



WASIMS (Web based Application for a SMART Internship Management System)

Project Documentation Submitted to the Faculty of the
School of Computing and Information Technologies

Asia Pacific College

In Partial Fulfillment of the Requirements for
Applied Project for CS/IT
MCSProj

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2024

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Executive Summary

Named after the description itself, WASIMS' is the 'Web-based Application for a Smart Internship Management System.' WASIMS is a smart software solution for Asia Pacific College's internship department that digitalizes the internship management process, replacing traditional methods of handling data with spreadsheets and repetitive processes. WASIMS aims to streamline the internship management process through a centralized digital platform, enhancing coordination between students, faculty, and employers, and providing comprehensive tracking and reporting functionalities. Key features of the application include a platform for the Internship Coordinator to post open job offers from industry partners (IPs), a system for interns to upload their internship reports and documents, a scheduling tool for the Internship Coordinator to organize Online Internship Evaluations, a mechanism for IPs to evaluate interns and upload their signatures and remarks digitally without needing to download a template via email, and a grading system for the Internship Coordinator to compute and assign grades to interns.

By expediting the internship management process, the implementation of WASIMS benefits all stakeholders involved in the student internships, including the internship department, student interns, industry partners, and executive/program directors of the school. Expected outcomes include reducing the number of clicks, time, and management effort needed to conduct the internship process for the people affected by the Internship Process.

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I. Introduction

Internships are practical experiences integrating classroom knowledge with skill development in a professional, on-the-time setting used in everyday life. They offer students hands-on exposure to their field of study, which can benefit their future careers. Research indicates that internships are crucial for career success, with multiple internships correlating to better job prospects as those experiences shape students to be more industry ready as it also promotes exposure [1].

Internships provide real-world experience and networking opportunities and often lead to job offers. They market the student as equipped with the basic to necessary skills tackled in the field. Participating in internships is invaluable, as students can apply theoretical concepts in practical environments, enhance their professional skills, and build connections within their industry.

In a study conducted by [2], the impact of internship programs on the professional and personal development and skills of business students in Pakistan was evaluated. Internships help students refine their career plans, gain valuable industry insights, and enhance their employability, with students being more likely to secure jobs post-graduation.

Given the significant benefits that internships provide students, educational institutions have increasingly implemented programs requiring students to complete a certain number of internship hours for specific college units. These programs ensure that students gain practical experience before entering the workforce.

Asia Pacific College (APC) boasts a unique offering with its 6-month full-time internship program, distinguishing it in the educational landscape. With over three decades of experience, APC has earned recognition for providing quality interns for over thousands of students who have enrolled into their internship programs.

However, managing internships effectively can be challenging, especially when coordinating placements for many students. The use of manual systems for managing internships can lead to inefficiencies, errors, and a lack of proper tracking and reporting, considering that the department managing the interns often oversees hundreds of students at a time. According to a report by the National Association of Colleges and Employers (NACE) [3], many universities

manage internship programs involving hundreds to thousands of students annually, underscoring the need for efficient management systems [3].

Recognizing the need for a sophisticated solution to address manual internship management processes, researchers at APC have embarked on developing a Web-based Application for a Smart Internship Management System (WASIMS). This web-based application aims to streamline the management of internships, making the process more accessible and efficient for both industry partners (IPs) and interns.

Pronounced like the swift sound of a sword slicing through the air, WASIMS symbolizes cutting through the inefficiencies of internship management systems. This system aims to digitalize the management of internship programs, enhance coordination between students, faculty, and employers, and provide comprehensive tracking and reporting functionalities.

Beyond that, WASIMS will streamline these programs by enhancing efficiency and coordination. This system will automate repetitive tasks for the Internship Department, giving enough time to do meaningful tasks such as visiting the Intern in their office. It also improves submission and evaluation processes for student interns, job matching opportunities, facilitates better communication with industry partners, and provides valuable analytics for executive/program directors to make informed decisions. Overall, WASIMS will significantly enhance the management and effectiveness of internship programs, benefiting all stakeholders.

