by the Project Sponsor:

_____   Date: June 26, 2023

Jose F. Castillo

ITRO Head

8. List of Tables

9. List of Figures

10. Appendices

10.1. Project Cost and Benefit Analysis

The allotted project cost for the project RAMS Corner Ticketing System would be estimated to be around ₱870,397.58, and the team of developers behind it: Nacor Industries would be working for the duration of 21 months within the specific budget allotted for its development.

RAMS Corner: Ticketing Service System

PROJECT DURATION (MONTHS)		21		

LABOR COST

ROLE	HOURLY RATE	NUMBER OF WORKING HOURS	TOTAL	
Project Manager	₱ 191.00	391	₱	74,681.00
Product Owner	₱ 317.00	340	₱	107,780.00
Scrum Master/Junior Full-Stack Developer	₱ 471.88	875	₱	412,890.63
Junior Laravel Developer/UI-UX Designer	₱ 282.73	552	₱	156,064.20
QA Tester	₱ 125.00	121	₱	15,125.00
System Trainer	₱ 92.50	24	₱	2,220.00
Documentation Manager	₱ 156.25	347	₱	54,218.75
Cost Estimate for Manpower	₱			*822,979.58*

HARDWARE COST

ITEM	TOTAL	
Dedicated Server and Computers	Legacy	
Cost Estimate for Hardware	₱	*-*

HOSTING AND SECURITY

ITEM NAME	UNIT PRICE	TOTAL UNIT PRICE(12 months)	COUNT	TOTAL	
Domain Subscription					
SSL Subscription	₱ 329.00	₱ 3,948.00	1	₱	3,948.00
Professional Email					
Storage(25GB)					
Cost Estimate for Hosting and Security	₱				*3,948.00*

DEPRECIATION EXPENSES

TEAM MEMBER	CURRENT VALUE (After depreciated in years)		DEPR. VALUE(20%)	
Allan Vincent Nefalar(Laptop)	₱	22,800.00	₱	7,980.00
Bryan Denylle Geneta(Laptop)	₱	14,400.00	₱	5,040.00
Kieyl Ponce(Laptop)	₱	27,000.00	₱	9,450.00
Patrick Cortez(Laptop)	₱	20,000.00	₱	7,000.00
Ruth Morallos(Laptop)	₱	16,000.00	₱	5,600.00
Vincent Nacor(Laptop)	₱	24,000.00	₱	8,400.00
Estimated Depreciation Expenses	₱			*43,470.00*

INDIRECT COST

UNIT	UNIT PRICE	TOTAL UNIT PRICE	COUNT	TOTAL
Equipments				
Administrator		Covered by APC-ITRO		
Utilities				
ESTIMATED PROJECT COST	₱			*870,397.58*
MAINTENANCE (YEARLY)	Covered by APC-ITRO			

Figure 17: Project Budget Summary

Within the entirety of the timespan attributed to the development of the project, it is important to note that the only expenses that the client—APC-ITRO—would consider will only be the salaries for each member, along with the hosting and security expenses, and depreciation expenses. Utilities and devices used will be made from the project team's own devices, and the work environment will be from their own homes, if not within the premises of Asia Pacific College, making it more cost-effective and beneficial for the client as opposed to hiring other professionals nor subscribing to pre-existing services available online.

