RAMinders: An Announcements, Inquiries, and Event Reminders System (AIER) for the Asia Pacific College Office of the Registrar

Project Documentation Submitted to the Faculty of the

School of Computing and Information Technologies

Asia Pacific College

In Partial Fulfillment of the Requirements for

Introduction to Systems and Design for CS/IT

SSYADD1

By

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2024

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Executive Summary

The RAMinders project aims to enhance communication visibility and engagement for the Asia Pacific College (APC) Office of the Registrar. RAMinders shall increase engagement with announcements and automate responses to repetitive inquiries. Additionally, the project will integrate information from APC school year calendar into the chatbot application to boost awareness of academic events.

To improve disseminating announcements and events to the APC Community, RAMinders will utilize a chatbot in Microsoft Teams. The bot shall be able to alert the community about the Registrar's notices in Outlook and the APC calendar. The system shall consolidate the announcements, inquiries and event reminders on the widely used Teams platform. The system shall also ensure that the APC community remains well-informed about the events.

The system development shall take place over the three-course Project Based Learning (PBL) series of subjects. The search for a client, the assessment of the gap analysis on the client's current system, and the project proposal shall take place during the SNTSDEV course. The feature development of the system shall occur during the SYSADD1 course. Lastly, analytics integration and project deployment shall occur during the SCSPROJ course.

To determine the necessary innovations for the client, a Gap Analysis was conducted, consisting of a SWOT Analysis, Fishbone Diagram, and Feasibility Analysis. Through these strategies, it showed that despite the informative announcements from the client, the primary delivery method — Outlook — results in low visibility among the APC community. The lack of further visibility of these announcements leads to a relatively high number of repetitive inquiries.

By the end of the project, the team is expected to deliver an announcement system on Microsoft Teams that includes a chatbot capable of delivering announcements and responding to inquiries from the APC community. Furthermore, the team will integrate information from the APC calendar to the Microsoft Teams platform during the project duration.

The main beneficiaries of this project are the Office of the Registrar, our client, and the APC Community, including the students, faculty, and staff. The secondary beneficiaries of the project include other APC departments and institutions, both corporate and educational, that utilize Microsoft Teams. They may utilize the system for future purposes once it proves successful. These entities shall benefit from having highly visible announcements and automated responses to frequently asked questions.

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I.   Introduction

1.1   Project Context

The Office of the Registrar at Asia Pacific College (APC) is an essential academic service department responsible for managing student records, enrollment, graduation, and other associated services. It also disseminates crucial information to both academic and non-academic stakeholders.

In tradition, the Registrar's Office communicates key academic announcements and schedules via three main platforms: Microsoft Outlook, the APC website, and the RAMS Portal. Outlook, an application that belongs in the Microsoft 365 software suite, serves as the information management system of APC for announcements. The APC website acts as the information center, which provides all the necessary information about APC. The RAMS Portal is the point of access for student information, which includes the school transactions and confidential student records.

However, the current system of the Registrar has several shortcomings that hinder its processes. These issues result in crucial information being overlooked by the APC community. This leads to various problems for the Office of the Registrar.

Firstly, the large volume of information presented can be overwhelming for students. With so many messages and updates, students might miss critical information amongst the notices that are less urgent. The information overload makes it difficult for students to prioritize and identify important announcements.

Secondly, unlike real-time communication methods like instant messaging or phone calls, e-mail messages are not immediately attended to. This delay leads to potential gaps between sending an announcement and addressing student concerns. This passive nature of e-mails indicates that important updates might get buried under other e-mails by the time students check their inboxes. This results in low interaction rates of announcements and due to this, the Office of the Registrar receives repetitive student inquiries of about 30 emails per day.

Thirdly, the lack of sufficient visibility on the APC calendar limits the ability for the community to stay informed. The current process for accessing the APC calendar on the website is quite cumbersome for students. They must navigate through several steps: searching for the APC website, locating and clicking on the calendar icon tab, and then either finding a list of term calendar documents in the sidebar or scrolling down the page to find an image of the calendar. This complexity discourages students from regularly checking the calendar. Moreover, students typically do not actively look at the calendar unless they visit the website. They might be aware of the available information but are not interested in reviewing the specific details unless it is presented to them directly and conveniently.

Lastly, there is a low iteration in disseminating information across platforms that students are actively engaged with, which is a necessity. Since many students oftentimes, do not frequently check their academic email accounts, important announcements go unnoticed.

Microsoft (MS) Teams is a messaging application for organizations — a workspace for real-time collaboration and communication, meetings, files and app sharing accessible to everyone. APC makes use of MS Teams as their educational management system. Senior high school and collegiate students are

added into Teams, which are private and highly customizable communication channels which serve as a primary way for each class to conduct lectures, as well as assigning homework, quizzes, and exams.

The APC community members our project is referring to are (1) Students who are currently enrolled in APC, (2) School & Programs members such as Executive Heads, Program Directors, and Professors who are either full-time or part-time, (3) Services Heads and Executive Directors, (4) Office of President Heads, Directors, Manager, Officer, and Specialist, and (5) Parents of students who are currently enrolled in APC.

The analytics collected will play a critical role in discerning the engagement and effectiveness of the announcement system in MS Teams for APC. By tracking metrics such as *Announcement Views*, *Announcement Open Rate*, and *Announcement Feedback*, the Registrar's Office can gauge which announcements are being accessed, the optimal times for posting, and whether announcements are well-received. Additionally, *Inquiry Time* and *Date Sent*, *Inquiry Prompt Amount*, and *Inquiry Feedback* provides insight into student interactions with the RAMinders bot, highlighting common inquiries, peak times for inquiries, and satisfaction with the responses. The following analytical metrics will help the Office of the Registrar refine announcements, enhance bot responses, and adjust communication strategies, thereby reducing missed information and improving student engagement:

1) *Announcement Views:* The number of views an announcement has accumulated.
2) *Announcement Time Viewed:* The time and date a certain announcement has been viewed by a user.
3) *Announcement Open Rate:* The percentage of views an announcement has accumulated.
4) *Announcement Feedback:* The scale of the feedback from an announcement; if it is helpful, not helpful or not provided.
5) *Inquiry Time and Date Sent:* The time and date of an inquiry that has been sent to the RAMinders bot.
6) *Inquiry Prompt:* The prompt sent by a user to the RAMinders bot.
7) *Inquiry Prompt Amount:* The amount of prompts a certain user has sent to the RAMinders bot.
8) *Commonly Sent Prompts:* The commonly sent prompts from all the users to the RAMinders bot.
9) *Inquiry Time Spent:* The amount of time a certain user has spent in a conversation with the RAMinders bot.
10) *Inquiry Feedback:* The scale of the feedback from an inquiry; if it is helpful, not helpful or not provided.

The proposed project aims to create a sufficient announcement system in MS Teams that will promptly deliver announcements, synchronize such announcements with Outlook, and address APC community members' inquiries. The team shall utilize a chatbot, which is an artificial intelligence (AI) software application that can simulate a conversation with users through messaging applications. The team also aims to provide event reminders and display schedules from the information on the APC calendar. These integrations will ensure that students receive consistent and timely updates, enhancing APC community members' engagement and reduces the risk of missing information. In due course, the project aims to extend its service to other departments within APC.

1.1.1 Survey Findings

The Office of the Registrar does not have an engagement tracker in their system. Engagement is defined as the reactions and number of views that announcements of the Office of the Registrar has disseminated. The relevance of gathering these data is crucial in identifying what type of announcements are receiving more engagement. As preliminary data, the team conducted a survey containing 7 questions to measure the effectiveness of the current announcement system employed by the Office of the Registrar. The team separated the survey into two sections: the General Announcements and the Registrar Announcements.

The team was able to gather a total of thirty-five (35) respondents from different programs in APC: School of Computing and Information Technology (SoCIT), School of Multimedia and Arts (SoMA), School of Management (SoM), School of Engineering (SoE), and School of Architecture (SoAr).
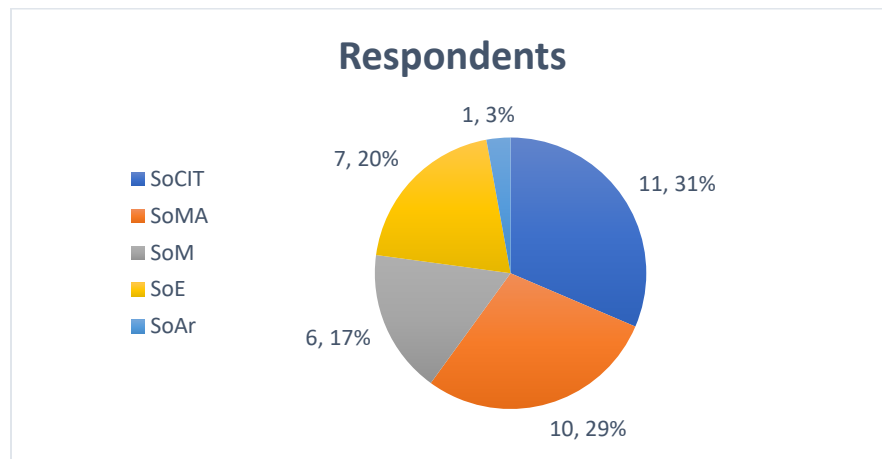
Fig. 1. Number of Respondents for the preliminary data.

In the preliminary data, 11 students responded from the SoCIT (31%), 10 students from SoMA (29%), 6 students from SoM (17%), 7 students from SoE (20%) and 1 student from SoAR (3%).

Question 1: "How often do you check your emails in Outlook for announcements from any organization or department in APC (e.g., academic services, student organizations)?"
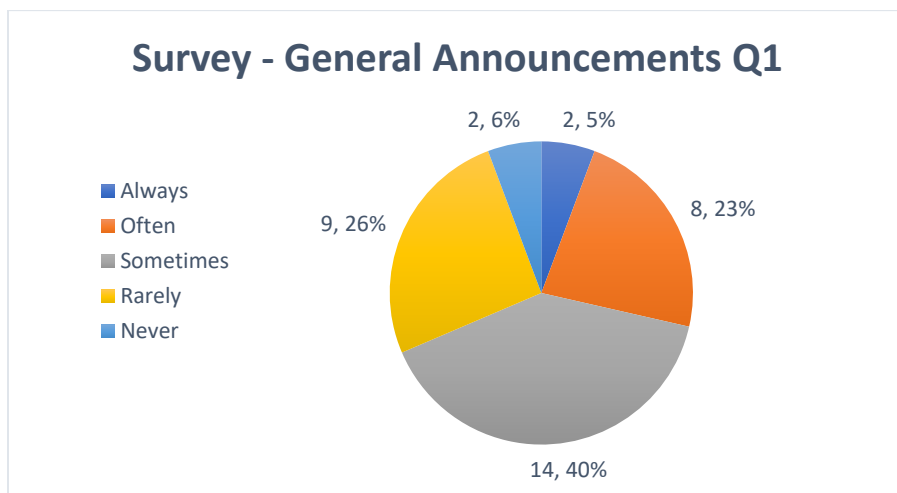
Fig. 2. General Announcements Question 1.

Among the respondents, 2 students (6%) indicated that they always check their emails for announcements, while 8 (23%) stated they often do so. 14 respondents (40%) mentioned checking sometimes, 9 respondents (26%) said rarely, and 2 students (5%) never check their emails for announcements.

Question 2: "How often do you miss important announcements?"
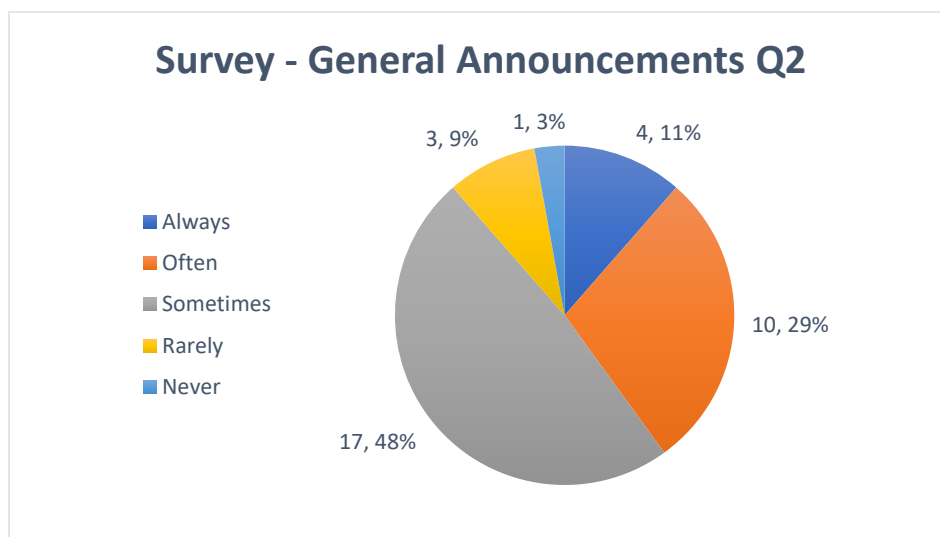
Fig. 3. General Announcements Question 2.

Regarding how often important general announcements are missed, 4 respondents (11%) mentioned always missing them, 10 (29%) stated they often miss announcements, 17 respondents (48%) said they sometimes miss them, 3 students (9%) rarely miss announcements, and 1 student (3%) claimed to never miss them.

Question 3: "If you have missed announcements, what were the reasons?"
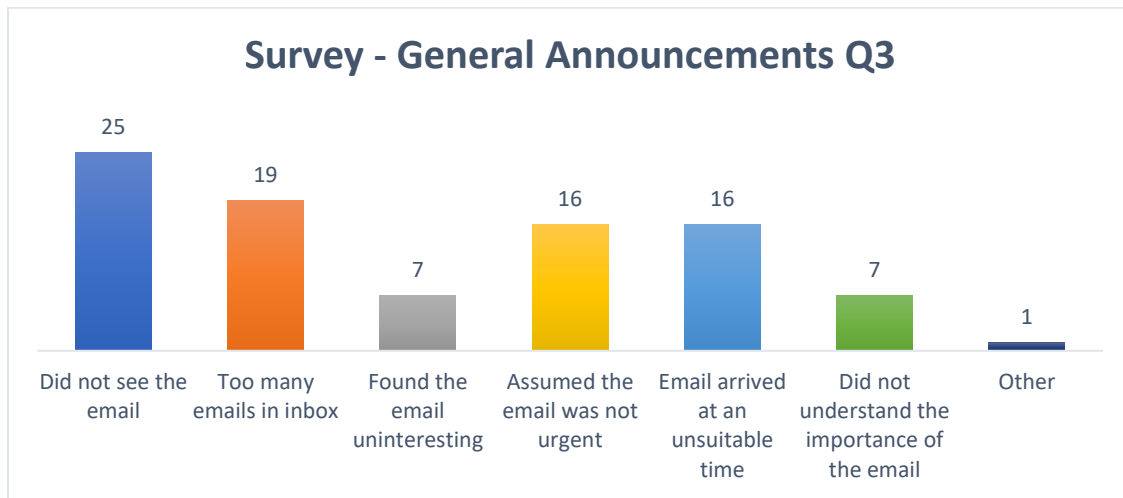
Fig. 4. General Announcements Question 3.

The reasons cited for missing announcements varied among respondents. The most common were not seeing the email, reported by 25 students (27%), and having too many emails in their inbox, noted by 19 respondents (20%). Additionally, 7 students (7.69%) found the emails uninteresting, 16 (17.58%) assumed the emails were not urgent, 16 (17.58%) received emails at unsuitable times, and 7 (7.69%) did not understand the importance of the emails. One respondent (1%) selected "Other" as their reason.

Question 4: "How often do you check your Outlook for email announcements from the Office of the Registrar??"
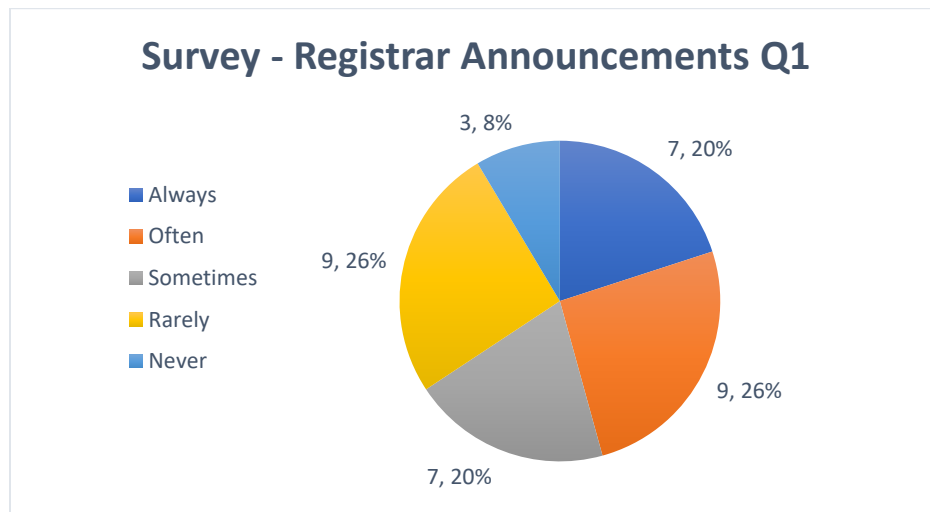
Fig. 5. Registrar Announcements Question 1

In terms of checking Outlook for announcements specifically from the Registrar's Office, 7 respondents (20%) stated they always check, 9 (26%) mentioned checking often, 7 (20%) indicated sometimes, 9 (26%) reported rarely checking, and 3 students (8%) never check.

Question 5: "What is the likelihood that you will open and read an email announcement from the Office of the Registrar?"
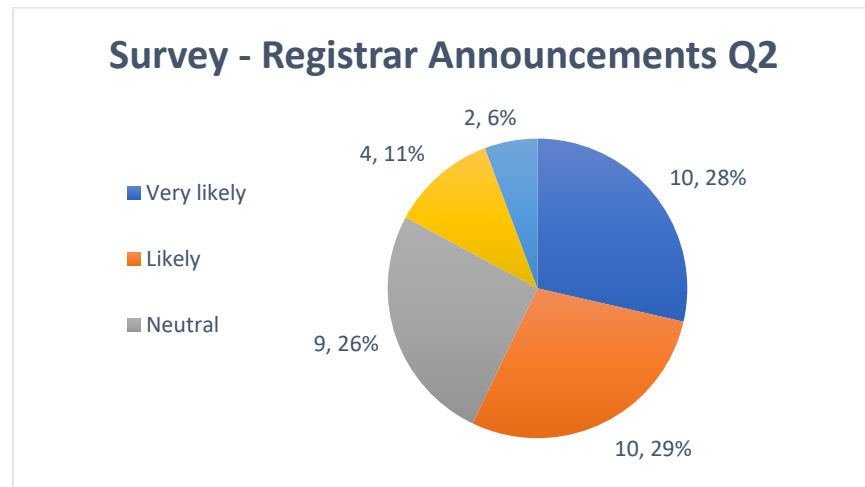
Fig. 6. Registrar Announcements Question 2.

The likelihood of opening and reading email announcements from the Registrar's Office, 10 students (28%) expressed they are very likely to read them, while an equal number said they are likely (29%). 9 respondents (26%) were neutral, 4 (11%) stated they are unlikely to read them, and 2 students (6%) indicated they are very unlikely to read them.