Project Context

The Internship Department follows a structured internship program into three phases: pre-internship, internship, and post-internship. These phases encompass preparation, on-the-job training, and evaluation. The pre-internship phase involves orienting students about professional ethics, preparing their resumes, and endorsement to industry partners. The internship phase includes job placement, student progress tracking, and collecting reports. The post-internship phase focuses on the final evaluation of internships for crediting.

Before and during the job placement, Interns are required to apply for job openings from Industry Partners. These job openings are provided to the Internship Coordinator by the Industry

Partners. To do such a task, the Internship Coordinator creates a "Job Openings" thread in the Microsoft Teams channel and then posts the new openings in the comments, which makes it difficult for interns to follow through once the thread gets covered.

The current process requires shared responsibility between the internship coordinator and industry partners, where both parties contribute to student grading. Industry Partners are responsible for 70% of the Intern's grade in the form of Intern Evaluation. Before the Midterms/Finals week, the Internship Coordinator will manually send a batch email to the immediate Supervisors of the Interns containing the necessary information and documents to evaluate the interns with a two-week deadline. The Internship Coordinator expects to get a reply within the set deadline; however, this is only sometimes the case. According to the internship coordinator, some supervisors change their email without prior notice, and some emails end up in spam folders, leading to delays.

The rest of the Intern's grades will come from the submitted documents required by the Internship Coordinator. These include Monthly Accomplishments, Monthly Attendance, and Midterms/Finals Papers submitted through Microsoft Teams. Managing the final paper alone costs the Internship Coordinator an average of thirteen (13) seconds per paper. Imagine that with the total number of students annually. These documents are processed and organized and are then sent to the Executive/Program Directors to initiate data-driven decisions for improving the school curriculum and the internship program. Example of these documents include Deployment Reports, Monitoring Reports, and Final Paper.

Lastly, interns will need to evaluate their industry partners via an MS Form. This process allows the Internship Coordinator to understand what tasks the Intern is performing and gauge the intern's overall satisfaction with the experience. If the Intern reports any dissatisfaction or issues outside the agreed-upon terms, the evaluation will be shared with the industry partner. However, if no dissatisfaction is reported, the Internship Coordinator will send an email thanking the industry partner for their partnership. This current process presents challenges due to the substantial number of industry partners involved, making it difficult for the Internship Coordinator to provide timely and detailed analytical feedback. This lack of detailed feedback can hinder transparency and continuous improvement.

The time-consuming nature of manual and distributed processes limits the internship department's ability to provide optimal support to all stakeholders. The Internship Department spends a significant amount of time managing the documents of around two hundred (200) Interns and the feedback of around eighty (80) Industry Partners, which takes away time from tasks like addressing student concerns and facilitating communication with Industry Partners. This is done in real-time and is managed in an Excel Sheet with over two hundred eighty (280) data cells. Not to mention, even a slight delay in one of the phases above can cause a domino effect that could impact Inten's academic progression, resulting in inferior work performance and, at worst, failing the subject.

Statement of the Problem

1.2.1 Main Problem

The Internship Department of Asia Pacific College is struggling with inefficiencies posed by its current processes that are impacting overall productivity and stakeholder relations. They seek to leverage technology to resolve multiple pain points they have identified.

1.2.2 Specific Problems

1. Inadequate notification of job openings, leading to buried job openings for Interns.
2. Communication breakdown between Industry Partners and Internship Coordinator prevalent during evaluation season.
3. Inefficient record-tracking due to the processes involved in manually updating spreadsheets.
4. Decentralized nature of file management within the Internship Department.
5. Delays in the pertinent reports needed by the Executive Directors namely the Deployment Reports (pre-internship), Monitoring Reports during Intern 1 and 2, and Final Paper.

Objectives

1.3.1 Main Objective

This project's main objective is to create an Internship Management System for the Internship Department of Asia Pacific College. Through this project, the developers aim to solve the client's existing problems.