10.2. Project Methodology

The team, Nacor Industries, and the product, RAMS Corner: ITRO Ticketing Service System project will utilize the hybrid Scrum-Fall methodology to ensure that the project meets or exceeds all stakeholders' quality expectations. This approach would promote flexibility as they would be directly involved within each step of the way from the development, through the deployment stage as referenced in the diagram below:
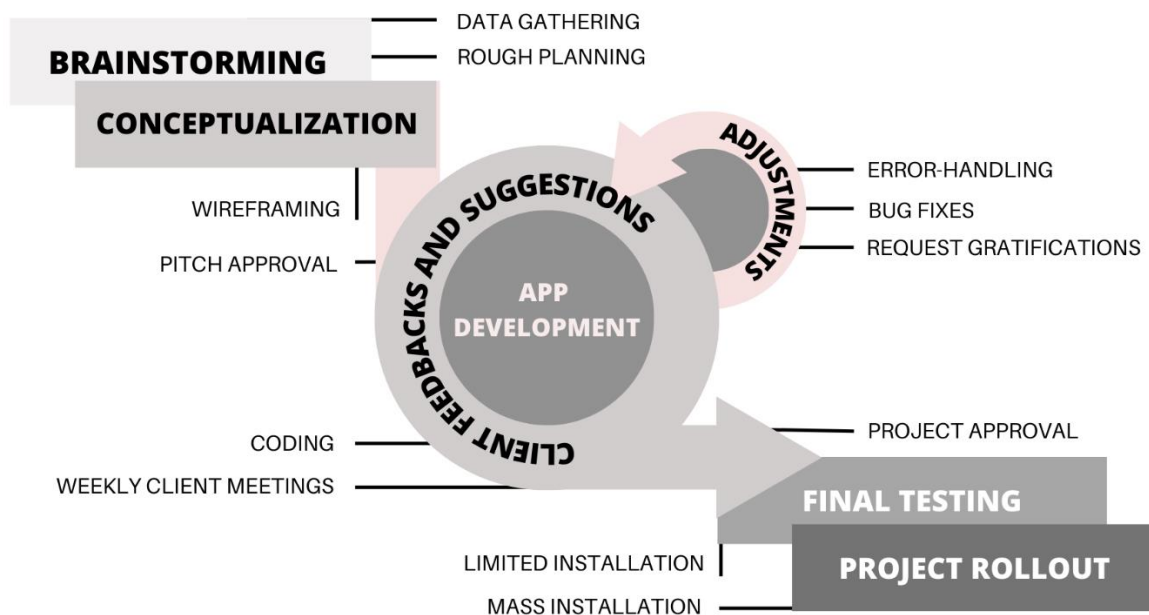
Figure 18: Appendix - Scrum Fall Methodology

10.3. System Requirements Specifications

Within the span of the development phase, the team have gathered sufficient information about the bare minimum and most optimal system requirements to run the RAMS Corner web application, as listed below:

10.3.1 System Requirements Specifications

The web application is promoting intuitive elements within the interface with descriptions and properly appropriated terms for each user-type, to ensure that even the non-IT personnel would be able to get a grasp of the common terminologies used within the system. Since the application would be web-based, it could run on any device that has a proper web browser, however, for the most optimal experience, the team has the following as the minimum requirement:

Device:	Desktop / Laptop
CPU:	Intel Pentium or any equivalent
OS:	Windows 10 or newer
RAM:	≥ 8GB
STORAGE:	≥ 256GB
Browser:	Chrome, Opera, Edge, & Vivaldi (as tested)
Internet:	≥ 5Mbps

Table 15: System Requirement Specification - Minimum Requirement

10.3.2. System Requirements for Deployment

To promote a continuous, lasting, and optimal running performance, with little-to-no extra effort for maintenance and futureproofing, the team recommends the following specifications for deployment:

Device:	Desktop / Laptop
CPU:	Intel i3 or any equivalent
OS:	Windows 10 or newer
RAM:	≥ 16GB
STORAGE:	≥ 1TB
Browser:	Chrome, Opera, Edge, & Vivaldi (as tested)
Internet:	≥ 15Mbps

Table 16: System Requirement Specification - Recommended Requirement

10.4. Development Tools Specification

To promote transparency and maximize compatibility for anyone else that may take helm of the project or undertake in something similar, the team of developers openly reiterates their machine's specifications.