Question 6: "Before sending an inquiry to the Office of the Registrar, do you check the announcements in Outlook to see if the information you need is already there?"
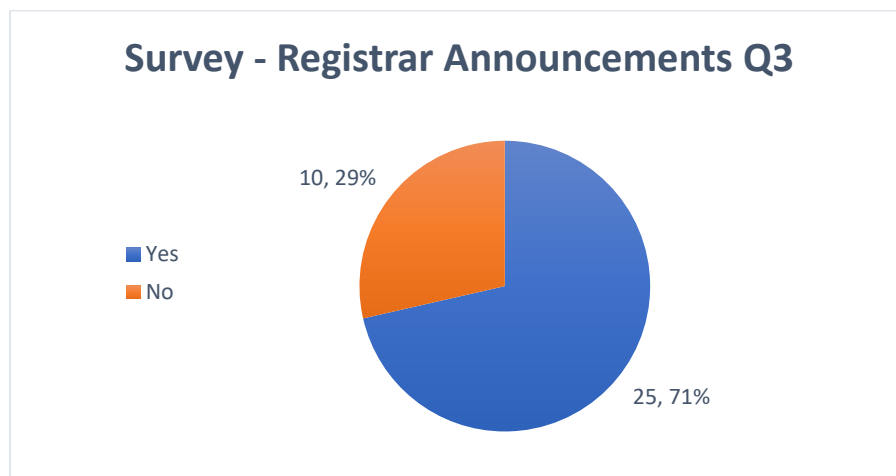
Fig. 7. Registrar Announcements Question 3.

When asked if they check announcements before reaching out to the Registrar's Office, 25 respondents (71%) answered yes, while 10 respondents (29%) answered no.

Question 7: "What are the reasons you might not open or read an email announcement from the Office of the Registrar?"
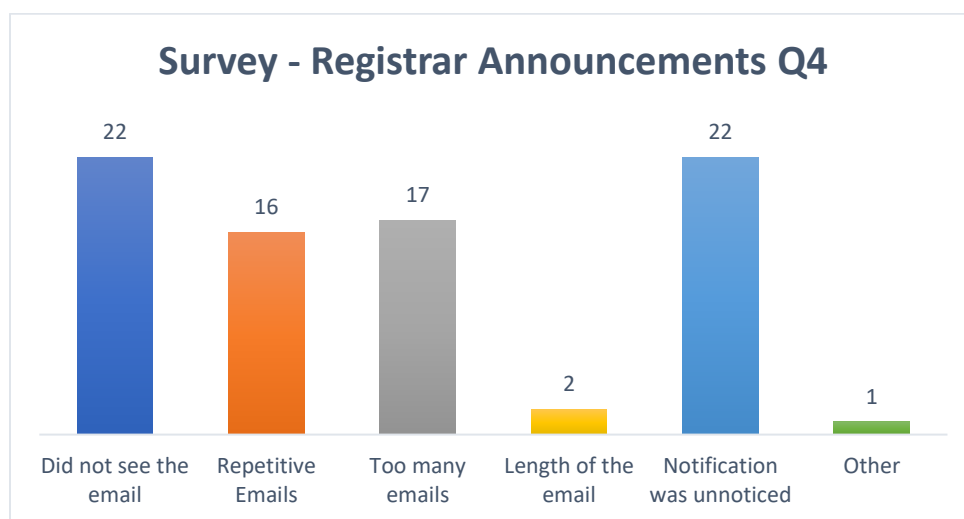
Fig. 8. Registrar Announcements Question 4.

The reasons given for not opening or reading email announcements included not seeing the email, as mentioned by 22 respondents (27.50%), and the notification going unnoticed, also reported by 22 respondents (27.50%). Additionally, 16 respondents (20%) found the announcements repetitive, 17 (21.25%) cited receiving too many emails, 2 (2.50%) felt the emails were too lengthy, and 1 respondent (1.25%) selected "Other" as their reason.

Respondents provided various suggestions to enhance announcements in Outlook. The suggestions include keeping announcements concise and clear, using keywords and high-priority settings, enhancing bold text, colors, and icons, leveraging social media for awareness, and filtering and organizing emails effectively.

1.2   Statement of the Problem

Main Problem:

The current announcement system utilized by the Office of the Registrar at APC is often overlooked by students which leads to lack of awareness on academic affairs. These problems include:

Specific Problems:

1. There is no system being utilized to measure awareness and engagement with the announcements.
2. Outlook, being the primary communication channel for the Office of the Registrar's announcements, limits the reach of information sent out to all its recipients.
3. Information about academic events often goes unnoticed because most students rarely check Outlook for announcements.

1.3   Objectives

General Objective:

The project aims to develop an announcement, inquiry and event reminders system in Microsoft Teams that delivers an engaging and interactive communication platform for the APC community.

Specific Objectives:

1. To utilize engagement metrics that can accurately track and measure interaction of the Office of the Registrar's announcements.
2. To improve the reach and engagements of the announcements made by the Office of the Registrar, in complement to existing communication channels.
3. To ensure students receive timely reminders and reduce the likelihood of overlooked announcements.
4. To provide accessible means for the APC community to interact with the Office of the Registrar.

1.4   Significance of the Project

The following are the entities that will benefit from the RAMinders project:

1.4.1   APC Students, Faculty, and Staff
The APC community will benefit from the project by receiving constant reminders about school events. Students will have increased awareness of events, and they can receive instant updates on common inquiries through the chatbot.

1.4.2   APC Office of the Registrar
The main client of the project, the APC Office of the Registrar, will benefit from the project by having a visible platform to make announcements through the chatbot. Commonly asked inquiries from

the community will also be automatically answered by the chatbot, removing the need for Registrar personnel to manually answer the questions.

1.4.3 Future Beneficiaries

If others or the current team continue with the development may benefit from the project. The project is initially targeted at the Office of the Registrar, the ability to make announcements and answer inquiries will be beneficial to other APC departments too. Other educational and professional institutions that use Microsoft Teams as their primary communication mode can use the project to communicate with their students or team members.

1.4.4 Sustainable Development Goal (SDG)

The project aligns with the 9th Sustainable Development Goal which is to promote innovation in digital infrastructure within APC. The development of a chatbot system contributes to a significant technological advancement in the institution. By fostering efficient communication, this project promotes innovative academic and administrative practices at APC.

1.5 Scope and Limitations

The project focuses on the announcement system that utilizes a chatbot as its communication channel using MS Teams as its platform. It can deliver announcements and respond to inquiries for the Office of the Registrar. The registrar can deliver announcements to the APC community. The range of scale can go from the APC community to specific sections within a course. The chatbot can answer questions and inquiries made by an APC community member. The chatbot will have access to basic information of the APC community member such as: Name, Email Address, and Profile Picture.

Once the chatbot is already developed for the Registrar, the scope expects to extend its service to other relevant departments within APC. Such announcements sent through the chatbot will also be synchronized in Outlook. The chatbot will not replace traditional channels of communication: it is meant to supplement these channels and increase student awareness of upcoming school events.

The project is limited to responding to inquiries that include confidential information. If a student requests their own document, the bot will prompt them to go request for the document either on campus or online. The chatbot is only capable of answering inquiries regarding the school and its departments. It is not capable of answering non-school related questions. Microsoft does not have an API that can access the MS Teams calendar so the information for the calendar won't be reflected in the MS Teams calendar. For its initial stage, the announcement system will not be available to non-APC community members. But it can be further developed to be implemented to other academic institutions catered to their liking. The project is also limited by the choice of the stakeholders to mute the chatbot in MS Teams.

II. Requirement Analysis

2.1 Data Flow Diagram
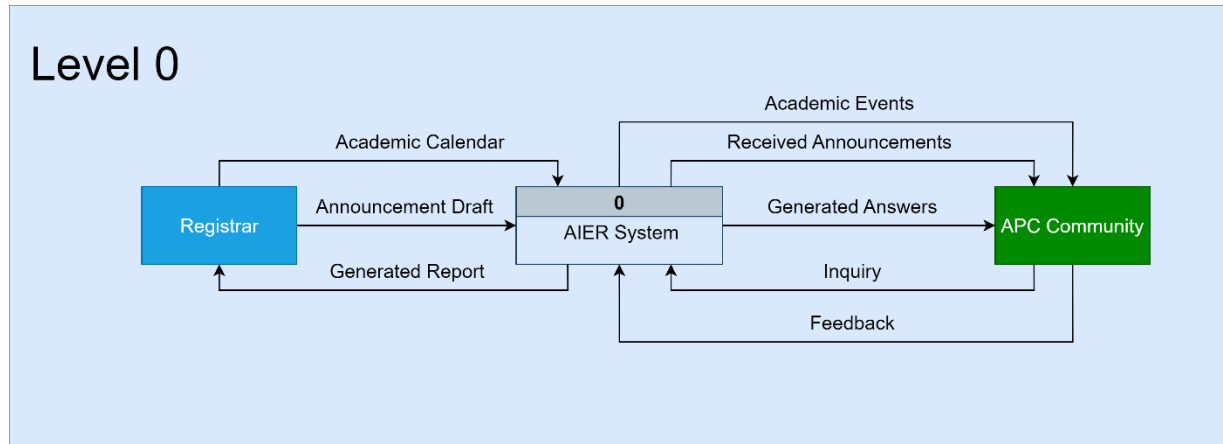
Fig. 9. DFD Level 0.
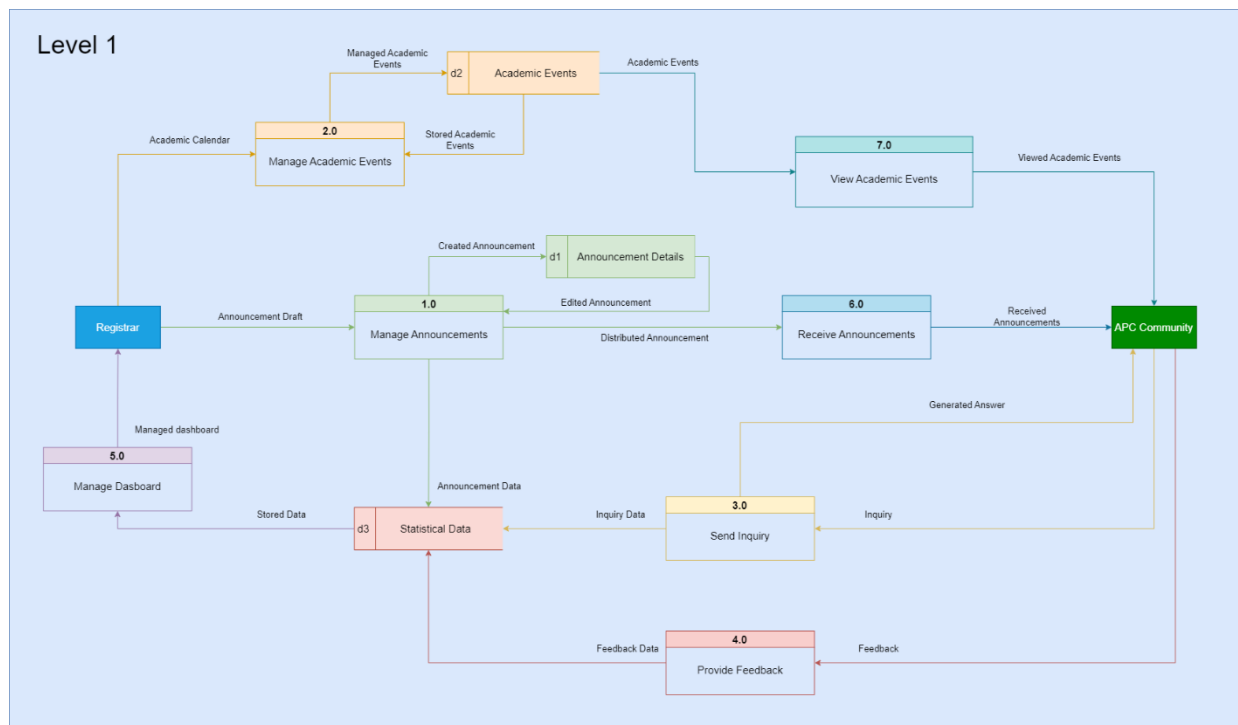
Fig. 10. DFD Level 1.
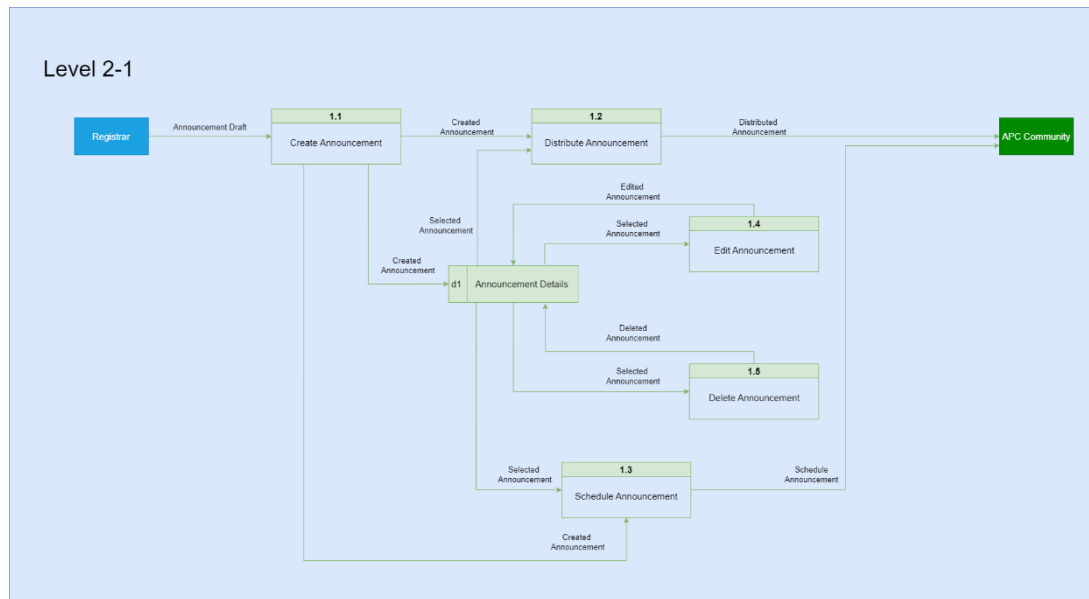
Fig. 11. DFD Level 2-1.

a. Level 2-2
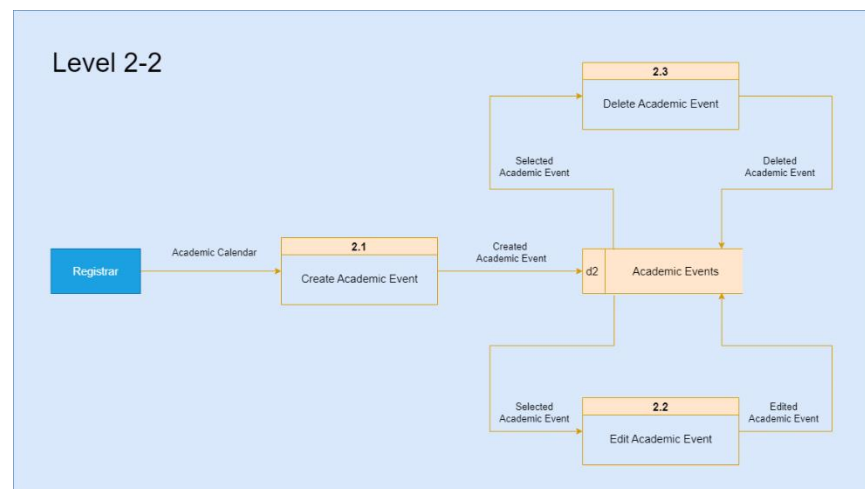
Fig. 12. DFD Level 2-2.
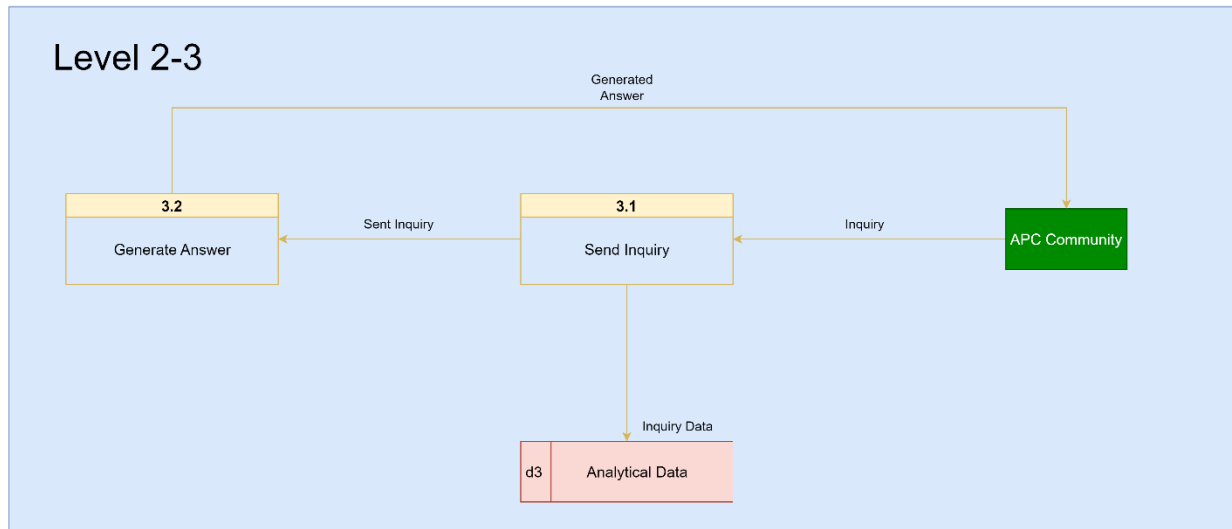
Fig. 13. DFD Level 2-3.
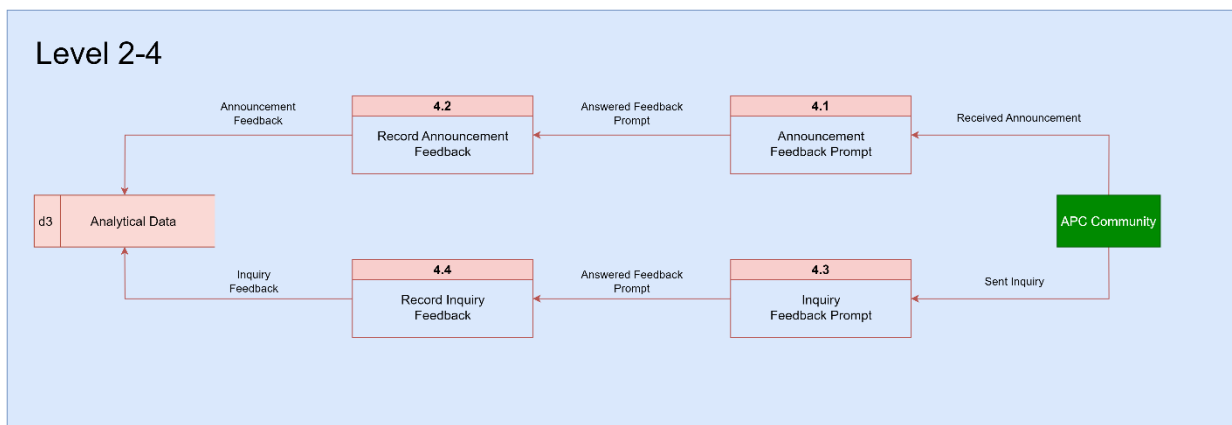
Fig. 14. DFD Level 2-4.
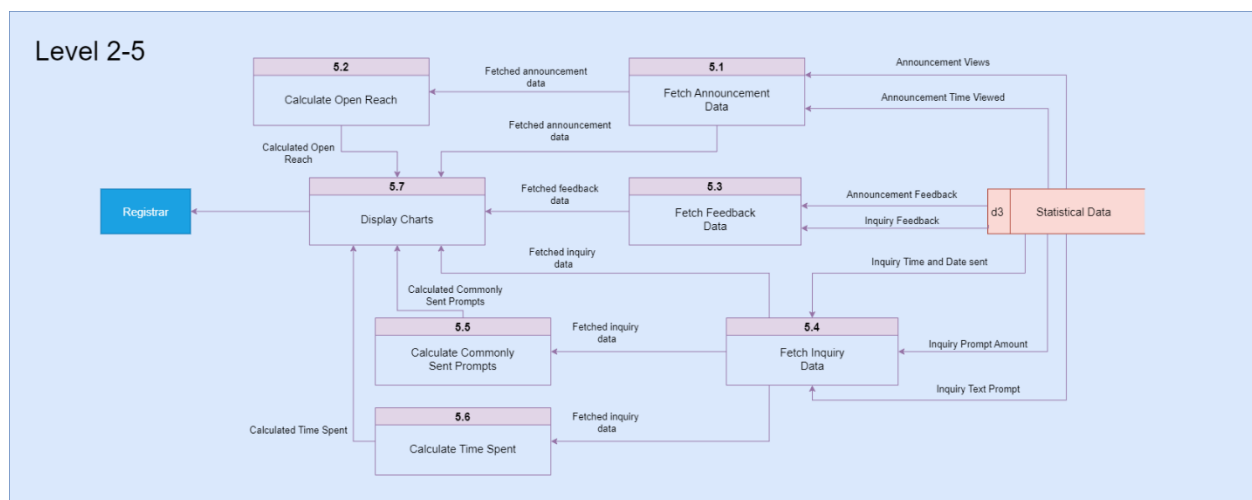
Fig. 15. DFD Level 2-5.
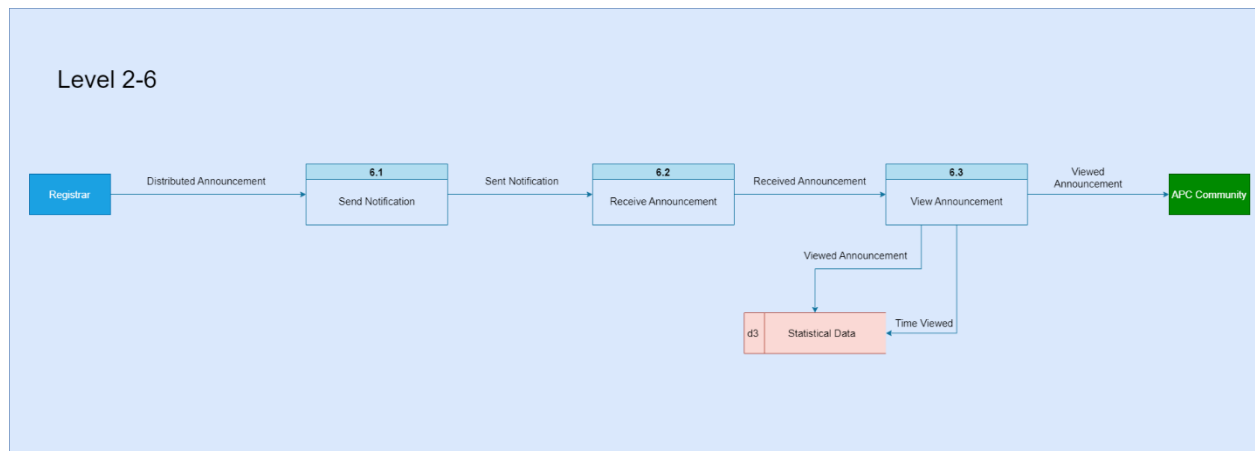
Fig. 16. DFD Level 2-6.