1.3.2 Specific Objectives

1. Ensure interns receive a real-time list of job openings from Industry Partners that highlight positions relevant to their specialization.
2. Eliminate email delivery issues with Industry Partners during evaluation season.
3. Eliminate the manual tracking of intern-submitted documents and reduce the number of manual updates done by the Internship Coordinator to two (2) steps.
4. Allow files to be stored in a centralized system for quick file access and retrieval procedures.
5. Ensure data availability for the Executive/Program Director upon the submission of the Intern's reports.

Significance of the Project

Internship programs are crucial in today's industry as they provide hands-on learning opportunities and practical on-the-job training, bridging academic learning with real-world applications. This web-based application is pivotal as it significantly reduces the time the Internship Coordinator spends conducting tasks such as grading, reading evaluations, and sending emails. The project's significance is underscored by its comprehensive approach to addressing various stakeholders' needs, including the Internship Department, Student Interns, Industry Partners, and Executive/Program Directors.

Internship Department. Serving as the project's primary beneficiary and principal stakeholder, the Internship Department will benefit from improved overall efficiency in handling student submissions, automation of repetitive tasks, accessible program status overview, and a centralized application for internship management. The project allows the internship department to save time on their manual processes, allowing the Internship Department to reallocate their time to do more meaningful tasks that can benefit the program directly, such as visiting interns and industry partners in their workplace to address other issues.

Student Interns. Addressing the problems allows the internship department to spend more time ensuring the quality of its talents, which can be spent with student interns, listening to their feedback on the program.

Industry Partners. Addressing the problems will assist the industry partners in providing faster and effortless feedback to the student interns, access to the talent pool, and smoother coordination with the internship department, allowing both to foster stronger partnerships. The industry partners get recognized and rewarded by highly committed industry partners for their contributions, fostering a sense of appreciation and loyalty towards the internship program.

Executive/Program Directors. Addressing the problems will assist the internship department in providing insightful reports and data analysis on the state of the internship program in a more streamlined manner, where the Executive/Program Directors can initiate data-driven decisions for improving the internship program along with the Program Directors to improve the program as well. They can also further strengthen the relationship they have with the industry partner once the system has been completed.

Beyond the shared benefits among the stakeholders, the proposed solution will contribute to achieving several United Nations Sustainable Development Goals (UN-SDG) that resonate with Asia Pacific College's core values.

SDG 8 – Decent Work and Economic Growth. The proposed system benefits students by streamlining their search for internship opportunities. Providing company recommendations based on their skills promotes decent work. Creating a centralized application for students and IPs increases the likelihood of securing internships and potentially receiving return offers from the IPs, thereby fostering economic growth.

SDG 9 – Industry, Innovation, and Infrastructure. The web-based application leverages technology to address real-world problems. Digitalizing manual processes and incorporating advanced features such as a recommendation algorithm fosters a culture of innovation. The technologies used in the project are well-researched and adhere to industry standards.

SDG 17 – Partnerships for the Goals. The proposed solution will bridge companies, working professionals, students, and Asia Pacific College. This integration fosters collaboration and strengthens relationships among all parties involved, as each company partnered with Asia Pacific College has different missions and visions.

Scope and Limitations

This project's scope includes developing a web-based application that addresses the problems encountered by the Internship Department. The proposed web application will be usable by interns, industry partners, the internship department, and executive/program directors; everyone involved in the internship process.

The proposed solution's scope is focused on addressing the problems encountered by the APC Internship Department. However, due to the program's comprehensive nature and processes, the solution is designed to benefit other stakeholders, which also hinders the internship process's success. Other features and sub-features may also be added to WASIMS to address minor problems not explicitly identified as client pain points.

Scope

The project will focus on the seasonal evaluation process, grading of interns, the intern's job-finding process, and the dashboard system to check Intern submissions. This means the proposed software solution is intended to cater to the stakeholders of the whole internship process. The internship management system will be a web application that has the following base functionalities:

1. Online Intern Evaluation web application.
2. Online Industry Partner Experience Evaluation.
3. Real-Time Monitoring and Analytical Capabilities to Assess the status of submissions and evaluations.