10.4.1. Development Tools Specification

Listed below are the system specifications of the developers' machines within Nacor Industries that was used to create the web-application:

FRONT-END

Device:	Laptop
CPU:	Ryzen 5 3550H
OS:	Windows 11
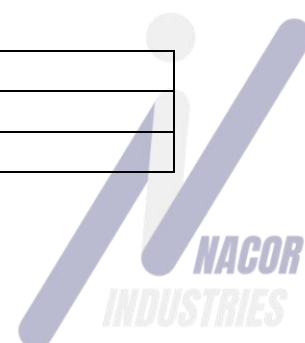
GPU (Dedicated):	GTX 1650
RAM:	≥ 16GB @2400mhz
STORAGE:	≥ 256GB NVME | 1TB SATA SSD
Browser:	Opera GX, Google Chrome
Internet:	≥ 100Mbps
IDEs Used:	VS Studio Code
Languages:	HTML, CSS, JavaScript

Table 17: Development Tools Specification - Frontend

BACKEND

Device:	Laptop
CPU:	Ryzen 5 3500U
OS:	Windows 11
GPU (Integrated):	Radeon Vega Mobile
RAM:	≥ 8GB @3200mhz
STORAGE:	≥ 256GB NVME
Browser:	Opera GX
Internet:	≥ 15Mbps
Framework:	Laravel
Interface	HTML, CSS, Bootstrap
Scripting:	PHP
Languages:	JavaScript
Database:	MySQL
Web Server Testing:	XAMPP
IDEs Used:	VS Studio Code

Table 18: Development Tools Specification – Backend

10.5 Work Breakdown Structure Dictionary

Level	WBS Code	Element Name	WBS Dictionary
1	1	RAMs Corner : ITRO Ticketing System	The name of the Project
2	1.1	Initiation	Initiation of the project.
3	1.1.1	Initial Planning/Brainstorming	Project Ideas Project Concept Brainstorming with project team member Project client prospects

3	1.1.2	Client Selection	The process of selecting a project or customer to work on is included in this work package. The team will search for new projects and clients, assess their viability, and choose the best option considering the needs, limitations, and risks for the team.
3	1.1.3	Project Kick-off meeting	Meeting with members to discuss what project kind of project and system are going to develop. Discuss with the team what are the initial details needed to start the project.
3	1.1.4	Milestone: Project Idea	Project Ideas from team members Project Ideas from project Client
2	1.2	Planning	Planning Phase for RAMs Corner: ITRO Ticketing Service System
3	1.2.1	First Project Meeting with Members	Meeting with members to discuss what project kind of project and system are going to develop. Discuss with the team what are the initial details needed to start the project.
3	1.2.2	First Project Meeting with Client	Meeting with project client to consult initial executed task and project deliverables, assigning work to each member to efficiently distribute workload and finish all tasks on time.
3	1.2.3	Project Proposal Initial Creation	Project Ideas from team members Project Ideas from project Client
3	1.2.4	Second Project Meeting with Members	Meeting with the project team members to check the task progression that was assigned in the first project meeting and its completion. Also, assigning of new tasks for each member in accordance to the next output

			needed for the second project meeting.
3	1.2.5	Second Project Meeting with Client	Meeting with project client to consult initial executed task and project deliverables, assigning work to each member to efficiently distribute workload and finish all tasks on time.
3	1.2.6	Initial Project Proposal Editing	Project proposal editing, all the documents under the project proposal needs to be check, also to see if the contents of these documents are correct and aligned with the project idea.
3	1.2.7	Initial Project Proposal Proofreading	Proofreading of project proposal, examining all the possible mistakes, uncertainty on the paper itself, also in preparation for the upcoming sprint 1 which is set to give initial feedback on the outputs of the initial project proposal
3	1.2.8	Third Meeting with Members	Meeting with Project team members just to check all the deliverables for each week has met and complete.
3	1.2.9	Third Meeting with Client	Meeting with project client to consult initial executed task and project deliverables, assigning work to each member to efficiently distribute workload and finish all tasks on time.
3	1.2.10	Deliverable: Project Proposal	Project proposal edited and proofread, examining all the possible mistakes, uncertainty on the paper itself, which is set to give initial feedback on the outputs
3	1.2.11	Project Proposal Revision	comments from the previous discussions and suggestions that