2.2 Use Case Diagram
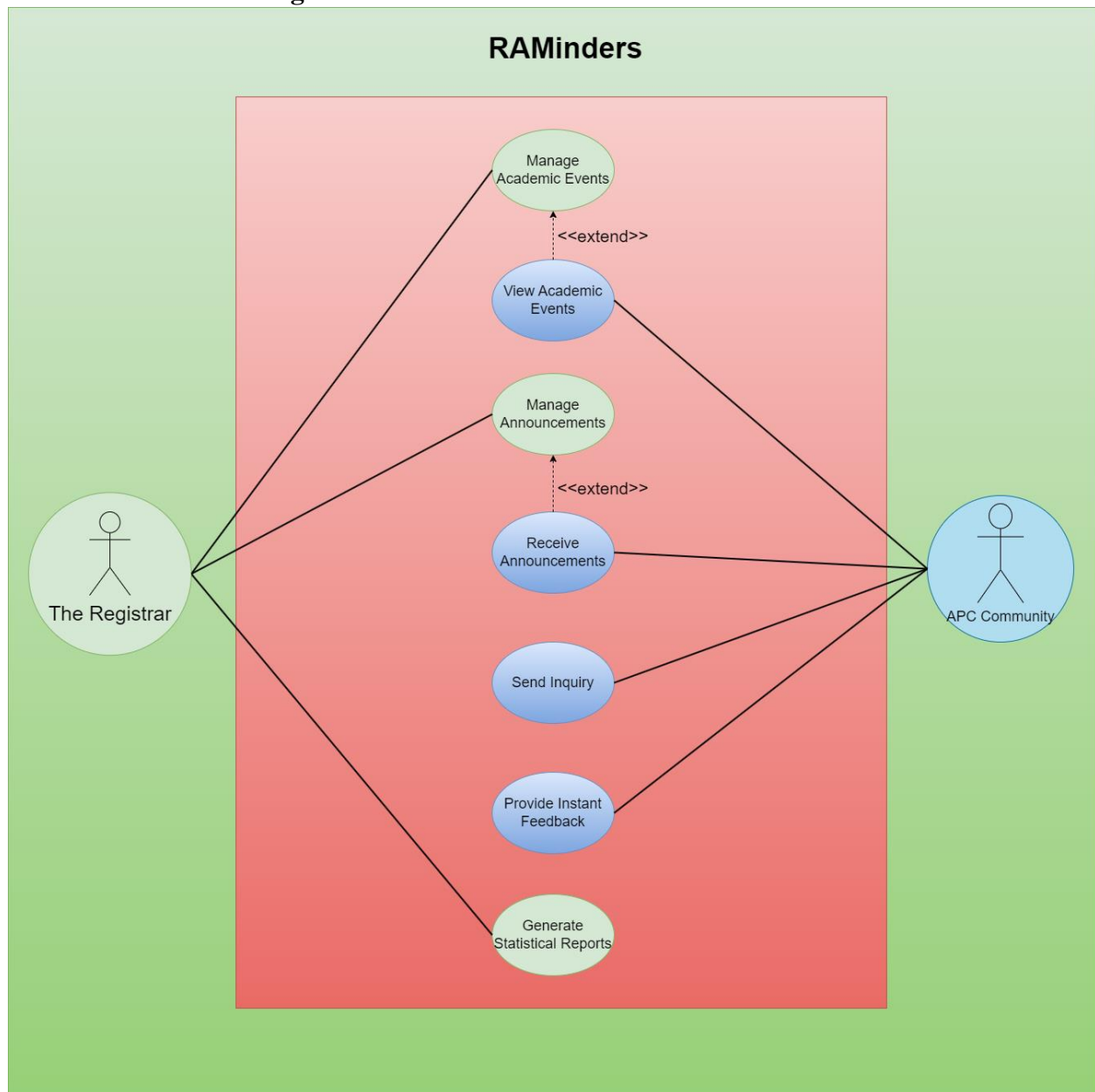
Fig. 17. Use Case Diagram.

2. 3 Fully Dressed Use Cases

2.3.1 UC-01

Use Case Name
Manage Announcements

Use Case Number
UC-01

Created By
James Baquirin

Date Created
10-03-24

Scope
Announcement Management Module

Level
User Goal

Description
The Office of the Registrar manages announcements in the AIER System through creation, editing, deletion, scheduling, and distribution of announcements. Once an announcement is created and distributed to the desired groups within APC, those groups will be able to view the announcement within the RAMinders application in Microsoft Teams.

Primary Actor
The Registrar

Stakeholders and Interests
- **The Registrar:** Provide, update, and manage accurate information through announcements to ensure effective communication within the APC Community.
- **APC Community Members:** Benefit from receiving accurate and timely announcements created and distributed on the AIER System.

Pre-Conditions
- The Registrar is using the admin version of the RAMinders application.
- The AIER System is operational and allows the creation, editing, deletion, distribution, and scheduling of announcements.

Success Guarantee
Announcements are successfully managed (created, edited, deleted, scheduled, or distributed) and confirmed by the AIER System.

Main Success Scenario
1. The Registrar navigates to the "Manage Announcements" option in the RAMinders application interface.

2. The AIER System will display a list of created announcements as well as the option to create a new announcement.
3. The Registrar creates a new announcement and inputs the contents.
4. The Registrar selects the appropriate system-defined tags for the announcement.
5. The AIER System saves and stores the announcement.
6. The system returns the Registrar to the "Manage Announcements" interface.
7. The Registrar selects the desired created announcement from the list of announcements.
8. The AIER System displays a list of management functions that can be performed on the announcement (edit, delete, schedule, and distribute).
9. The Registrar chooses to distribute the announcement.
10. The Registrar selects the desired APC Community groups to distribute the announcement to.
11. The AIER System distributes the announcement and provides confirmation that the announcement has been sent.

Extensions
3a. The Registrar wants to manage an existing announcement instead of creating a new one.
1. The Registrar selects the desired announcement to manage instead of the "Create Announcement" option in the "Manage Announcements" interface.
2. The AIER System displays a list of management functions that can be performed on the announcement.
3. The Registrar selects the desired management function they wish to perform on the selected announcement.

3b. The AIER System crashes during the process of inputting content.
1. The AIER System saves the current progress and recovers the announcement draft once the Registrar reopens the RAMinders application.
2. The Registrar reopens the RAMinders application and completes the inputting of the announcement content.

4a. The Registrar forgets to attach any of the system-defined tags to the announcement.
1. The AIER System reminds the Registrar to add the appropriate tags to the announcement.
2. The Registrar adds the appropriate tags to the announcement.
3. The AIER System saves and stores the announcement.

8a. The Registrar wishes to edit the contents of an announcement.
1. The Registrar selects the "Edit" function from the displayed list of management functions.
2. The Registrar adds the desired modifications to the announcement content and submits the changes.
3. The AIER System updates the edited announcement and confirms the successful editing of the announcement.
   8a.2. The Registrar inputs invalid details during editing (ex. missing data from fields)
   1. The AIER system notifies the Registrar of the invalid input details and prompts them to correct the input before proceeding.

8b. The Registrar wishes to delete an announcement.
1. The Registrar selects the "Delete" function from the displayed list of management functions.
2. The AIER System prompts the Registrar if they are sure they want to delete the announcement.
3. The Registrar confirms the deletion of the selected announcement.
4. The AIER System deletes the selected announcement and confirms its successful deletion.

8c. The Registrar wishes to schedule the distribution of the announcement for a later time and/or date.
1. The Registrar selects the desired APC Community groups to distribute the announcement to.
2. The Registrar selects a date and time for the announcement to be sent.
3. The AIER System schedules the announcement for distribution at the specified date and time.
4. The AIER System provides confirmation that the announcement has been scheduled and will be sent out at the scheduled time.
5. The AIER System sends out the announcement at the scheduled time and date.

11a. Distribution of the announcement fails due to unforeseen circumstances (network outage, AIER System glitch, etc.)
1. The AIER System alerts the Registrar and provides options to retry or save the announcement for later.
2. If the Registrar chooses to save the announcement and retry later, the AIER System will save the announcement and retry the distribution later.

11a. Announcement is not received due to unforeseen circumstances (e.g. network outage, MS teams servers are down, etc.) on the recipient's end.
1. The AIER system logs the failed delivery and retries sending the announcement until it is successfully sent.

11b. The announcement is delayed due to internal AIER System processing or scheduling errors.
1. When the AIER system is fully operational again, the AIER system will retry to send the announcement.

11c. A recipient receives an announcement intended for a different group.
1. The AIER System identifies the mismatch.
2. A corrected announcement is sent to the appropriate recipients, and the Registrar is alerted to review group assignments to prevent future occurrences.

2.3.2 UC-02

Use Case Name
Manage Academic Events

Use Case Number
UC-02

Created By
James Baquirin

Date Created
10-03-24

Scope
Academic Event Schedules

Level
User Goal

Description

The Registrar updates and manages the academic events in the AIER System for the APC Community to access and view and ensures that the APC Community has access to the current information regarding academic events, such as exams, holidays, and special university events. The APC Community should be able to access the scheduled academic calendar to view upcoming academic events.

Primary Actor
The Registrar

Stakeholder and Interests
- **APC Community Members**: Need up-to-date information on academic events.
- **Office of the Registrar**: Responsible for maintaining accurate and timely academic event information. Ensure that updates are reflected immediately to prevent misinformation.

Pre-conditions
- The Registrar is using the admin version of the RAMinders application.
- The Registrar has information on academic events.
- There are events in the Academic calendar.

Success Guarantee
The academic calendar is updated with the latest event details, and the updates are visible to the APC Community. The APC Community is able to access and view academic events through the RAMinders Application.

Main Scenario
1. The Registrar navigates to the 'Manage academic events' option in the RAMinders application.
2. The Registrar inputs academic calendar details including date, time, location, and any additional relevant information.
3. The AIER System saves the updated events and reflects them in the academic calendar.

Extensions
3a. The Registrar cancels the update due to changes or errors.
1. The Registrar cancels the operation, and no changes are made to the academic calendar.

3b. The AIER System fails to save the updated events.
1. The AIER System prompts the Registrar to retry the operation or to pause the operation.
2. If the retry fails, the AIER System reports the issue to the Registrar
3. If the Registrar chooses to pause the operation, the data is saved locally, and the Registrar can retry the operation when the AIER System is no longer experiencing difficulties.

2.3.3 UC-03

Use Case Name
Send Inquiry

Use Case Number
UC-03

Created By

Omar O. Decena

Created On
08-30-24

Scope
AIER System

Level
User Goal

Description
APC Community members should be able to inquire about various academic matters, such as schedules, events, registration, and more, using a chatbot. The chatbot will provide answers based on its knowledge base or escalate inquiries to the Office of the Registrar if necessary.

Primary Actor
APC Community

Stakeholders and Interests
Office of the Registrar: Needs to manage and resolve inquiries efficiently.
The APC Community: Need accessible information from the Registrar.

Pre-conditions
- The user has a question to ask.
- The bot can handle the inquiry based on how it is asked.
- The bot can give the appropriate and relevant answers to the inquiry.
- The bot is operational and has an updated database.

Success Guarantee
The bot was able to comprehend the inquiries and provide an answer or referral. It would then be measured if the bot satisfied the user's needs by the user's feedback.

Main Scenario
1. The APC Community member sends an inquiry to the chatbot.
2. The chatbot processes an answer to provide based on its knowledge base.
3. The chatbot gave a relevant and accurate response to the user's inquiry.

Extensions

1a. Inquiry Unclear:
- The chatbot finds the inquiry unclear (unrelated questions (SHOULD BE SPECIFIED, like why the questions are unrelated), database not yet up to date, (What would be considered as an "up to date"))
- It prompts the user for additional clarification or provides options to refine the question.
- If the answer is not sufficient, the chatbot refers the inquiry to the Registrar.
- The system logs the inquiry and the response for future reference.

2a. Escalation Process:
- If the chatbot refers the inquiry to the Office of the Registrar, the system notifies the user that their question has been escalated, and a response will be provided soon.

- The response or resolution is communicated back to the user.

3a. Logging Failure:
- If the system fails to log the inquiry or response, an alert is generated for system administrators to investigate.

2.3.4 UC-04

Use Case Name
Provide Instant Feedback

Use Case Number
UC-04

Created By
James Baquirin

Created on
8-29-24

Scope
AIER System

Level
User-Goal

Description
The APC Community provides instant feedback to the Registrar after viewing an announcement.

Primary Actor
APC Community

Stakeholders and Interests
Registrar: Needs feedback to assess the effectiveness of the announcement.
APC Community: Have a way to communicate to AIER System owners if announcements are effective or not.

Pre-conditions
- The APC Community member has the RAMinders application installed in their Teams account.
- The Registrar sends an announcement to the APC Community.
- The announcement is received and viewed by the APC Community.

Success Guarantee
The feedback from the APC Community member is sent to the Registrar. The Registrar receives feedback from the APC Community.

Main Scenario
1. The APC Community members receive the announcement.
2. The AIER System sends a prompt requesting feedback on the announcement.
3. The APC Community members give their feedback.

4. The AIER System receives and logs the feedback, and it sends confirmation that the feedback has been received.

Alternate Scenario
1. The APC Community member sends an inquiry to the RAMinders bot.
2. The AIER System sends a generated answer to the APC Community member.
3. The AIER System sends a prompt requesting feedback on the inquiry.
4. The APC Community member give their feedback.
5. The AIER System receives and logs the feedback, and it sends confirmation that the feedback has been received.

Extensions
2a. AIER System fails to ask for feedback after the announcement.
1. The AIER System fails to prompt the user for feedback after sending an announcement due to an unforeseen error.
2. The AIER System logs the error and identifies the community members affected by it.
3. The AIER System sends the delayed feedback prompt to the affected members.
4. The APC Community member responds to the delayed feedback prompt.
5. The AIER System logs the feedback.

3a. Feedback submission fails.
1. The APC Community members give their feedback.
2. The feedback fails to be sent due to unforeseen circumstances.
3. The AIER System notifies the user that the feedback failed to be sent.
4. The APC Community members are prompted to submit their feedback again.

2.3.5 UC-05

Use Case Name
Manage Dashboard

Use Case Number
UC-05

Created By
Jorenzo Martin J. Reyes

Date Created
8-29-24

Scope
AIER System

Level
User-Goal

Description
The Registrar manages a dashboard supplied by gathered data from the AIER System that can be filtered by time, date, and selected data.

Primary Actor
The Registrar

Stakeholders and Interests
Registrar: Needs accessible visual representation of gathered data for decision-making and improvement of their processes and possible their AIER System in place.

Triggers
The Registrar wants to gain insights from the users of the RAMinders application to improve future announcements.

Pre-conditions
- The Registrar is using the admin version of the RAMinders application.
- Sufficient time has passed to collect data for the desired type of report defined.

Success Guarantee
- The registrar can manipulate how they want to visually represent different types of data from the AIER System.

Main Success Scenario
1. The AIER System successfully collects data from announcements, inquiries, and feedback.
2. The Registrar navigates to the "Manage Dashboard" section of the application.
3. The Registrar selects the timeframe, and the type of data desired.
4. The Registrar can specify the data more by selecting certain groups in the APC Community.
5. The AIER System displays the visual representation of the dashboard.

Extensions
1a. Data is incomplete, or the syntax of the data is invalid.
- **1a.1. Automatic Data Validation:** Upon detecting incomplete or invalid data, the AIER System automatically attempts to validate and correct simple errors (e.g., missing fields, format inconsistencies). If the issue is resolved through automated means, the AIER System proceeds with report generation.
- **1a.2. Error Categorization:** The AIER System categorizes the data issues based on severity (e.g., critical errors that prevent report generation vs. minor errors that affect specific data points).
- **1a.3. Immediate Notification:** For critical errors, the AIER System immediately notifies the Registrar and the IT Support Team.

2a. Report Generation Failure:
- **2a.1. Failure Detection:** The AIER System continuously monitors the report generation process. If a failure occurs, it logs the specific cause (e.g., system crash, data corruption) and the point of failure within the process.
- **2a.2. Automated Recovery Attempts:** The AIER System attempts to automatically recover from the failure by restarting the report generation process from the last successful checkpoint.
- **2a.3. IT Department Notification:** If automatic recovery is unsuccessful, the AIER System immediately notifies the Registrar.

2.3.6 UC-06

Use Case Name Receive Announcements	

Use Case Number
UC-06

Created By
Jorenzo Reyes

Date Created
10-03-24

Scope
Announcement Management Module

Level
User Goal

Description
The APC Community members receive relevant announcements distributed by the registrar.

Primary Actor
APC Community Members

Stakeholders and Interests
- **The Registrar:** Provide, update, and manage accurate information through announcements to ensure effective communication within the APC Community.
- **APC Community Members:** Receive accurate and timely announcements created and distributed on the AIER System.

Pre-Conditions
- The APC Community members must already have the RAMinders application added in their MS Teams account.