4. Job Matching via Natural Language Processing and Machine Learning Algorithm (for both student and IP).
5. Dedicated Intern resume bank with backup capabilities.
6. Smart Reminder via Notifications and Mailer to IPs and interns on Evaluation Season and Missing Prerequisites.
7. Stakeholder's Dashboard.
8. Online Web-Based Reports Template.

We aim for the web application to be easy to use, efficient in tracking student and IP evaluation submissions, making it easy for the internship coordinator to grade students, executive director's preferred format of analytics, and a dashboard for the stakeholders to base information on. Innovative features that summarize the interns' reports to hasten the time taken to analyze documents will also be considered. In addition, the project will also cover the Executive Director's dashboard and application capabilities to oversee the evaluations, grades, and more done in the internship process.

Other means of sending notifications, such as notifications within the web project itself, will be considered along with a FAQ page with a detailed explanation of how the internship process works.

Limitations

The project's completion is limited to the whole span of project-based learning courses. The development of the web application will be conducted and finished in three semesters through the three different courses from SNTSDEV up to PROJMAN (See **Error! Reference source not found.** Appendix B).

While the system aims to streamline various aspects of the internship process, some features will not be included. These features include Intern payment and the requirement for signed documents to confirm such payments, approving work validation for internships, and signing a Memorandum of Agreement (MOA). These processes require signed, on-hand documents that can be compiled manually. Additionally, some documents do not need to be integrated into the system because they do not present pain points according to the stakeholders.

This also means that we are only targeting documents and other files uploaded in the years 2025 and above. Anything before will not be targeted.

Our focus remains on improving and elevating the pain points of the core internship processes and specific workflow elements, as detailed in Chapter 3. As the project only aims to directly confront the pain points as presented, it will not touch on any of the existing issues that are not relevant to the system's design.

While WASIMS is a software solution for internship departments, the specifications of this project documentation are derived from the client's situation, so most of the features are limited to the needs of the Internship Department of Asia Pacific College.

II. System Design

2.1 Data Flow Diagram

A Data Flow Diagram (DFD) visually represents the flow of information within a system, highlighting how data moves between external entities, processes, and storage. It breaks down the system into smaller components, showing how inputs like data or files are transformed into outputs through various processes.

Context

In the context of your system, WASIMS, the DFD is crucial because it outlines how key participants—such as interns, industry partners, and Executive/Program Directors—interact with the system. It provides a clear understanding of the data exchanges between these roles, like resume submissions, job postings, evaluations, and reports, ensuring smooth information flow and helping identify potential inefficiencies or areas for improvement. This understanding is vital for managing internships effectively and ensuring seamless coordination between all stakeholders.