			the project team should review and need to consult with the client since this significant people know how to properly implement such change requests.
3	1.2.12	Fourth Meeting with Members	meeting to see how long the team progresses or members meet on a weekly basis.
3	1.2.13	Fourth Meeting with Client	Work Package is complete once the project team already met the project client and document all the suggestions and change requests from the client.
3	1.2.14	Milestone: Project Proposal Approval	Approved Revised project Proposal
3	1.2.15	Kick-off meeting for project management planning	Kick-off meeting for project management planning, review the entire project and ready for task assigning for weekly document deliverables for project management planning
3	1.2.16	Project Management Plan Drafting	Assigning for task to project team members Self-paced learning for each documents task Meetings for document updates
4	1.2.16.1	Business Case	Executive summary of the project Objectives Scope Cost-Benefit Analysis Risk Assessment
4	1.2.16.2	Project Charter	Project schedule and timeline
4	1.2.16.3	Stakeholder Analysis	Listing of Stakeholders for the project
4	1.2.16.4	Stakeholder Management Analysis	Identifying Key Stakeholders and

			Stakeholder Analysis
4	1.2.16.5	Cost Management Analysis	Estimated Salaries Computation
4	1.2.16.6	Cost Management Plan	Cost management approach for the project
4	1.2.16.7	Schedule Management Plan	Schedule management approach for the project
4	1.2.16.8	Scope Management Plan	Scope of the project and the scheduling
4	1.2.16.9	Work Breakdown Structure	Outline view of all the work breakdown structure starting from the initiation to the closeout of the project
4	1.2.16.10	Work Packages	Recording and the documentation of the progress of the project, from how it was approved, planning phase, meetings & recordings, sprints, system creation, system release and announcement, until the execution and the finished part of the project which is determined and made scenarios of.
4	1.2.16.11	Human Resource Management Plan	Determining what the members, leader, stakeholder, and adviser's roles are what are they supposed to do to benefit the project.
4	1.2.16.12	Quality Management Plan	Assuring that the quality of the project is at industry standard
4	1.2.16.13	Risk Management Plan	This is to determine the underlying risks and how to avoid bumping into these risks and encountering errors along the process while the project is ongoing.
4	1.2.16.14	Communications Management Plan	To determine how to get the message across through the audience and convince them about the system including getting

			the stakeholder's perspective or trying the system in a user's perspective.
4	1.2.16.15	Procurement Management Plan	Market research and continuous improvement
4	1.2.16.16	Implementation Plan	To determine the course of implementing the project and the handover of the project from the team to the client
4	1.2.16.17	Change Management Plan	Change management process and the responsibilities of each member during the changes in the project
3	1.2.17	Project Management Plan Editing/Proofreading	Proofreading of documents of project management plan Editing of documents of project management plan
3	1.2.18	Fifth Meeting with Members	Meeting with project team before meeting with client to discuss what is the progress in planning. Discuss with the team what are the initial details needed to start the project.
3	1.2.19	Fifth Meeting with Client	Meeting with project client to consult initial executed task and project deliverables, assigning work to each member to efficiently distribute workload and finish all tasks on time.
3	1.2.20	Deliverable: Project Management Plan	The project management plan is already for checking.
3	1.2.21	Project Management Plan Revision	Checking all the project management plan documentations to see if there are a few to no revisions.
3	1.2.22	Sixth Meeting with Members	Meeting with project team before meeting with client to discuss the changes from the project

			management plan Discuss with the team what are the initial details needed for the next phase of the project
3	1.2.23	Sixth Meeting with Client	Meeting with project client to consult initial executed task and project deliverables, assigning work to each member to efficiently distribute workload and finish all tasks on time.
3	1.2.24	Milestone: Project Management Plan Approval	The project management plan was accepted and supported by the project manager and the client
3	1.2.25	Milestone: Sponsor Acceptance	The Project Management Plan was accepted by the Project Sponsor.
2	1.3	System analysis and Detailed Design	System Analysis and Detailed Design phase of the project
3	1.3.1	Kick-off meeting for System analysis and Detailed Design	he team would have a meeting for the system analysis and detailed designs and for the making of diagrams,
3	1.3.2	System Analysis and Detailed Design Drafting	Start of the drafting for the design of the system
4	1.3.2.1	Event Table	Visual representations of the event that occurs in the system Event name Trigger Response Outcome
4	1.3.2.2	Use Case Diagram	These are scenarios on how the user interacts with the system which has a particular goal. Actors, users or groups who interact with the system