Success Guarantee
APC Community members received relevant distributed announcements and are notified.

Main Success Scenario
1. The APC Community member receives a notification from the RAMinders chatbot.
2. The APC Community views the received announcement.
3. The AIER System marks the announcement as viewed by the APC Community member, the time the announcement was viewed, the amount of time the announcement is opened, and feedback from the user if available.

1a. The recipient does not notice the announcement among other chat messages.
1. The AIER System won't send a repetitive reminder for the recipient every hour or day to view the announcement, but it will flag unread announcements and mark the announcement as important within the Teams chat.
2. A summary of unread announcements will be provided at the end of the week.

2.3.7 UC-07

Use Case Name
View Academic Events

Use Case Number
UC-07

Created By
Jorenzo Martin

Date Created
10-03-24

Scope
Academic Event Schedules

Level
User Goal

Description
The APC Community members can view academic events.

Primary Actor
APC Community Members

Stakeholder and Interests
- **APC Community Members**: Needs an up-to-date academic event information.

Pre-conditions
- The APC Community members must already have the RAMinders application added in their MS Teams account.
- There are events in the Academic calendar.

Success Guarantee
The academic calendar is updated with the latest event details, and the updates are visible to the APC Community. The APC Community is able to access and view academic events through the RAMinders Application.

Main Scenario
1. The APC Community member selects the option to view the Academic Events.
2. The system retrieves the latest academic event calendar.
3. The system displays a calendar view and a list of upcoming academic events to the user.
4. The user browses through the calendar list to find relevant events.

Extensions
2a. The Academic Year (AY) hasn't started yet:
1. The AIER System displays a message indicating that the Academic Year has not started yet and provides the start date.
2. The user is informed of when the academic events will be available.

2b. No events are available:
1. The AIER System informs the user that there are no scheduled events at the moment.
2. The user is advised to check back later or contact the Office of the Registrar for more information.
3. The system displays a message saying, "No upcoming events are scheduled."

2c. The system is unable to retrieve the calendar:
1. The AIER System might be down or is currently undergoing maintenance.
2. The AIER System notifies the user of a technical issue and suggests retrying it later.
3. The user is provided with alternative options, such as contacting the Office of the Registrar directly.

2.4 Test Cases for Fully Dressed Use Cases

2.4.1 Create Announcements

1. **Test Case ID:** TCCA001

- **Created by: Arwen**
- **Description:** Test if the Registrar can successfully input content, add tags, and save the announcement.
- **Prerequisites:**
  - The Office of the Registrar has relevant information to share.
  - The Registrar is logged into the admin application and has the necessary permissions to create announcements.
  - The announcement content has also been reviewed and approved within the office before it is input in the AIER System.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"
  - tags = "Enrollment"
  - recipients = All APC Community Members

Step #	Step Details	Expected Results
1	The Registrar selects the "Create Announcement" option.	The system navigates to the "Create Announcement" page.
2	The Registrar inputs the announcement content	The content is displayed correctly in the announcement field.
3	The Registrar selects appropriate tags.	The selected tags are displayed correctly.
4	The Registrar saves the announcement.	The system successfully saves the announcement, displays a confirmation message (e.g., "Announcement saved successfully"), and the announcement is visible in the bot knowledge base with the selected tags and content.

2. **Test Case ID:** TCCA002-01

- **Created by: Arwen**
- **Description:** Retrieving and Completing Saved Draft After Network Error (Brief Network Disruption).
- **Prerequisites:**
  - The Office of the Registrar has relevant information to share.
  - The Registrar is logged into the admin application and has the necessary permissions to create announcements.
  - The announcement content has also been reviewed and approved within the office before it is input in the AIER System.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"
  - tags = "Enrollment"
  - recipients = All APC Community Members

Step #	Step Details	Expected Results
1	The Registrar selects the "Create Announcement" option.	The system navigates to the "Create Announcement" page.
2	The Registrar inputs the announcement content	The content is displayed correctly in the announcement field.
3	The AIER System errors midway through the content input process due to a network error.	The system displays a "Draft Saved" or similar confirmation before the network error, indicating the current progress was saved. The logs or local storage should show a successful save before the network error occurred.
4	The network reconnects within a short period (e.g., 5–10 seconds).	The system restores the content creation screen with the saved draft and allows the Registrar to continue inputting content.
5	The Registrar completes and saves the announcement.	The system successfully saves the completed announcement without data loss.

3. **Test Case ID:** TCCA002-02

- **Created by: Arwen**

- **Description:** Retrieving and Completing Saved Draft After Network Error (Extended Network Disruption).
- **Prerequisites:**
    - The Office of the Registrar has relevant information to share.
    - The Registrar is logged into the admin application and has the necessary permissions to create announcements.
    - The announcement content has also been reviewed and approved within the office before it is input in the AIER System.
- **Test Data:**
    - text_file = "Upcoming Enrollment Schedule"
    - tags = "Enrollment"
    - recipients = All APC Community Members

Step #	Step Details	Expected Results
1	The Registrar selects the "Create Announcement" option.	The system navigates to the "Create Announcement" page.
2	The Registrar inputs the announcement content	The content is displayed correctly in the announcement field.
3	The AIER System errors midway through the content input process due to a network error.	The system always displays a "Draft Saved" or similar confirmation. This is to ensure that when there are network errors, the current progress is always saved. The logs or local storage should show a successful save before the network error occurred.
4	The Registrar attempts to reconnect, but the system requires re-authentication.	The system displays the login screen and requires the Registrar to log back in after reconnecting to the network.
5	The Registrar logs back into the system.	The system retrieves the saved draft and allows the Registrar to continue from where they left off.
6	The Registrar completes and saves the announcement.	The system successfully saves the completed announcement without data loss.

4. **Test Case ID:** TCCA003

- **Created by: Arwen**

- **Description:** Verify that the system detects missing tags, prompts the Registrar to add them, and successfully saves the announcement after tags are added.
- **Prerequisites:**
  - The Office of the Registrar has relevant information to share.
  - The Registrar is logged into the admin application and has the necessary permissions to create announcements.
  - The announcement content has also been reviewed and approved within the office before it is input in the AIER System.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"
  - recipients = All APC Community Members

Step #	Step Details	Expected Results
1	The Registrar selects the "Create Announcement" option.	The system navigates to the "Create Announcement" page.
2	The Registrar inputs the announcement content and saves it but forgets to add tags.	The system displays a prompt warning that tags are missing, requesting the Registrar to add the appropriate tags before proceeding.
3	The Registrar adds the appropriate tags and clicks save again.	The system verifies the tags, successfully saves the announcement, and provides a confirmation message like, "Announcement saved successfully."

2.4.2 Distribute Announcements
   1. **Test Case ID:** TCDA001

- **Created by: Justine**
- **Description:** The Office of the Registrar distributes announcements without scheduling them for a future time. The system confirms it was sent successfully to all recipients.
- **Prerequisites:**
  - The system for distributing announcements is operational
  - The Registrar is logged into the admin application and has necessary permissions to distribute announcements.
  - The announcement is prepared and ready for distribution.
  - The system can distribute announcements immediately.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"
  - tags = "Enrollment"
  - recipients = All APC Community Members

Step #	Step Details	Expected Results
1	The Registrar selects "Distribute Announcement" in the system.	The system prompts for confirmation before sending the announcement.
2	The Registrar confirms the distribution of the announcement.	The system processes the confirmation request and begins distribution.
3	The system logs the announcement distribution and confirms successful sending.	The system displays a message "Announcement sent successfully to all recipients."

2. **Test Case ID:** TCDA002

- **Created by: Justine**
- **Description:** The announcement distribution fails due to unforeseen circumstances (ex. network error), and the system retries.
- **Prerequisites:**
  - The system for distributing announcements is operational
  - The Registrar is logged into the admin application and has necessary permissions to distribute announcements.
  - The announcement is prepared and ready for distribution.
  - The system is capable of distributing announcements immediately.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"
  - tags = "Enrollment"
  - recipients = All APC Community Members

Step #	Step Details	Expected Results
1	The Registrar selects "Distribute Announcement" in the system.	The system prompts for confirmation before sending the announcement.
2	The Registrar confirms the distribution of the announcement.	The system attempts to distribute the announcement but encounters failed delivery. The system displays "Delivery Unsuccessful, will retry."
3	The system retries distribution for failed recipients.	The system logs the retries and confirms successful sending after retrying by displaying "Announcement sent successfully to all recipients."

2.4.3 Schedule Announcements

1. **Test Case ID:** TCSA001-01

- **Created by: Arwen**
- **Description:** Validate that the Registrar can schedule an announcement immediately after writing it, using the "Schedule Now" button.
- **Prerequisites:**
  - The announcement is prepared and ready for distribution.
  - The Registrar is logged into the admin application and has necessary permissions to schedule announcements.
  - The system is capable of scheduling announcements for future distribution.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"
  - tags = "Enrollment"
  - recipients = All APC Community Members
  - date = September 30, 2024
  - time = 8:00 AM

Step #	Step Details	Expected Results
1	The Registrar clicks the "Schedule Now" button immediately after writing the announcement.	The system prompts the Registrar to input the desired date and time for scheduling the announcement.
2	The Registrar selects the desired date and time, then confirms the schedule.	The system validates the input and saves the schedule for the announcement.
3	The system displays a confirmation message.	The system confirms the scheduling with the message, "Announcement scheduled for September 30, 2024, at 8:00 AM."

2. **Test Case ID:** TCSA001-02

- **Created by: Arwen**
- **Description:** Test the ability to schedule an already saved announcement for future distribution.
- **Prerequisites:**
  - The announcement is prepared and ready for distribution.
  - The Registrar is logged into the admin application and has necessary permissions to schedule announcements.
  - The system is capable of scheduling announcements for future distribution.
- **Test Data:**
  - text_file = "Upcoming Enrollment Schedule"

- o tags = "Enrollment"
- o recipients = All APC Community Members
- o date = September 30, 2024
- o time = 8:00 AM

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Saved Announcements" section.	The Registrar is successfully taken to the list of saved announcements.
2	The Registrar selects the title of the saved announcement.	The system loads the selected announcement for scheduling.
3	The Registrar clicks the Schedule button.	The system prompts the Registrar to input the desired date and time for scheduling the announcement.
4	The Registrar selects the desired date and time, then confirms the schedule.	The system validates the input and saves the schedule for the announcement.
5	The system displays a confirmation message.	The system confirms the scheduling with the message, "Announcement scheduled for September 30, 2024, at 8:00 AM."

3. **Test Case ID:** TCSA002-01

- • **Created by: Arwen**
- • **Description:** Verify that the system allows the Registrar to cancel a scheduled announcement before the distribution time.
- • **Prerequisites:**
    - o The announcement already has a scheduled date for distribution.
    - o The Registrar is logged into the admin application and has necessary permissions to cancel scheduled announcements.
    - o The system is capable of canceling the scheduling of announcements.
- • **Test Data:**
    - o text_file = "Upcoming Enrollment Schedule"
    - o tags = "Enrollment"
    - o recipients = All APC Community Members
    - o date = September 30, 2024
    - o time = 8:00 AM

Step #	Step Details	Expected Results

1	The Registrar navigates to the "Scheduled Announcements" section.	The Registrar is successfully taken to the list of saved announcements.
2	The Registrar selects the title of the announcement.	The system loads the selected announcement.
3	The Registrar clicks the "Cancel Schedule" option.	The system prompts a confirmation message asking if the Registrar wants to cancel the scheduled announcement.
4	The Registrar confirms the cancellation.	The system cancels the scheduled announcement and removes it from the schedule list.
5	The system sends a cancellation confirmation.	The system provides a confirmation message, "Scheduled announcement has been canceled."

4. **Test Case ID:** TCSA002-02

- **Created by: Arwen**
- **Description:** Validate that the system does not send the announcement after it has been successfully canceled.
- **Prerequisites:**
  - o The initial scheduling of the announcement was cancelled.
  - o The Registrar is logged into the admin application and has necessary permissions to cancel scheduled announcements.
  - o The system can cancel the scheduling of announcements.
- **Test Data:**
  - o text_file = "Upcoming Enrollment Schedule"
  - o tags = "Enrollment"
  - o recipients = All APC Community Members
  - o date = September 30, 2024
  - o time = 8:00 AM

Step #	Step Details	Expected Results
1	Wait until after the originally scheduled time. The test will only be valid once the original date and time of the scheduled announcement have passed.	The originally scheduled time has passed, and no announcement has been sent.

2	Check the APC Community Member channels (MS Teams chatbot) for the canceled announcement.	No "Upcoming Enrollment Schedule" announcement is visible in the MS Teams chatbot. Recipients have not received the announcement that was originally scheduled.
3	Check the AIER System's internal announcement logs or notifications.	The internal announcement log in the AIER System clearly shows that the "Upcoming Enrollment Schedule" announcement is marked as canceled. No logs show any record of the announcement being sent after the cancellation.

2.4.4 Manage Announcements

1. **Test Case ID:** TCMA001

- **Created by: Arwen**
- **Description:** Test if the Registrar can successfully view the details of existing announcements.
- **Prerequisites:**
  - There are existing announcements stored in the AIER System.
  - The Registrar is logged into the admin application and has the necessary permissions to view announcements.
  - The AIER System has a functional "Manage Announcements" interface.
- **Test Data:**
  - Announcement 1: "Midterms Announcement"
  - Description: "Midterms will be held from October 10 to 15, 2024."
  - Recipients: All APC Students

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Announcements" section.	The AIER System displays a list of all stored announcements.
2	The Registrar selects an announcement to view.	The AIER System displays the full details of the selected announcement.

2. **Test Case ID:** TCMA002-01

- **Created by: Arwen**
- **Description:** Test if the Registrar can successfully edit an existing announcement and save the changes.
- **Prerequisites:**
  - There are existing announcements stored in the AIER System.

  o The Registrar is logged into the admin application and has the necessary permissions to edit announcements.

  o The AIER System has a functional "Edit" feature within the "Manage Announcements" interface.

- **Test Data:**
  - o Announcement to Edit: "Midterms Announcement"
  - o New Title: "Midterm Examinations"
  - o New Description: "Midterm exams will be held from October 10-15, 2024, for all courses."
  - o Recipients: All APC Students

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Announcements" section.	The AIER System displays a list of all stored announcements.
2	The Registrar selects an announcement to edit.	The AIER System displays the full details of the selected announcement.
3	The Registrar selects the "Edit" option and updates the announcement details.	The edited details are displayed correctly in the input fields.
4	The Registrar submits the changes.	The system saves the updated announcement and confirms the changes with a success message (e.g., "Announcement updated successfully").

3. **Test Case ID:** TCMA002-02

- **Created by: Arwen**
- **Description:** Validate that the system provides an error message when the Registrar inputs invalid details (empty field/s) while editing an announcement.
- **Prerequisites:**
  - o There are existing announcements stored in the AIER System.
  - o The Registrar is logged into the admin application and has necessary permissions to schedule announcements.
  - o The AIER System has a functional "Edit" feature within the "Manage Announcements" interface.
- **Test Data:**
  - o Announcement to Edit: "Midterms Announcement"
  - o New Title: ""
  - o New Description: "Midterm exams will be held from October 10-15, 2024, for all courses."
  - o Recipients: All APC Students

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Announcements" section.	The AIER System displays a list of all stored announcements.
2	The Registrar selects an announcement to edit.	The AIER System displays the full details of the selected announcement.
3	The Registrar selects the "Edit" option and updates the announcement with missing fields.	The system displays an error message indicating that the input is invalid and prompts the Registrar to fill in the field.
4	The Registrar corrects the invalid data and submits the changes.	The system accepts the corrected input and updates the announcement. A success message is shown (e.g., "Announcement updated successfully").

4. **Test Case ID:** TCMA003

- **Created by: Arwen**
- **Description:** Test if the Registrar can successfully delete an announcement from the AIER System.
- **Prerequisites:**
    o There are existing announcements stored in the AIER System.
    o The Registrar is logged into the admin application and has necessary permissions to delete announcements.
    o The AIER System has a functional "Delete" feature within the "Manage Announcements" interface.
- **Test Data:**
    o Announcement to Delete: "Midterms Examinations"

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Announcements" section.	The AIER System displays a list of all stored announcements.
2	The Registrar selects an announcement to delete.	The AIER System displays the full details of the selected announcement.
3	The Registrar selects the "Delete" option and confirms the deletion.	The system removes the announcement from the AIER System and displays a success message (e.g.,

		"Announcement deleted successfully").

5. **Test Case ID:** TCMA004

- **Created by: Arwen**
- **Description:** Test if the system properly handles scenarios where no announcements are available to view, edit, or delete.
- **Prerequisites:**
  - There are no announcements stored in the AIER System.
  - The Registrar is logged into the admin application and has necessary permissions to manage announcements.
- **Test Data:**
  - No Announcements Available

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Announcements" section.	The system displays a message stating that no announcements are available for viewing, editing, or deletion.

2.4.5 Receive Announcements

1. **Test Case ID:** TCRA001

- **Created by: Justine**
- **Description:** The APC Community receives announcements distributed by the Registrar that are clear and timely with the assistance of the chatbot.
- **Prerequisites:**
  - The APC Community member has added the system to their MS Teams account.
  - The APC Community member is notified of the chatbot's presence.
  - An announcement has been scheduled and sent by the Registrar.
- **Test Data:**
  - Announcement content example: "Reminder: Midterm exams start on October 10."
  - Tags: "Exams, Academic"

Step #	Step Details	Expected Results
1	The Registrar creates and schedules an announcement through the system.	The system successfully records and schedules the announcement.
2	The system sends the announcement to each selected APC Community member in MS Teams.	The announcement is dispatched and appears in the Teams chat for each selected member.

3	The APC Community member opens MS Teams.	The Teams application opens, and the user can see their chat feed.
4	The APC Community member views the announcement in the Teams chat.	The announcement is clearly visible in the chat feed with correct formatting and content.
5	The AIER System marks the announcement as viewed and tracks relevant data (e.g., viewing time, duration the announcement is open).	The AIER System logs the viewing data and engagement.

2. **Test Case ID:** TCRA002

- **Created by: Justine**
- **Description:** The APC Community member receives multiple copies of the same announcement due to a system glitch, and the system suppresses the duplicates.
- **Prerequisites:**
  - The APC Community member has added the system to their MS Teams account.
  - The APC Community member is notified of the chatbot's presence.
  - An announcement has been scheduled and sent by the Registrar.
- **Test Data:**
  - Announcement content example: "Reminder: Midterm exams start on October 10."
  - Tags: "Exams, Academic"

Step #	Step Details	Expected Results
1	The Registrar creates and schedules an announcement through the system.	The system successfully records and schedules the announcement.
2	The system sends multiple copies of the announcement to each selected APC Community member due to a glitch.	The system detects duplicate announcements and suppresses further repetitions.
3	The system removes the duplicate announcement from the Teams chat.	Only one copy of the announcement remains visible in the chat feed.

3. **Test Case ID:** TCRA003

- **Created by: Justine**
- **Description:** The APC Community member does not notice the announcement among other chat messages, and the system flags it as important.
- **Prerequisites:**
    - The APC Community member has added the RAMinders application to their MS Teams account.
    - The Registrar has scheduled and sent an announcement.
    - The recipient has not viewed the announcement.
- **Test Data:**
    - Announcement content example: "Reminder: Midterm exams start on October 10."
    - Tags: "Exams, Academic"

Step #	Step Details	Expected Results
1	The Registrar creates and schedules an announcement through the system.	The system successfully records and schedules the announcement.
2	The system sends the announcement to the APC Community member's Teams chat.	The announcement is sent and appears in the chat feed, but the recipient does not notice it.
3	The system flags the announcement as important and marks it within the Teams chat.	The announcement is highlighted or marked as important in the chat feed.
4	The system sends a weekly summary of unread announcements to the recipient.	The recipient receives a summary at the end of the week that includes the missed announcement.