2.1.1 Data Flow Diagram Level 0

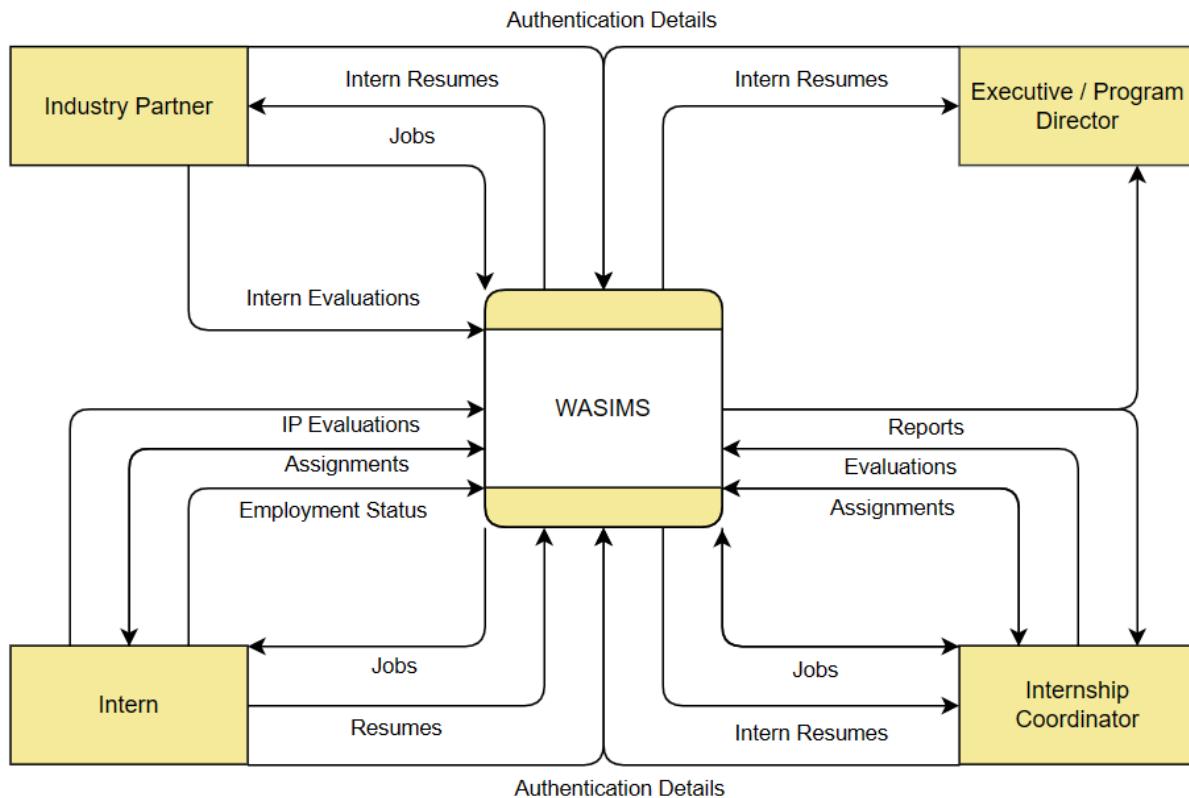


Figure 1 WASIMS DFD Level 0

The Level 0 Data Flow Diagram (DFD) for WASIMS provides an overview of how data moves between key entities in the internship management system. It illustrates interactions between four main entities: the **Industry Partner**, **Intern**, **Executive/Program Director**, and **Internship Coordinator**, all of whom interact with WASIMS. Data such as **Intern Resumes**, **Jobs**, **Assignments**, and **Evaluations** are exchanged between these entities and the system. WASIMS serves as the central hub, managing all information flow and ensuring proper handling of processes like job postings, intern evaluations, and assignments, with the system requiring **Authentication Details** to process these exchanges securely.