4	1.3.2.3	Use Case Full Description	These are scenarios on how the user interacts with the system which has a particular goal.
4	1.3.2.4	Context Diagram	Shows and illustrates the flow data between the external entities and the system without putting too much detail.
4	1.3.2.5	Data Flow Diagram	It Represents a set of interconnected processes which shows each performing some specific functions inside the system
4	1.3.2.6	Entity Relationship Diagram	Used to design the database of the proposed system crows foot model
4	1.3.2.7	Activity Diagram	These are tasks that need to be performed in order to complete the project. Each of these activities in the content is represented by a rectangle.
4	1.3.2.8	Object Diagram	is a useful tool in project management to model the objects and their relationships in a project. Can be used to represent the different objects in a project and their relationships at a particular stage of the project
4	1.3.2.9	Class Diagram	It shows the classes, attributes, operations, and relationships between the classes in the system.
4	1.3.2.10	Sequence Diagram	interactions between different components or actors in a system or project. It can help to understand the flow of tasks, activities, and events in the system or project.
4	1.3.2.11	State Transition Diagram	model the different states that a project may go through during its lifecycle.

4	1.3.2.12	Package diagram	organize and structure a system's components or classes into logical groups called packages. A package is a container that groups related elements together and provides a namespace for them.
4	1.3.2.13	Component Diagram	illustrate the components of a system and the relationships between them.
4	1.3.2.14	Deployment Diagram	visualize the physical deployment of hardware and software components in a system. It can help project managers and stakeholders to understand the architecture and topology of a system and how it is deployed in different environments
3	1.3.3	Seventh Meeting with Members	The members would have a meeting about the progress of the event table and diagrams and finish the remaining deliverables.
3	1.3.4	System Analysis and Detailed Design Editing/Proofreading	The editing or revision of the previous deliverables (Diagrams, Event table, User case description, etc.)
3	1.3.5	Seventh Meeting with Client	The team will have a meeting with the client to discuss the progress of the project.
3	1.3.6	Deliverable: System Analysis and Detailed Design	The team would complete the deliverables which are the diagrams, event table, use case description, & etc.
3	1.3.7	System Analysis and Detailed Design Revision	The team would need to revise the deliverables and would need consult with the team adviser, and the class adviser.
3	1.3.8	Eighth Meeting with Members	The team would have a meeting regarding the project's progress and how it has been so far.

3	1.3.9	Eighth Meeting with Client	The team would have a meeting with the client regarding the project's progress and future.
3	1.3.10	Milestone: System Design Approval	Milestone of the project where the system design has been approved along with the supposed deliverables that were submitted.
2	1.4	System Prototyping and Development	System Prototyping and Development Phase of the project
3	1.4.1	Kick-off meeting for development	Introduction of system to client

System Design and analysis Idea

Initial UML Diagram Consultations |
| 3 | 1.4.2 | Deliverable: Low fidelity wireframe | Creation of Low Fidelity Wireframe and outlining the web and mobile view of the system |
| 3 | 1.4.3 | Ninth Meeting with member | Meeting for the update in the low-fidelity wireframe deliverable |
| 3 | 1.4.4 | Ninth Meeting with Client | Project Update

System Consultation

Features and Functions suggestions |
| 3 | 1.4.5 | Deliverable: High Fidelity Wireframe | Creation of finalize High Fidelity Wireframe, in preparation for the next course designing of UI/UX which requires a working and deployable system application. |
| 3 | 1.4.6 | Tenth meeting with member | Assign project team members with new duties and responsibilities. |
| 3 | 1.4.7 | Tenth meeting with client | Project Update

System Consultation

Features and Functions suggestions |
| 3 | 1.4.8 | Milestone: Wireframe Approval | Approved Low and high-fidelity Wireframe by the Project Client |