4. **Test Case ID:** TCRA004

- **Created by: Justine**
- **Description:** The APC Community member does not receive the announcement due to a network error, and the system retries the delivery until successful.
- **Prerequisites:**
    - The APC Community member has added the RAMinders application to their MS Teams account.
    - The Registrar has scheduled and sent an announcement.
    - The recipient is experiencing a network error.
- **Test Data:**
    - Announcement content example: "Reminder: Midterm exams start on October 10."
    - Tags: "Exams, Academic"

Step #	Step Details	Expected Results

1	The Registrar creates and schedules an announcement through the system.	The system successfully records and schedules the announcement.
2	The system attempts to send the announcement to each selected APC Community member in MS Teams.	The system detects a network error and logs the failed delivery attempt.
3	The AIER System retries sending the announcement at regular intervals until successful.	The system sends the announcement once the recipient is back online, and the message appears in the Teams chat.
4	The APC Community member opens MS Teams and views the announcement.	The announcement is clearly visible in the chat feed with correct formatting and content.

2.4.6 Manage Academic Events

1. **Test Case ID:** TCMAE001

- **Created by: Arwen**
- **Description:** Test if the Registrar can successfully add new academic events to the calendar.
- **Prerequisites:**
  - o The Registrar is logged into the admin application and has necessary permissions to add academic events.
  - o The Registrar has information on academic events.
- **Test Data:**
  - o Event Name: "Freshman Orientation"
  - o Event Date: "2024-09-05"
  - o Event Time: "9:00 AM"
  - o Event Location: "Auditorium"
  - o Event Description: "Orientation event for incoming freshmen"

Step #	Step Details	Expected Results
1	The Registrar navigates to the 'Manage academic events' section.	The AIER displays the academic event management interface.
2	The Registrar selects the "Add Academic Event" option.	The AIER system opens the "Add Academic Event" page.
3	The Registrar inputs event details (name,	The event details are correctly displayed in the fields.

		date, time, location, description).	
	4	The Registrar clicks "Save" to add the event to the academic calendar.	The AIER System saves the event and confirms success.
	5	The Registrar checks the academic calendar for the new event.	The newly added event is visible in the academic calendar.

2. **Test Case ID:** TCMAE002

- **Created by: Arwen**
- **Description:** Test if the Registrar can successfully delete an academic event from the calendar.
- **Prerequisites:**
  - There are events in the Academic calendar.
  - The Registrar is logged into the admin application and has necessary permissions to delete academic events.
- **Test Data:**
  - Event to Delete: "Freshman Orientation"

Step #	Step Details	Expected Results
1	The Registrar navigates to the 'Manage academic events' section.	The AIER displays the academic event management interface.
2	The Registrar selects an academic event from the list to delete.	The AIER system opens the event details page and provides a delete option for the selected event.
3	The Registrar clicks the "Delete" button for the selected event.	A confirmation prompt is shown asking the Registrar to confirm the deletion.
4	The Registrar confirms the deletion by clicking "Yes" on the prompt.	The AIER System deletes the event and confirms the deletion.
5	The Registrar checks the academic calendar for the deleted event.	The event is no longer visible in the academic calendar.

2.4.7 View Academic Events
  1. **Test Case ID:** TCVAE001

- **Created by: Arwen**
- **Description:** The APC Community member views the academic events using either the provided button option in the RAMinders chatbot or by sending a chat request.
- **Prerequisites:**

- o The RAMinders chatbot is operational and accessible through MS Teams
- o The APC Community member has accessed the bot to request for the academic event calendar.
- o The academic event calendar must be updated in order to provide the latest information.

- **Test Data:**
  - o Monthly View: "September 2024: Campus Tour, Freshman Orientation"
  - o Weekly View: "Week of September 1-7: Campus Tour, Week of September 15-21: Freshman Orientation"
  - o Event 1 Expanded: Title: "Campus Tour", Date: "2024-09-06", Time: "10:00 AM", Location: "MPH1", Description: "Campus Tour for New Students. Meet at MPH1"
  - o Event 2 Expanded: Title: "Freshman Orientation", Date: "2024-09-18", Time: "9:00 AM", Location: "Auditorium", Description: "Orientation Event for Incoming Freshmen"

Step #	Step Details	Expected Results
1	The APC Community member clicks the "View Academic Events" button in the chatbot interface or types a message to request for the academic events.	The chatbot successfully interprets the request and processes it.
2	The academic event calendar is displayed in a list format with only the event titles shown, either in a monthly or weekly view.	The user views the list of event titles, and they are displayed in the correct format (weekly or monthly).
3	The APC Community member sends a message or clicks on an event title to expand it and view full details (e.g., event description, date, time, and venue).	The requested/selected event expands to show full details, allowing the user to understand the specifics of the event.
4	The user browses through other event titles, expanding them as needed to see more information.	Each event expands successfully, providing clear and accurate event details to the user.

2. **Test Case ID:** TCVAE002

- **Created by: Arwen**

- **Description:** The system informs the APC Community Member that no academic events are scheduled.
- **Prerequisites:**
  - The RAMinders chatbot is operational and accessible through MS Teams
  - The APC Community member has accessed the bot to request for the academic event calendar.
  - There are no academic events scheduled in the system.
- **Test Data:**
  - Chatbot Response: "No Upcoming Events are Scheduled"

Step #	Step Details	Expected Results
1	The APC Community member clicks the "View Academic Events" button in the chatbot interface or types a message to request for the academic events.	The chatbot processes the request for the academic events.
2	The chatbot informs the user that no academic events are currently scheduled.	The user sees a message stating, "No upcoming events are scheduled," with a suggestion to check back later or contact the Office of the Registrar.

2.4.8 Send Inquiry

1. **Test Case ID:** TCSI001-01

- **Created by: Justine**
- **Description:** APC Community member sends an inquiry, and the chatbot provides a relevant and accurate response.
- **Prerequisites:**
  - The RAMinders chatbot is operational.
  - The APC Community member has the chatbot added to their MS Teams account.
  - The chatbot's knowledge base is updated.
- **Test Data:**
  - Inquiry: "When is the deadline of enrollment?"
  - Bot Response: "The deadline of enrollment is until July 25, 2024"

Step #	Step Details	Expected Results
1	The APC Community member types an inquiry into the chatbot.	The chatbot successfully receives the inquiry.
2	The chatbot processes the inquiry.	The chatbot matches the inquiry to its knowledge base.

| 3 | The chatbot provides a response to the inquiry. | The chatbot sends a clear and relevant response based on the question. |
| 4 | The chatbot logs the inquiry and response for future reference. | The system logs the inquiry and its response in the database without any errors. |

2. **Test Case ID:** TCSI001-02

- **Created by: Justine**
- **Description:** User provides feedback on the chatbot's response.
- **Prerequisites:**
  - The RAMinders chatbot is operational.
  - The APC Community member has the chatbot added to their MS Teams account.
  - The chatbot successfully responded to an inquiry.
  - The chatbot has a feedback system in place.
- **Test Data:**
  - feedback = positive

Step #	Step Details	Expected Results
1	The APC Community member is prompted to rate the chatbot's response.	The chatbot prompts the user to provide feedback on the response.
2	The user submits feedback.	The feedback is logged by the system without errors.

3. **Test Case ID:** TCSI002-01

- **Created by: Justine**
- **Description:** The chatbot prompts for clarification when the inquiry is unclear.
- **Prerequisites:**
  - The RAMinders chatbot is operational.
  - The APC Community member has the chatbot added to their MS Teams account.
  - The chatbot's knowledge base is updated.
  - The inquiry does not match any information in the chatbot's knowledge base.
- **Test Data:**
  - Inquiry: "When is"
  - Bot Reponse: "I didn't quite understand that. Can you clarify?"
  - Inquiry: "When is the freshman orientation?"
  - Bot Response: "The freshman orientation is on June 5, 2024"

Step #	Step Details	Expected Results

1	The APC Community member types an unclear inquiry.	The chatbot identifies that the inquiry is unclear or unrelated.
2	The chatbot prompts the user for additional clarification.	The chatbot sends a message asking the user to clarify the inquiry or select options.
3	The APC Community member refines the question.	The user refines the inquiry based on the chatbot's prompts.
4	The chatbot provides a response or escalates the inquiry.	The chatbot responds to the refined inquiry or refers the user to the Registrar.

4. **Test Case ID:** TCSI002-02

- **Created by: Justine**
- **Description:** Chatbot escalates the inquiry due to unclear input.
  - The RAMinders chatbot is operational.
  - The APC Community member has the chatbot added to their MS Teams account.
  - The chatbot's knowledge base is updated.
  - The APC Community member's inquiry remains unclear after prompts for clarification.
- **Test Data:**
  - Inquiry: "Will the"
  - Bot Reponse: "I didn't quite understand that. Can you clarify?"
  - Inquiry: "Will the freshman orientation be moved considering the typhoon signal warning for tomorrow?"
  - Bot Response: "Your inquiry has been escalated to the Registrar for further assistance."

Step #	Step Details	Expected Results
1	The APC Community member provides an inquiry that remains unclear.	The chatbot fails to match the refined inquiry to its knowledge base.
2	The chatbot escalates the inquiry to the Registrar.	The system notifies the user that their question has been escalated.
3	The chatbot logs the escalation and notifies the Registrar.	The system logs the escalation for review and notifies the Registrar's office.
4	The Registrar provides a response, which is sent back to the user.	The chatbot forwards the Registrar's response to the APC Community member.

2.4.9 Provide Instant Feedback
   1. **Test Case ID:** TCPIF001-01

- **Created by: James**
- **Description:** Provide Instant Feedback - positive
- **Prerequisites:**
  - APC Community member has the application in their Teams account.
  - The Registrar has sent an announcement.
  - The APC Community member has viewed the announcement.
- **Test Data:**
  - text_file = content of announcement
  - user_feedback = positive

Step #	Step Details	Expected Results
1	Registrar sends an announcement to the APC Community.	Announcement is sent successfully.
2	APC Community member views the announcement.	Community members view the announcement.
3	APC Community member receives a prompt to give their feedback.	System sends community member prompt to give feedback.
4	APC Community member provides their feedback.	Feedback is provided by community member.
5	The system logs the feedback.	Feedback is saved for use in report generation.

2. **Test Case ID:** TCPIF001-02

- **Created by: James**
- **Description:** Provide Instant Feedback - negative
- **Prerequisites:**
  - APC Community member has the application in their Teams account.
  - The Registrar has sent an announcement.
  - The APC Community member has viewed the announcement.
- **Test Data:**
  - text_file = content of announcement
  - user_feedback = negative

Step #	Step Details	Expected Results
1	Registrar sends an announcement to the APC Community.	Announcement is sent successfully.
2	APC Community member views the announcement.	Community members view the announcement.

Step #	Step Details	Expected Results
3	APC Community member receives a prompt to give their feedback.	System sends community member prompt to give feedback.
4	APC Community member provides their feedback.	Feedback is provided by community member.
5	The system logs the feedback.	Feedback is saved for use in report generation.

3. **Test Case ID:** TCPIF002-01

- **Created by: James**
- **Description:** Feedback fails to send - positive
- **Prerequisites:**
  - APC Community member has the application in their Teams account.
  - The Registrar has sent an announcement.
  - The APC Community member has viewed the announcement.
- **Test Data:**
  - text_file = content of announcement
  - user_feedback = positive

Step #	Step Details	Expected Results
1	APC Community member provides their feedback.	Feedback is provided by community member.
2	Feedback fails to send due to unforseen circumstances.	The system notifies the community member that the feedback failed to send.
3	The system prompts the community member to resend their feedback.	Community member receives the prompt from the system.
4	APC Community member receives a prompt to give their feedback.	System sends community member prompt to give feedback.
5	APC Community member resubmits their feedback.	Feedback from the community member is successfully sent to the Registrar.

4. **Test Case ID:** TCPIF002-02

- **Created by: James**
- **Description:** Feedback fails to send - negative
- **Prerequisites:**
  - APC Community member has the application in their Teams account.
  - The Registrar has sent an announcement.

o The APC Community member has viewed the announcement.
- **Test Data:**
    - o text_file = content of announcement
    - o user_feedback = negative

Step #	Step Details	Expected Results
1	APC Community member provides their feedback.	Feedback is provided by community member.
2	Feedback fails to send due to unforseen circumstances.	The system notifies the community member that the feedback failed to send.
3	The system prompts the community member to resend their feedback.	Community member receives the prompt from the system.
4	APC Community member receives a prompt to give their feedback.	System sends community member prompt to give feedback.
5	APC Community member resubmits their feedback.	Feedback from the community member is successfully sent to the Registrar.

5. **Test Case ID:** TCPIF003-01

- **Created by: James**
- **Description:** System fails to ask for feedback - positive
- **Prerequisites:**
    - o APC Community member has the application in their Teams account.
    - o The Registrar has sent an announcement.
    - o The APC Community member has viewed the announcement.
- **Test Data:**
    - o text_file = content of announcement
    - o user_feedback = positive

Step #	Step Details	Expected Results
1	The system fails to ask for feedback after sending an announcement.	The system logs the error and identifies the affected community members.
2	The system sends the delayed feedback prompt to the affected community members.	The community members receive the prompt asking for feedback.
3	The affected community members answer the	Feedback is provided by the community members and is

Step #	Step Details	Expected Results
	prompt and give their feedback.	ready to be sent to the Registrar.
4	The system logs the feedback.	Feedback is saved for use in report generation.

6. **Test Case ID:** TCPIF003-02

- **Created by: James**
- **Description:** System fails to ask for feedback - negative
- **Prerequisites:**
  - APC Community member has the application in their Teams account.
  - The Registrar has sent an announcement.
  - The APC Community member has viewed the announcement.
- **Test Data:**
  - text_file = content of announcement
  - user_feedback = negative

Step #	Step Details	Expected Results
1	The system fails to ask for feedback after sending an announcement.	The system logs the error and identifies the affected community members.
2	The system sends the delayed feedback prompt to the affected community members.	The community members receive the prompt asking for feedback.
3	The affected community members answer the prompt and give their feedback.	Feedback is provided by the community members and is ready to be sent to the Registrar.
4	The system logs the feedback.	Feedback is saved for use in report generation.

7. **Test Case ID:** TCPIF004-01

- **Created by: James**
- **Description:** Multiple feedback prompts - positive
- **Prerequisites:**
  - APC Community member has the application in their teams account.
  - The Registrar has sent an announcement.
  - The APC Community member has viewed the announcement.
- **Test Data:**
  - text_file = content of announcement
  - user_feedback = positive

Step #	Step Details	Expected Results

	1	The system sends multiple prompts for feedback after sending a single announcement.	The system logs the error.
	2	The APC Community members responds to any of the prompts sent by the system.	Feedback is received and ready to be sent. Subsequent feedback for the same announcement is ignored.
	3	The system logs the first feedback received and ignores subsequent/duplicate feedback for the same announcement.	The system notifies the user that the feedback has been received and not duplicated.
	4	The system logs the feedback.	Feedback is saved for use in report generation.

8. **Test Case ID:** TCPIF004-02

- **Created by: James**
- **Description**: Multiple feedback prompts - negative
- **Prerequisites:**
  - APC Community member has the application in their teams account.
  - The Registrar has sent an announcement.
  - The APC Community member has viewed the announcement.
- **Test Data:**
  - text_file = content of announcement
  - user_feedback = negative

Step #	Step Details	Expected Results
1	The system sends multiple prompts for feedback after sending a single announcement.	The system logs the error.
2	The APC Community members respond to any of the prompts sent by the system.	Feedback is received and ready to be sent. Subsequent feedback for the same announcement is ignored.
3	The system logs the first feedback received and ignores subsequent/duplicate feedback for the same announcement.	The system notifies the user that the feedback has been received and not duplicated.
4	The system logs the feedback.	Feedback is saved for use in report generation.

2.4.10 Manage Dashboard
1. **Test Case ID:** TCMD001

- **Created by: Jorenzo**
- **Description:** Verify that the AIER System successfully collects data from relevant sources.
- **Prerequisites:**
    o Data is available in the system from various sources (e.g., user inquiries, announcement views).
    o The AIER System is operational.
- **Test Data:**
    o User ID = 2022-240010
    o Date viewed = 2024-09-10
    o Timestamp = "01:34:34"
    o Feedback = Positive

Step #	Step Details	Expected Results
1	Ensure that the system has multiple data sources with sufficient data (e.g., user activity logs, inquiry records).	The AIER System successfully collects data from all relevant sources within the system.
2	Trigger the AIER System to begin collecting data from these sources.	No data sources are missed or left uncollected. The collected data is stored correctly for further processing.

2. **Test Case ID:** TCMD002

- **Created by: Jorenzo**
- **Description:** Verifies that the system displays analytics on the dashboard when the Registrar inputs valid timeframe and data type, and the system has collected sufficient data.
- **Prerequisites:**
    o Data has been collected in the AIER System, and the desired dashboard timeframe is available.
    o The Registrar is logged into the admin application and has necessary permissions to view analytics on the dashboard.
- **Test Data:**
    o timeframe = "July 2024 - August 2024"
    o data_type = "Inquiry Statistics"

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Dashboard" section.	The system successfully loads the "Manage Dashboard" page.

2	The Registrar selects a valid timeframe (July 2024 - August 2024).	Timeframe is selected, and the system updates the report parameters.
3	The Registrar selects the data type "Inquiry Statistics"	The system accepts the data type and prepares to display relevant analytics.
4	The dashboard analytics are displayed.	The dashboard displays the selected analytics successfully, and the Registrar is able to view the visual representation.

3. **Test Case ID:** TCMD003

- **Created by: Jorenzo**
- **Description:** Ensures that when a system failure occurs while loading the dashboard, the system attempts automatic recovery and resumes the process from the last successful checkpoint.
- **Prerequisites:**
  - Data has been collected in the AIER System, and the desired timeframe is available.
  - The Registrar is logged into the admin application and has necessary permissions to view dashboard analytics.
- **Test Data:**
  - timeframe = "July 2024 - August 2024"
  - report_type = "Inquiry Statistics"

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Dashboard section.	The system successfully loads the "Manage Dashboard" page.
2	The Registrar selects a valid timeframe (July 2024 - August 2024) and data type (Inquiry Statistics).	The system accepts the inputs and begins processing.
3	A network error occurs while loading the dashboard.	The AIER System detects the error and logs the failure.
4	The system attempts to automatically recover and resumes loading from the last checkpoint.	The system successfully recovers from the failure and continues displaying the dashboard.
5	The dashboard is displayed successfully after recovery.	The Registrar views dashboard analytics, and no issues are present after recovery.

4. **Test Case ID:** TCMD004

- **Created by: Jorenzo**
- **Description:** Verify that the AIER System detects incomplete data, attempts to validate/correct the issues, and proceeds with displaying analytics on the dashboard.
- **Prerequisites:**
  - Data has been collected in the AIER System, and the desired timeframe is available.
  - The Registrar is logged into the admin application and has necessary permissions to view dashboard analytics.
  - Some inquiry data has missing or invalid fields.
- **Test Data:**
  - timeframe = "July 2024 - August 2024"
  - report_type = "Inquiry Statistics"

Step #	Step Details	Expected Results
1	The Registrar navigates to the "Manage Dashboard" section.	The system successfully loads the "Manage Dashboard" page.
2	The Registrar selects a valid timeframe (July 2024 - August 2024) and data type (Inquiry Statistics).	The system accepts the inputs and begins processing data for display.
3	The Registrar clicks to load the dashboard analytics.	The AIER system detects incomplete data and attempts to validate/correct minor issues.
4	The system resolves minor data issues (e.g., missing fields) and proceeds.	The dashboard is displayed after data validation and correction.
5	The dashboard is displayed to the Registrar with an alert about any data issues that were corrected.	The Registrar views the dashboard and views the notification about any data inconsistences that were corrected.

2.5 Activity Diagrams with Swimlane
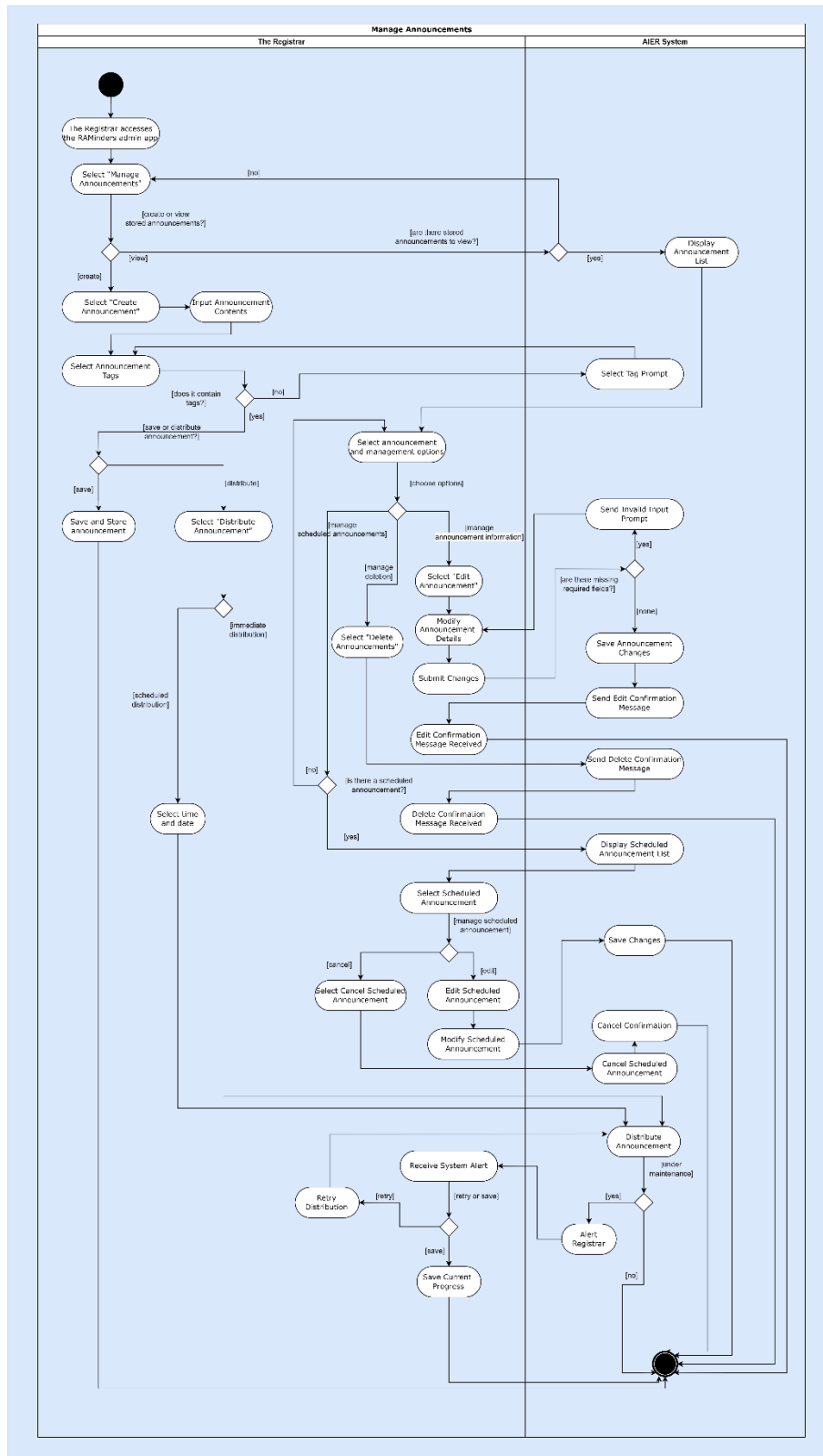
Fig. 18. Activity Diagram (Manage Announcements).
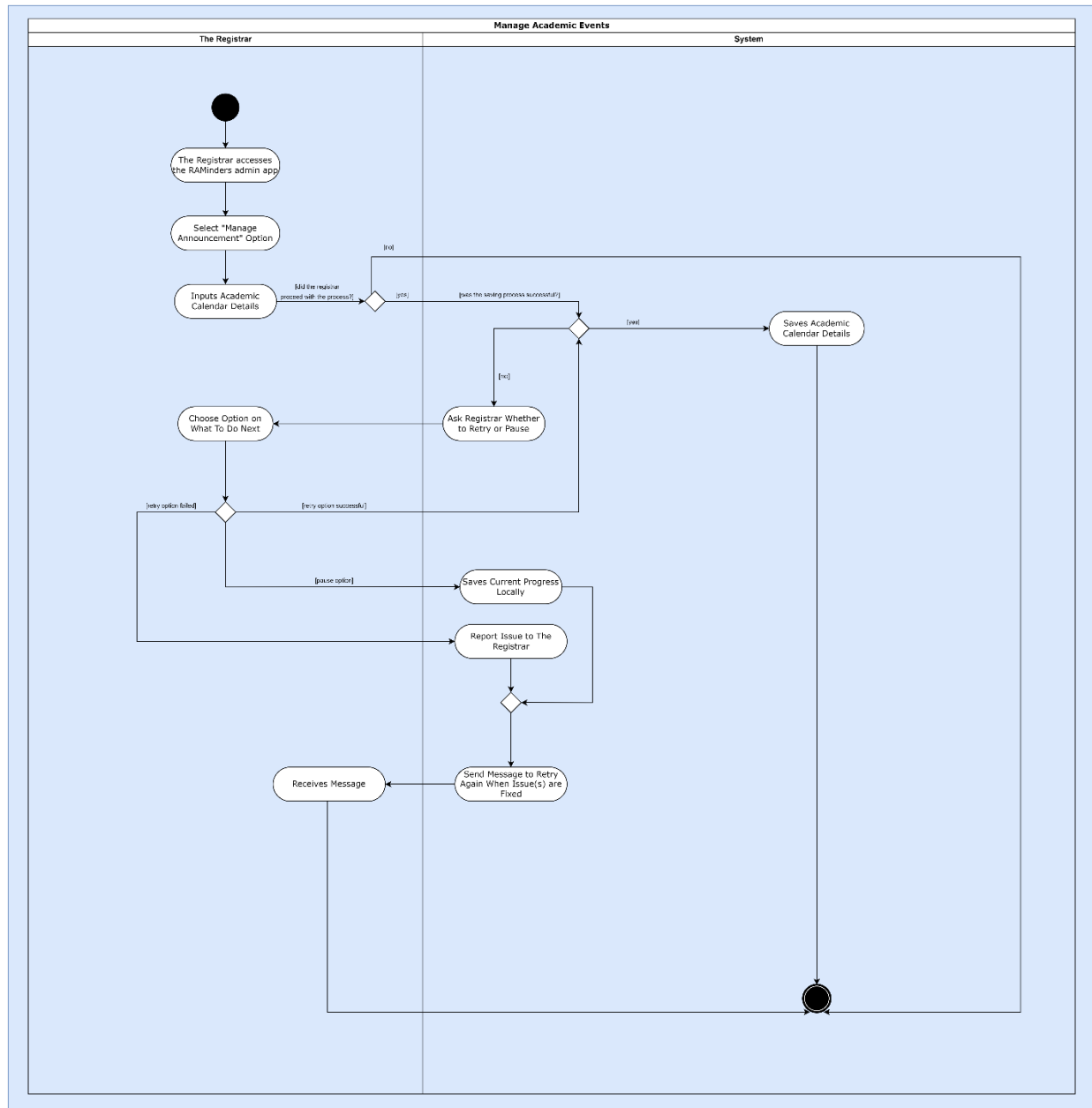
Fig. 19. Activity Diagram (Manage Academic Events).
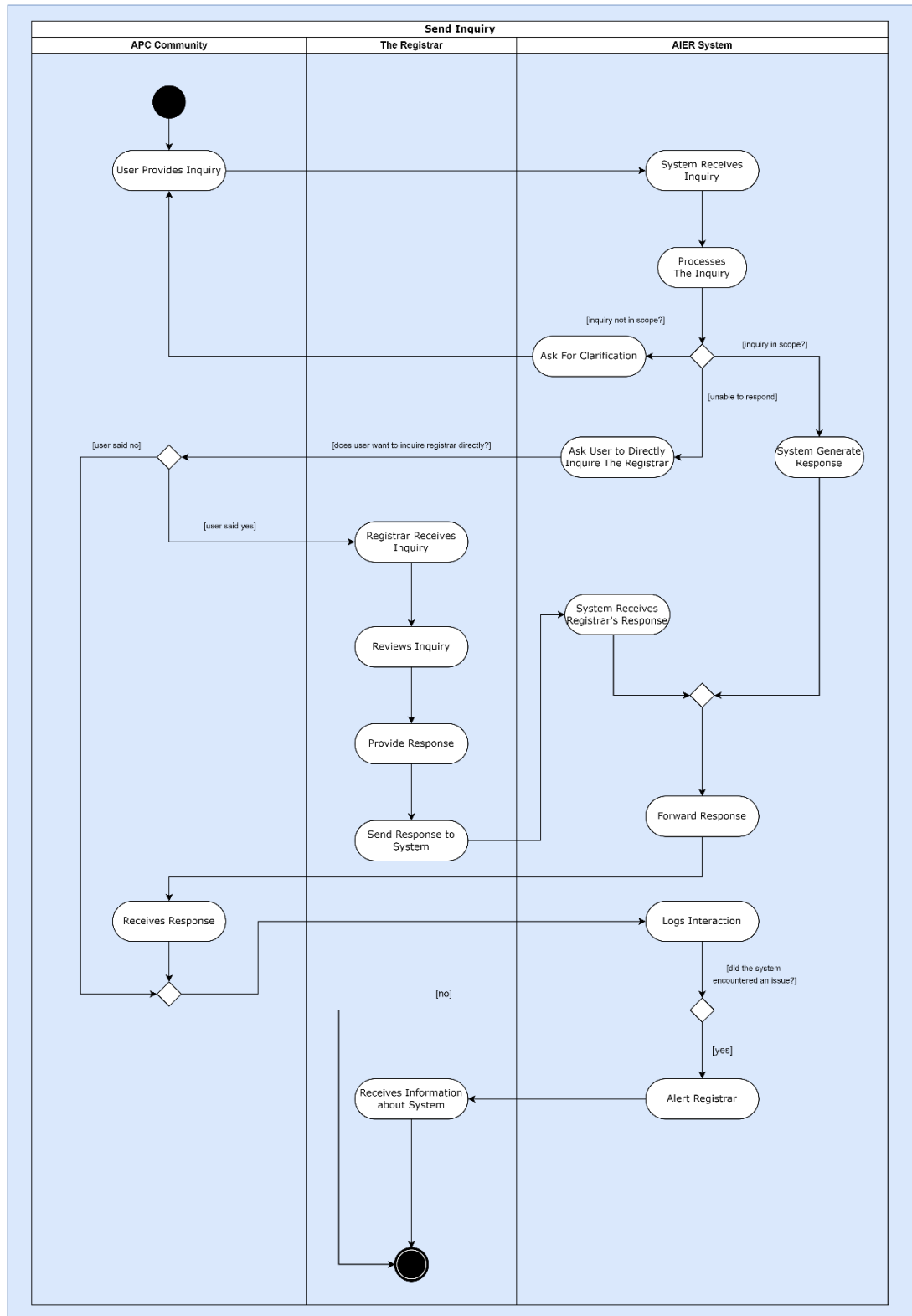
Fig. 20. Activity Diagram (Send Inquiry).
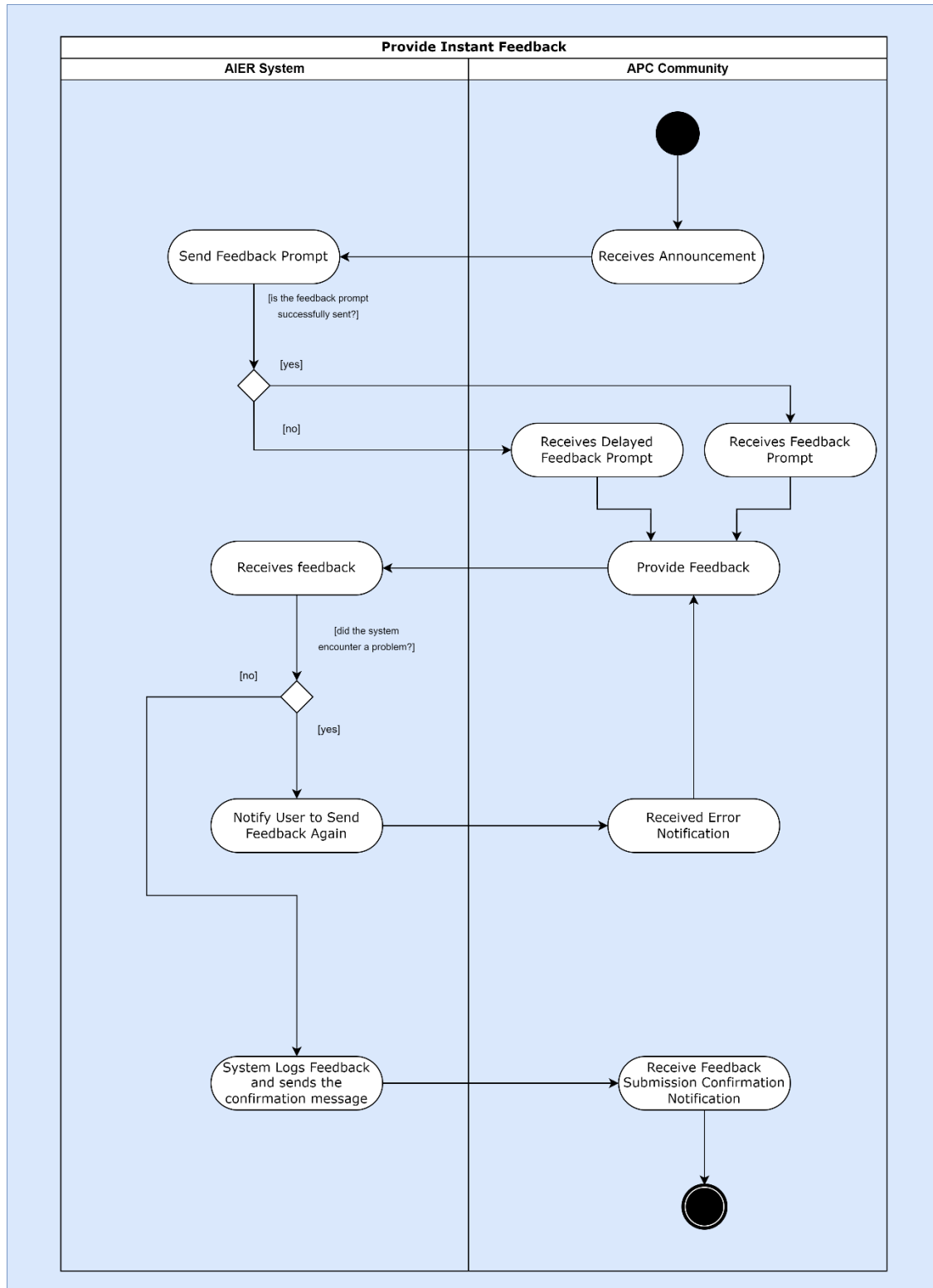
Fig. 21. Activity Diagram (Provide Instant Feedback).
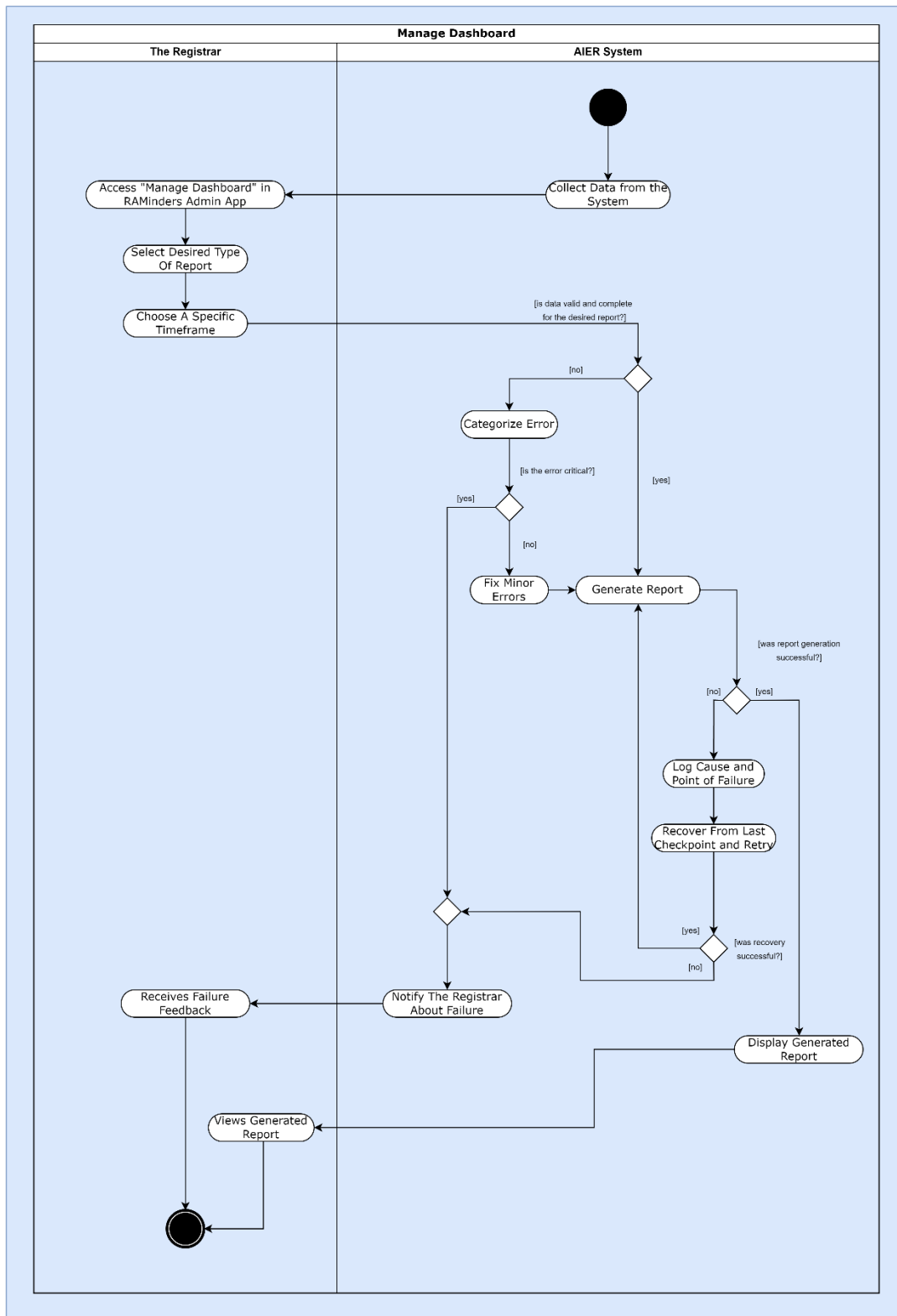
Fig. 22. Activity Diagram (Manage Dashboard).
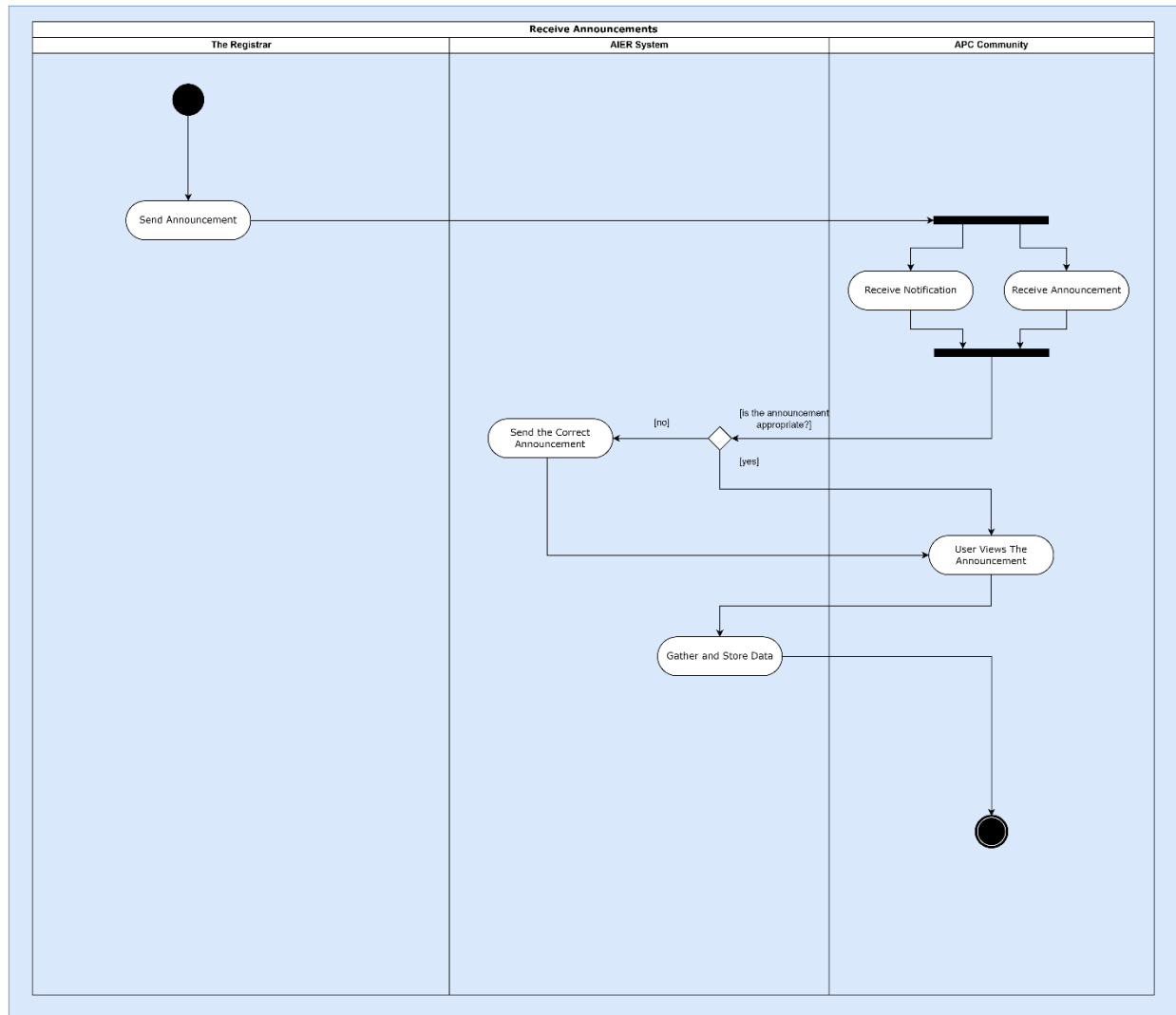
Fig. 23. Activity Diagram (Receive Announcements).
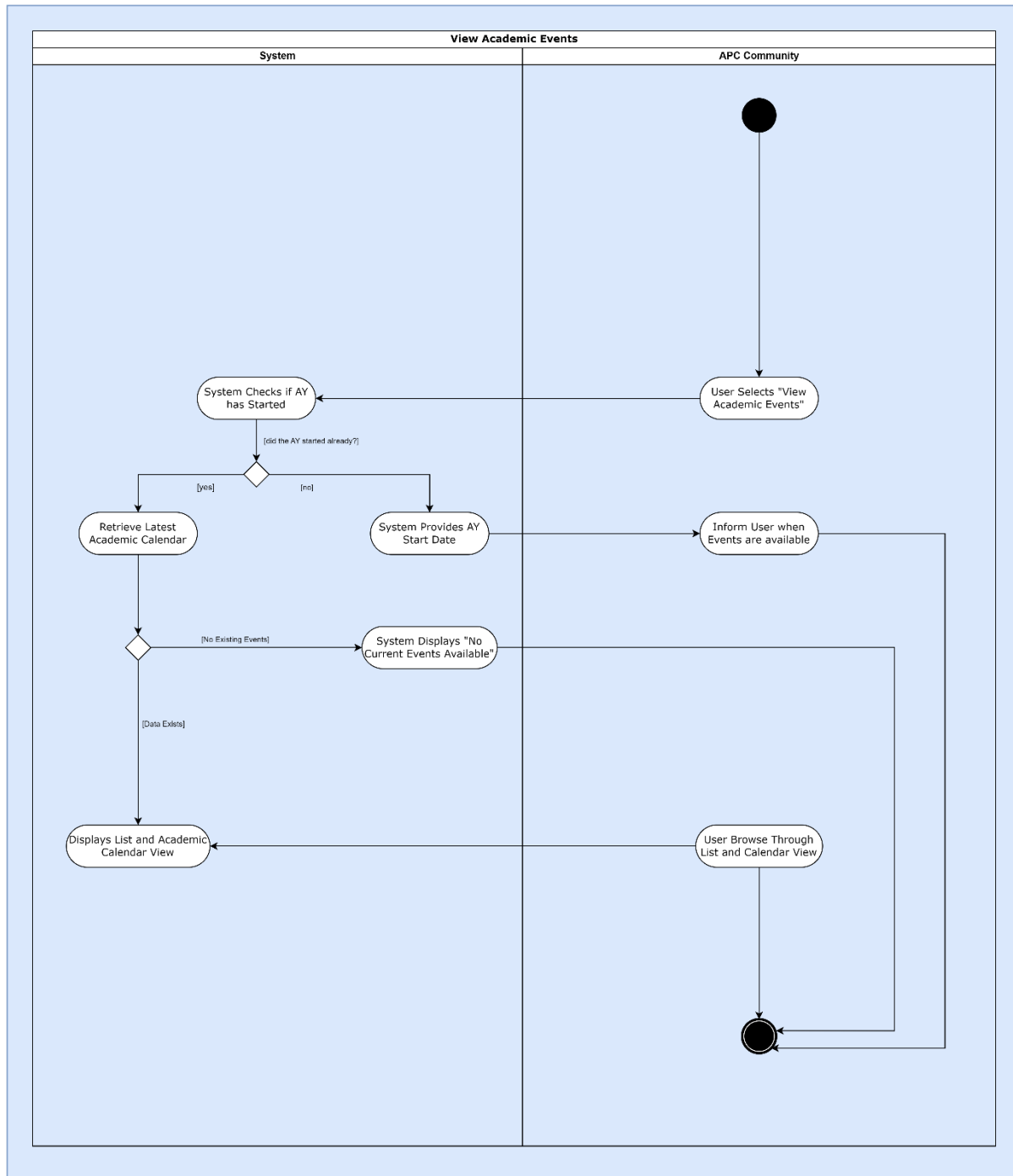
Fig. 24. Activity Diagram (View Academic Events).