3	1.4.9	UI/UX Design	Initial System UI/UX (static) Initial System Function
3	1.4.10	UI/UX Evaluation	System UI/UX (static) System Function Evaluation
3	1.4.11	11th meeting with members	Review the effectiveness of UI/UX Design Assign project team members with new duties and responsibilities.
3	1.4.12	Backend Development	Create logical events in the system Create system database
3	1.4.13	Milestone: Verified Use Case Requirements	Use cases are verified and the standard set is met after the backend development
3	1.4.14	11th Meeting with the client	Project Update System Consultation Features and Functions suggestions
2	1.5	Testing	Testing phase for the project
3	1.5.1	Unit Testing for Release 1	Testing for the function of different release 1 modules
4	1.5.1.1	Milestone: Successful Testing for Release 1	Successful testing for the release 1 modules
3	1.5.2	Unit Testing for Release 2	The team would create the 2nd release plan modules of the system
4	1.5.2.1	Milestone: Successful Testing for Release 3	Successful testing for the release 2 modules
3	1.5.3	Unit Testing for Release 3	The team would create the 3rd release plan modules of the system
4	1.5.3.1	Milestone: Successful Testing for Release 3	Successful testing for the release 3 modules

3	1.5.4	12th meeting with members	The team would meet regarding the project's releases and progress.
3	1.5.5	Integration Testing	The team would do an integration testing to test the system's function and if it's working properly when integrated.
4	1.5.5.1	Milestone: Successful Integration Testing	Successful integration of releases 1,2, and 3 modules
3	1.5.6	User Acceptance Testing	Responsiveness Consistency Visual Appeal Accessibility Performance
4	1.5.6.1	Milestone: Successful User Acceptance Testing	All use cases are verified to be accepted
3	1.5.7	Performance Testing	The team would test the performance of the system, to know if it's working properly or if there's something that is needed be fixed.
4	1.5.7.1	Milestone: Successful performance Testing	The system successfully runs smoothly with little-to-no performance flaws
3	1.5.8	Production Readiness Testing	The team would do the production readiness testing.
4	1.5.8.1	Milestone: Successful Production Readiness Testing	Successful integration of hardware equipment and the web-app
3	1.5.9	Parallel Testing	Doing the parallel testing or testing the system multiple times in different environments versus the current system to ensure the system is best used in the current ITRO environment

4	1.5.9.10	Milestone: Successful Parallel Testing	The RAMs Corner is proved to be better than the current system used by the ITRO
3	1.5.10	13th Meeting with Members	The team would have a meeting and discuss the system and the project's future.
3	1.5.11	12th meeting with client	The team will meet with the client regarding the system that was released and the projects future.
2	1.6	Deployment and Control	Deployment and Control Phase of the project
3	1.6.1	Deployment and Control Kick-off meeting	To kick off the meeting for deployment and control of the system
3	1.6.2	Train General Users	To train or teach the users on how to use the system and how it operates.
3	1.6.3	Set up Kiosk for Localize Deployment	The team strategized on how to setup a kiosk for localized deployment
3	1.6.4	Deploy the hosted app	The team strategized on how to properly deploy the app
3	1.6.5	Milestone: Discovery and Feedback	Feedback is received from the general users and some problems are discovered.
3	1.6.6	14th Meeting with Members	The team together with the client had a meeting to report a discovery that has been made to program the system in a better way without sacrificing the quality of work
3	1.6.7	13th meeting with client	The team together with the client had a meeting to report a discovery that has been made to program the system in a better way without sacrificing the quality of work

3	1.6.8	Promotion and Advertisement	To promote and advertise the ticketing system to the public.
3	1.6.9	Update Documentations	Updating the progress of the project's documentation and deliverables in general along with the project's overall progress.
2	1.7	Closeout	Closeout Phase of the project
3	1.7.1	Auditing	By doing an audit of the whole thing, may it be documents or website, the team can find out whether the project is optimized to meet the client's request.
3	1.7.2	Update Reports and Documentations	Handing over the reports, documentations, and the system to the client
3	1.7.3	Gain Formal Acceptance	Getting a permit or a formal acceptance for the team and for the website to operate legally
3	1.7.4	Archive Files/Documents	Archive all the necessary files and documents for the entire project, and handover to the client once the project is done.
3	1.7.5	Closeout Meeting with Members	Closeout meeting with members contains all the necessary tasks that each project team members should accomplish, making sure that all outputs within the project documentations are complete as well as the functional system that is ready to deploy and handover to the project client.