2.6 Database Design
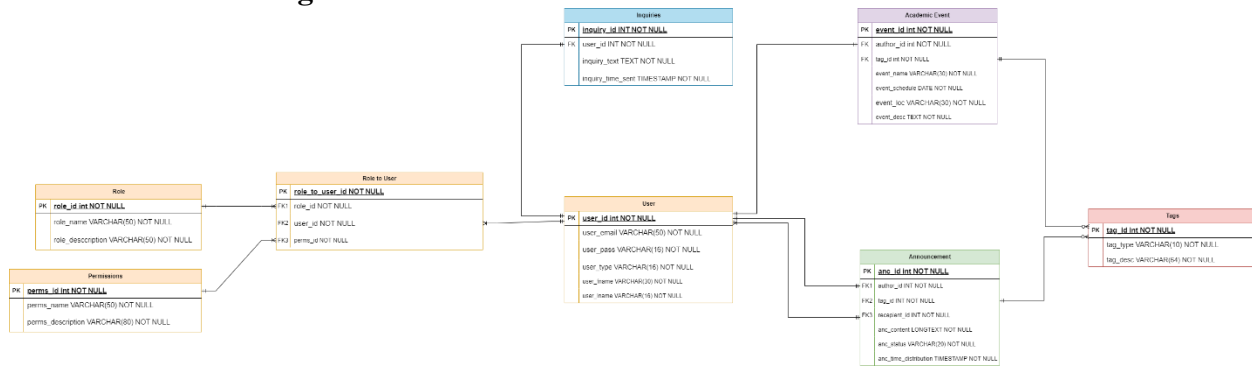
Fig. 25. Entity Relationship Diagram.

2.7 Product Backlog / User Stories
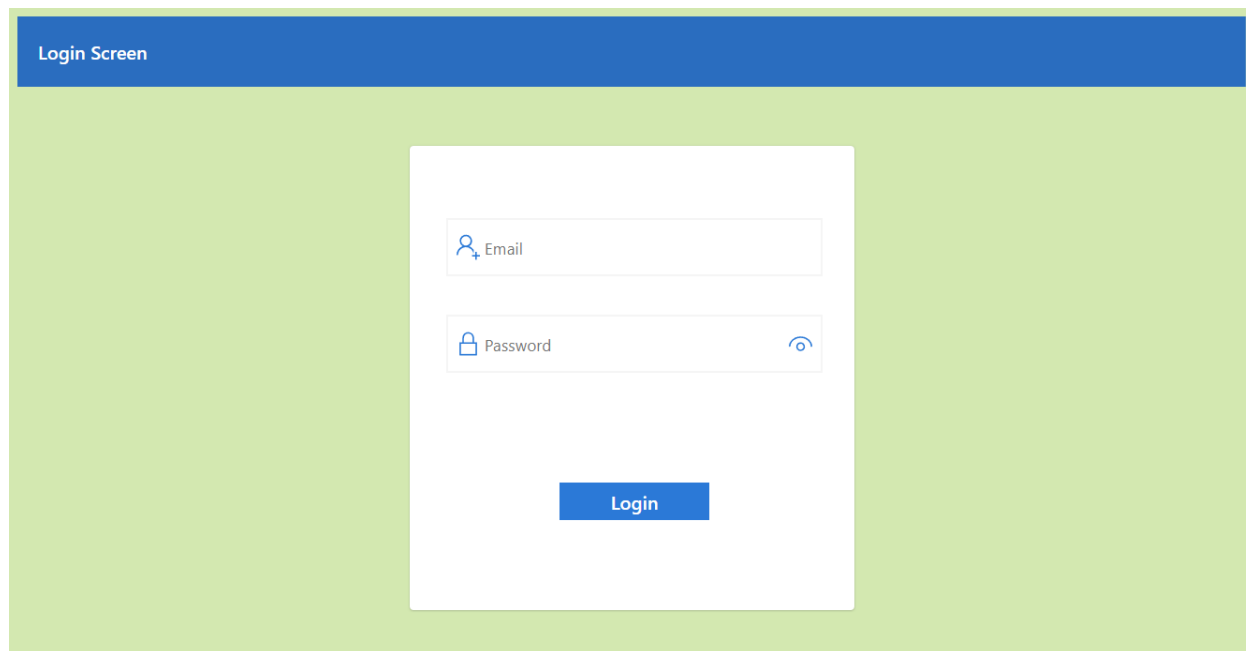
TABLE I

RAMinders Project Backlog				
ID	As a...	I want to be able to	So that...	Priority
1	The Registrar	Create, edit, and delete announcements	I can provide the APC community with clear and accurate information	Must
2	The Registrar	Schedule and distribute announcements	Information is delivered at the right time to the right audience	Must
3	The Registrar	Manage academic events displayed in the calendar	I can inform the APC Community about school events and holidays	Must
4	The Registrar	Receive escalated inquiries that the chatbot cannot answer	Questions outside the bot's knowledge can still be resolved	Should
5	The Registrar	Receive feedback on each announcement	I can track engagement and improve communication	Should
6	The Registrar	Receive feedback on each inquiry	I can evaluate the performance of the chatbot	Should

7	The Registrar	Manage an analytics dashboard	I can monitor communication performance, analyze trends, and improve outreach efforts	Should
8	APC Community Member	Receive messages from the chatbot	I can see announcements sent by The Registrar	Must
9	APC Community Member	Send inquiries through the chatbot	I can get quick responses without needing to email the Registrar	Must
10	APC Community Member	View a calendar of academic events	I can stay aware of upcoming school events	Must
11	APC Community Member	Provide instant feedback on announcements	I can inform the Registrar if the information is helpful	Should
12	APC Community Member	Provide feedback on the chatbot's responses to my inquiries	I can indicate whether the information was helpful or needs improvement	Should
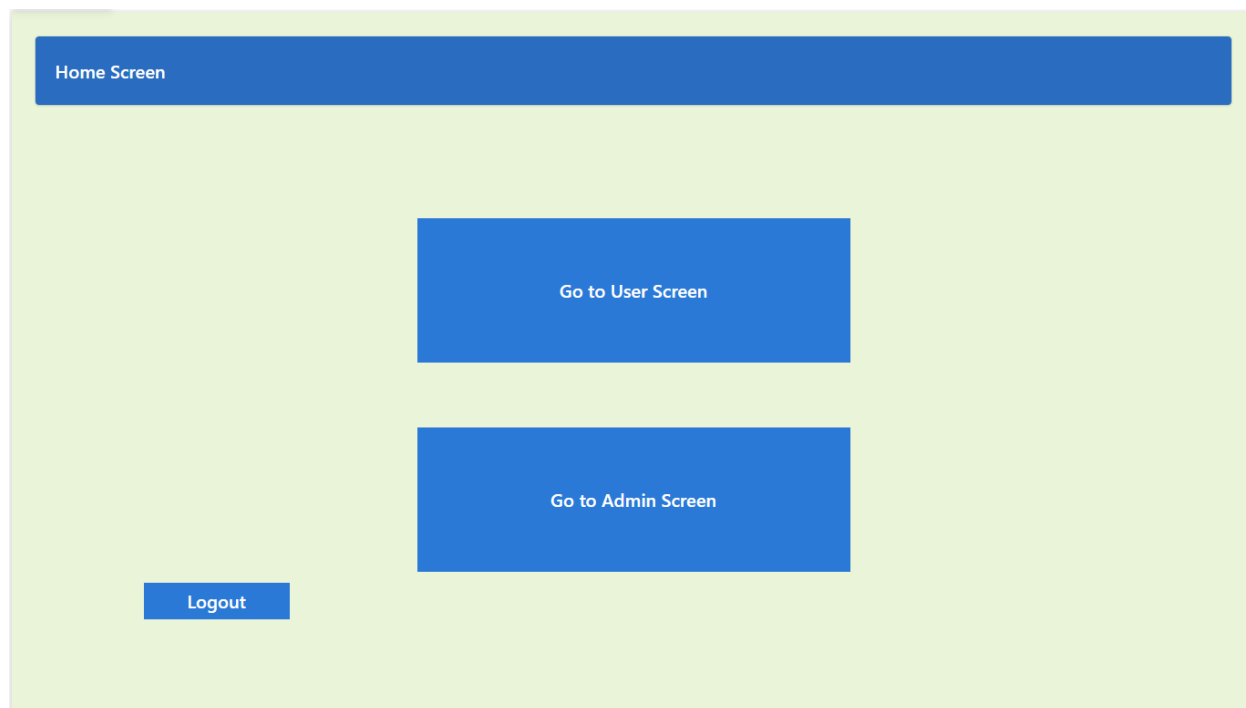
2.8 Partially working Cloud Hosted Prototype

Login Screen

Home Screen: Admin login

Admin Screen

2.9 Updates of Contents in Project GitHub Repository
https://github.com/APC-SoCIT/APC-2024-2025-T1-04-RAMinders

2.10   Prototype

Home Screen: User login

User Screen
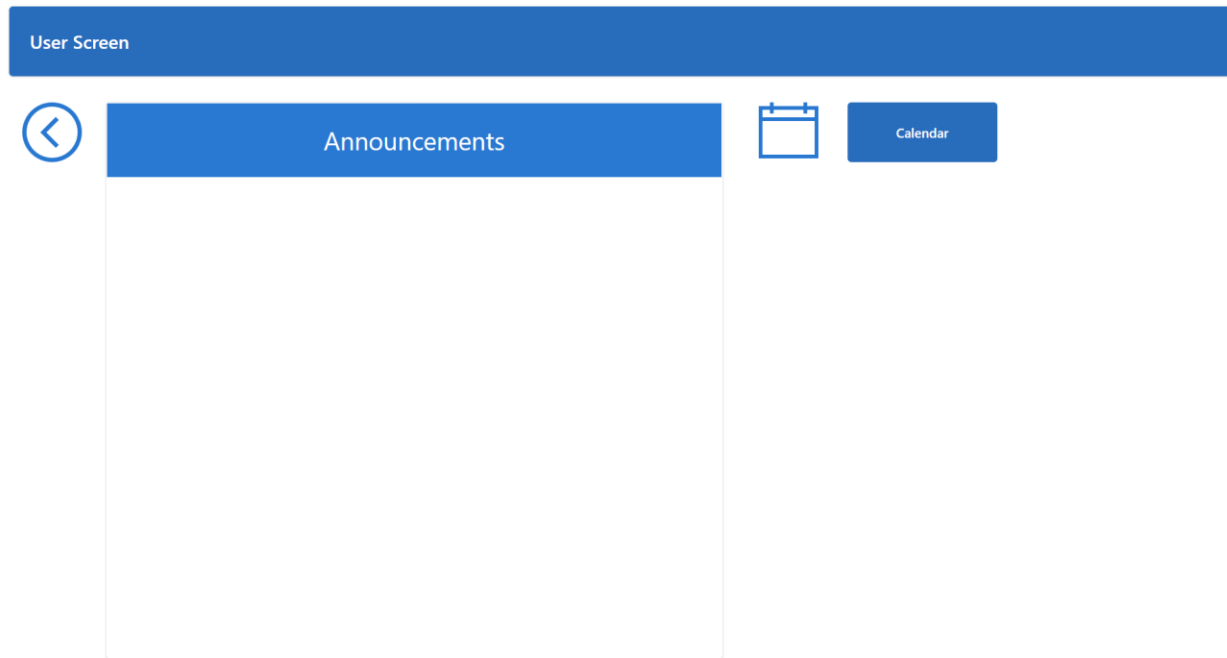
2.10.1 Technology Stack

SSYADD1 Prototype

1. Frontend and Backend:
   - **Power Apps:** A low code development platform that has its own cloud hosting service
2. Database:
   - **Dataverse:** Data storage that is built inside Microsoft's Power Platform
3. Version Control:
   - **GitHub:** Since Power Apps has their own version control, we only used GitHub to document the development process.

2.10.2 GitHub Project Repository

The link below serves as the group's repository and collaborative space for documenting the project:
https://github.com/APC-SoCIT/APC-2024-2025-T1-04-RAMinders/tree/main

The link below serves as the group's Power Apps project link where we do all of the development for our project:
https://make.powerapps.com/e/96e3e03f-1ecb-e29a-a426-e103ce2c2192/canvas/?action=edit&app-id=%2Fproviders%2FMicrosoft.PowerApps%2Fapps%2F1f2b664c-f757-4355-84f1-4f7217d8a20f&utm_source=office&utm_medium=app_launcher&utm_campaign=office_referrals

2.11 Conclusion

In conclusion, the RAMinders project provides a timely and innovative solution for enhancing the communication between the Office of the Registrar at Asia Pacific College (APC) and its community. By integrating an announcement and chatbot system within Microsoft Teams, the project aims to address several critical gaps identified in the current announcement dissemination process, such as information overload, delayed engagement, and limited reach. The survey findings reinforce these issues, with students frequently missing announcements due to crowded inboxes, unfiltered content, and inadequate accessibility.

The system's specific objectives align well with APC's needs, introducing engagement metrics, accessible academic calendar events, and automated response features that aim to improve information accessibility and timely responses to student inquiries. This effort is expected to not only reduce the number of repetitive queries handled manually by the Registrar's Office but also foster a more interactive and engaging platform where students can stay informed about academic events. Furthermore, by synchronizing announcements with Outlook and offering a potential incentive system for feedback, the project seeks to amplify the reach and impact of important academic communications.

Appendices
Appendix A: Product Vision

PRODUCT VISION

|	
For:	Registrar's Office.
Who	Are seeking a more engaging and effective communication channel to connect with the APC community.
The	RAMinders AIER System offers a dynamic solution.
That	Will actively interact with inquiries from students, faculty and staff, providing timely and relevant information.
Unlike	The current announcement system, which often goes unnoticed and lacks engagement.
Our	Project ensures that communication is more interactive, and announcements are prominently displayed on a platform that is widely used by the APC community.

Appendix B: Schedule
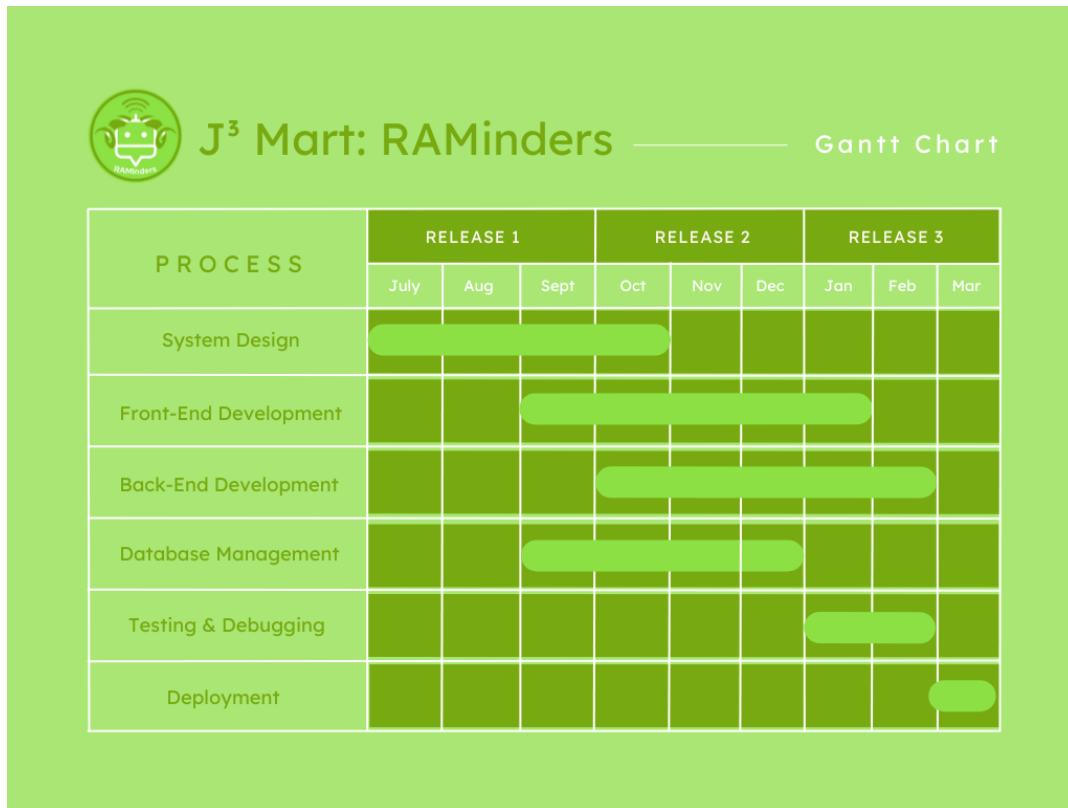
Fig. 26. Gantt Chart

Appendix C: Release Plan

       The project will be divided into three terms of the Project-Based Learning (PBL) Course Series. For a more detailed reference, refer to the Product Roadmap in Appendix D. On the other hand, refer to the Schedule in Appendix B for a clearer timeline of the release plan.

Target Group: Asia Pacific College (APC) Office of the Registrar

Goal: To implement a chatbot system that centralizes communication and providing announcements, academic events, and responses to inquiries to increase interaction and engagement with the APC community.

Needs:

- The ability to accurately track and report engagements in announcements.
- A more effective communication channel for delivering announcements.
- A timely delivery of important academic reminders to the APC community.
- An easy access to information and interaction with the Office of the Registrar.

Value:

- Key data insights in improving communication.
- Increased visibility and engagement with important announcements.
- Higher academic awareness in events and deadlines among students.
- Efficient interactions with the Registrar and reduced workload.

Key Features:

Release 1

- Use Case Diagram
  - Actors
    - The Registrar
    - APC Community
  - Use Cases
    - Manage Announcements
    - Manage Academic Events
    - Send Inquiry
    - Provide Instant Feedback
    - Manage Dashboard
    - Receive Announcements
    - View Academic Events
- Data Flow Diagram
  - Level 0
  - Level 1
  - Level 2
- Activity Diagram
- Entity Relationship Diagram
- Low Fidelity Prototype

Release 2

- Role-Based Access Control based on APC email account in MS Teams
- Registrar Application Portal synchronized with Chatbot
  - Home Tab
    - Overview of Announcements
    - Upcoming Events Calendar
    - Summary of Major Events
  - Announcements Tab
    - Management and Distribution of Announcements
  - Academic Events Tab
    - Management of Academic Events
  - Analytics Dashboard
- User Application Portal
  - User Dashboard

- ▪ Announcements
- ▪ Academic Calendar
  - o RAMinders Chatbot
- Azure Database Configuration

Release 3

- Advanced Chatbot Capabilities
  - o Natural Language Processing (NLP) Enhancement
  - o Contextual Awareness
- Chatbot Push Notifications
- Analytics and User Engagement Metrics API Endpoints
- Feedback Integration
- Security Enhancement
- Performance Optimization

Appendix D: Product Roadmap

TABLE II

SNTSDEV	SSYADD1	MCSPROJ

Client Research
• Find a client
• Define Pain Points
  o Client Meetings
  o Survey
 	
Project Proposal
• Documentation
• Systems Analysis
• Project Solution
	Project Artifacts
	• Data Flow Diagram
	• Use Case Diagram
	• Use Case Fully Dressed
	• Test Case
	• Activity Diagram
	• Low Fidelity Prototype
	
	Database Modeling
	• Entity Relationship Diagram (ERD)
	  o User, Role, Permission Tables
	  o Announcement, Inquiry, and Feedback Tables
	
	Functional Development
	• AIER System Design
	• Chatbot Integration
	  o Interaction Flows
	• Role-Based Access Control (RBAC)
	• User Registration and Login
		Backend Development
		• Chatbot Logic
		• AIER System Logic
		• Integration with Database
		• Analytics Table Setup for Dashboard
		
		Frontend Development
		• UI/UX Design for Chatbot and Announcement Interfaces
		• Development of Analytics Dashboard
		
		Testing and Finalization
		• System Testing and Debugging
		• User Testing for Usability

Appendix E: Teams Meetings

TEAMS MEETINGS: MIDTERMS

Date	Minutes of the Meeting
August 12, 2024	- Expounded the tasks in the Kanban Board - Created the agenda for the next consultation
August 13, 2024	- Discussed the direction of the project with Ms. Wednesday's guidance
August 15, 2024	- Started creating the Data Flow Diagram to be reviewed by adviser
August 19, 2024	- Presented the Data Flow Diagram to Sir Jayvee for review - Revised and gathered feedback on the Use Case Diagram and Data Flow Diagram - Assigned project team roles and description tasks for Use Case Diagram - Discussed the type of Artificial Intelligence to be used in the project
August 22, 2024	- Started creating the Fully Dressed Use Case - Reviewed and finalized the Data Flow Diagram - Set deadlines for Fully Dressed Use Case and Test Cases
August 29, 2024	- Discussed and edited the Use Case Diagram - Reviewed and edited each use case in the Fully Dressed as needed - Created initial Test Cases for submission
September 3, 2024	- Reviewed and updated Fully Dressed Use Cases as needed - Continued drafting test scenarios and test cases
September 5, 2024	- Added more Test Cases for each use case - Research and discussed how to start the Activity Diagram
September 6, 2024	- Presented Data Flow Diagram and Fully Dressed to Ms. Wednesday for consultation
September 8, 2024	- Revised all the diagrams based on the feedback from the previous consultation
September 9, 2024	- Divided parts for the Midterms Presentation - Reviewed the paper and all the diagrams and listed down changes to make before the presentation
September 10, 2024	- Presented Data Flow Diagram, Test Cases, and Activity Diagram to Ms. Wednesday for consultation

TEAMS MEETINGS: FINALS

Date	Minutes of the Meeting
September 30, 2024	- Revised Activity Diagrams - Discussed and started the Entity Relationship Diagram
October 8, 2024	- Presented the updated diagrams to Ms. Wednesday for consultation
October 9, 2024	- Continued the Entity Relationship Diagram - Planned the extended version of the Entity Relationship Diagram

	- Researched on PowerApps - Scheduled the creation of the prototype
October 14, 2024	- Revised the diagrams based on the feedback from the previous consultation
October 19, 2024	- Discussed the initial prototype's RBAC functionality - Discussed the necessary changes in the final paper - Divided the tasks for the final paper
October 28, 2024	- Presented the Entity Relationship Diagram and Prototype to Ms. Wednesday for consultation - Discussed consultants' feedback on the Entity Relationship Diagram

Appendix F: Low Fidelity Prototype
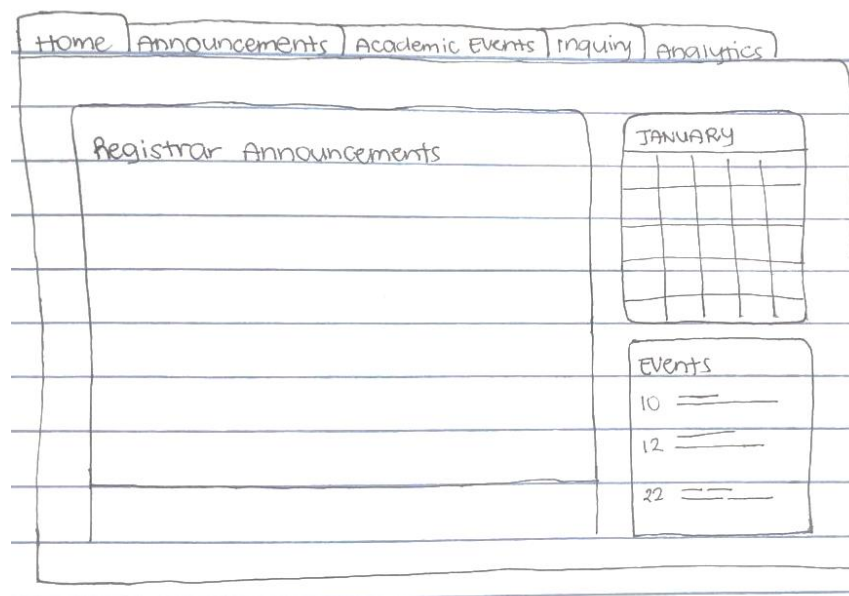
Fig. 27. Wireframe (User Home Screen).
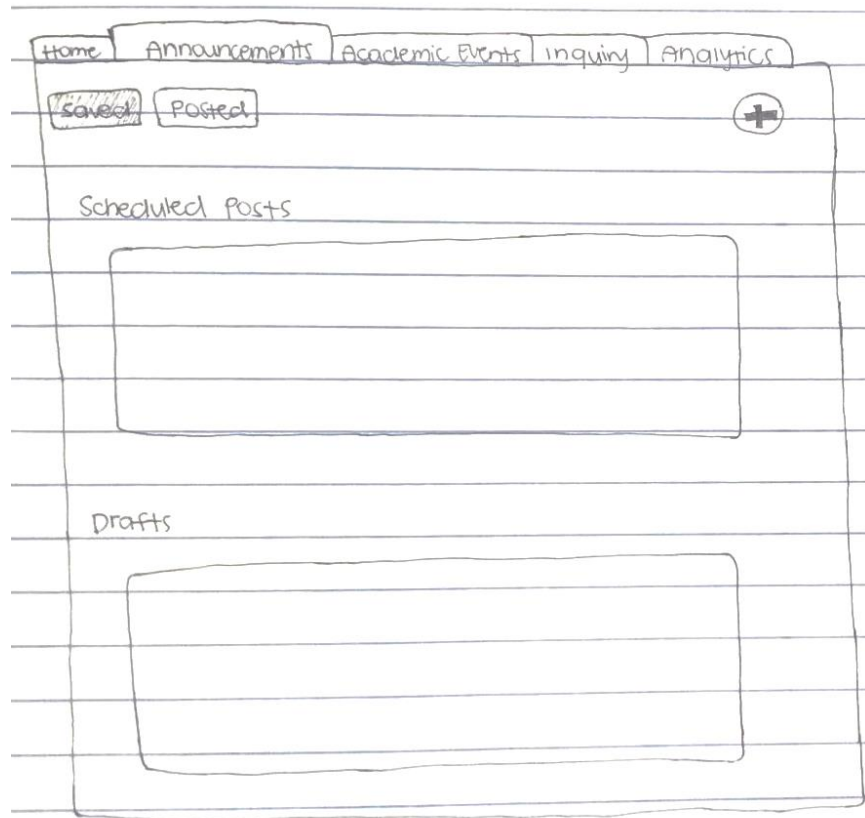
Fig. 28. Wireframe (Registrar Manage Announcement Screen).
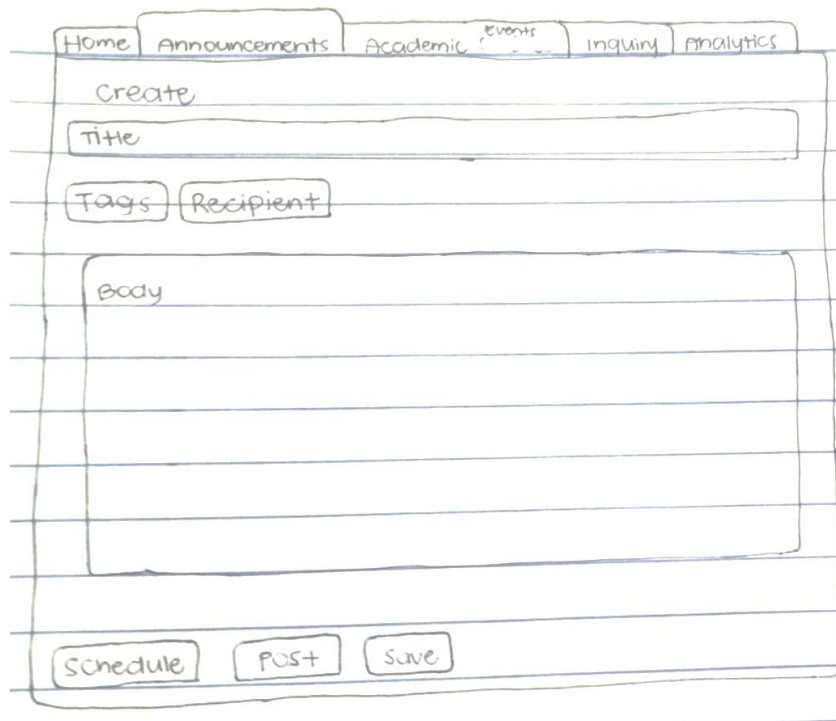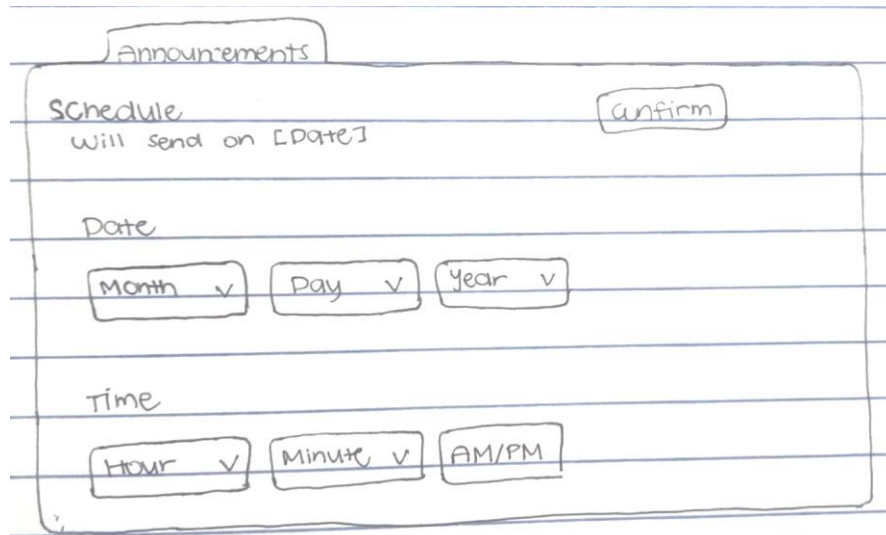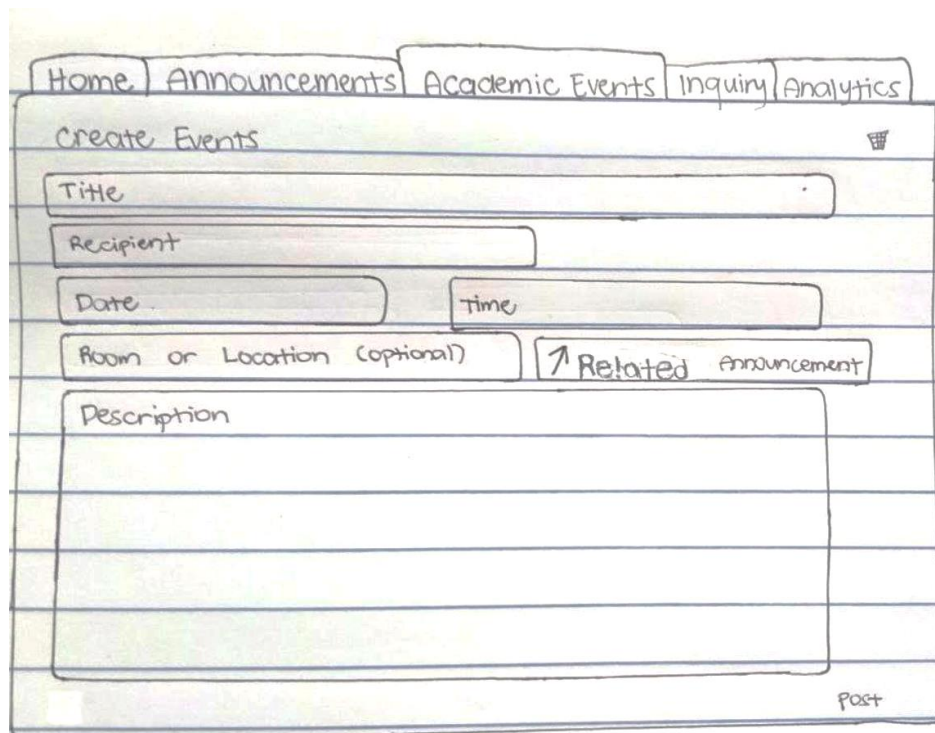
Fig. 29. Wireframe (Registrar Create Announcement Screen).

Fig. 30. Wireframe (Registrar Schedule Announcement Screen).

Fig. 31. Wireframe (Registrar Manage Academic Event Screen).

Fig. 32. Pre-final Ms. Roselle Meeting (Consultant).

Fig. 33. Pre-final Sir Jojo and Sir James Meeting (IT Executive Director and Consultant).

Fig. 34. SSYADD1 Defense Presentation Sir Quesada, Sir Pamittan, and Doc Calimlim (Professor and Panelists).