2.1.2 Data Flow Diagram Level 1

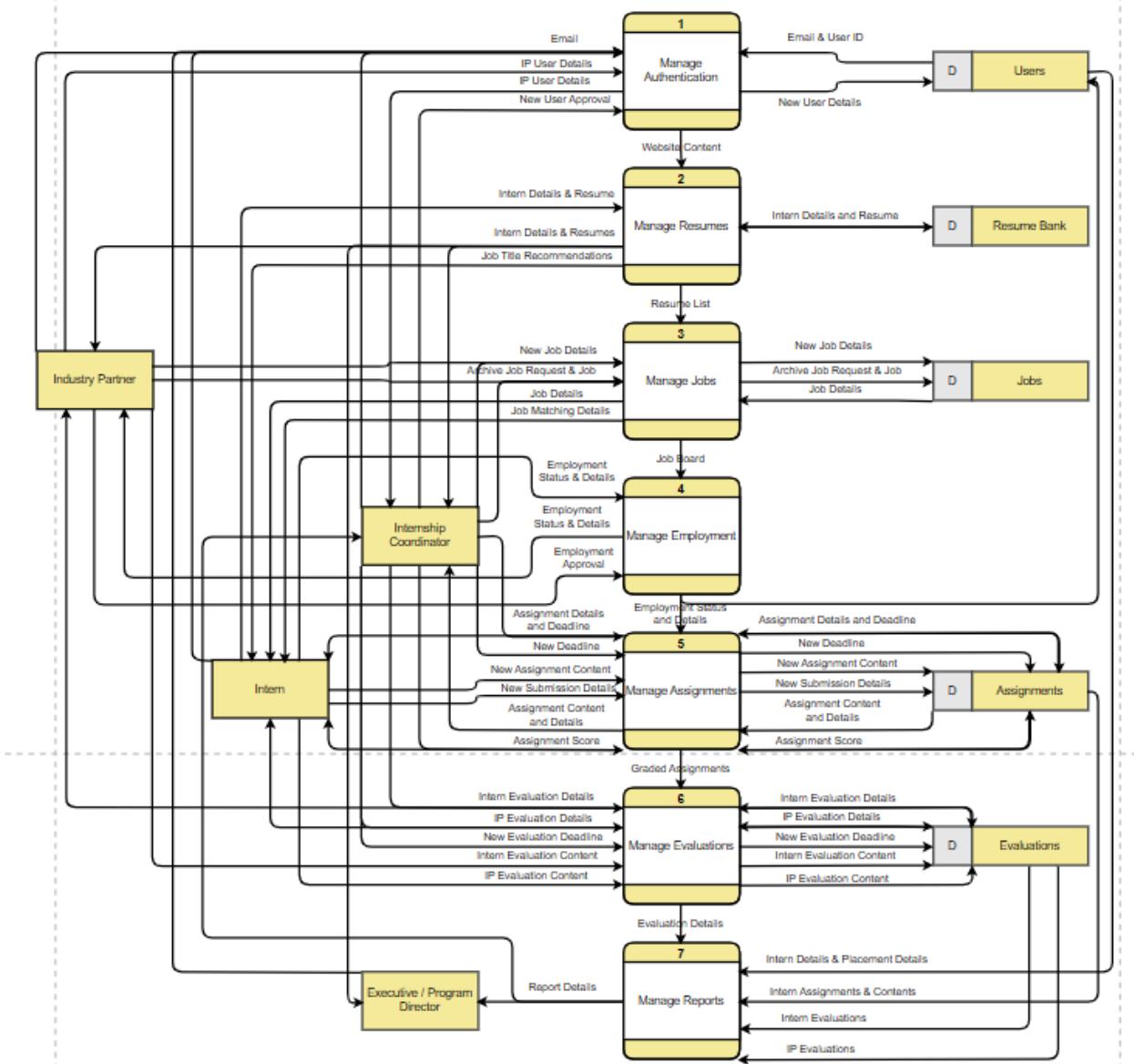


Figure 2 WASIMS DFD Level 1

The **Level 1 Data Flow Diagram (DFD)** for WASIMS would break down the main functions of the system into more detailed processes, showing how each function interacts with the databases and the external entities.

1. **Manage Authentication:** This function verifies users (Interns, Industry Partners, Executive/Program Director, and Internship Coordinator) by checking credentials against the **Users database**.
2. **Manage Resumes:** This process handles the submission, updating, and retrieval of intern resumes. Interns upload their resumes, which are stored in the **Resume Bank database**. Industry Partners and the Internship Coordinator can access, and filter resumes to find suitable candidates.
3. **Manage Jobs:** Here, Industry Partners and the Internship Coordinator can create, update, and delete job postings. These job listings are stored in the **Jobs database** and are accessible to interns, who can view and apply to relevant jobs, and industry partners.
4. **Manage Employment:** This function tracks the employment status of interns. Once an intern is hired or completes an internship, their employment status is updated in the **Jobs database**, allowing the system to monitor their progress and completion of the program.
5. **Manage Assignments:** This process involves the creation, submission, and grading of assignments. Interns submit assignments to the system, which stores them in the **Assignments database**.
6. **Manage Evaluations:** This function deals with the performance evaluations of interns and industry partner experience. Industry Partners and Interns submit evaluations based on interns' performance, and these evaluations are stored in the **Evaluations database**.
7. **Manage Reports:** This process generates reports on various aspects of the internship program, such as job placements, intern performance, and assignment completion

2.1.3 Data Flow Diagram Level 2

A Level 2 Data Flow Diagram (DFD) provides a more detailed breakdown of processes from Level 1, diving into specific subprocesses and showing how data flows between them in even greater granularity.

Manage Authentication

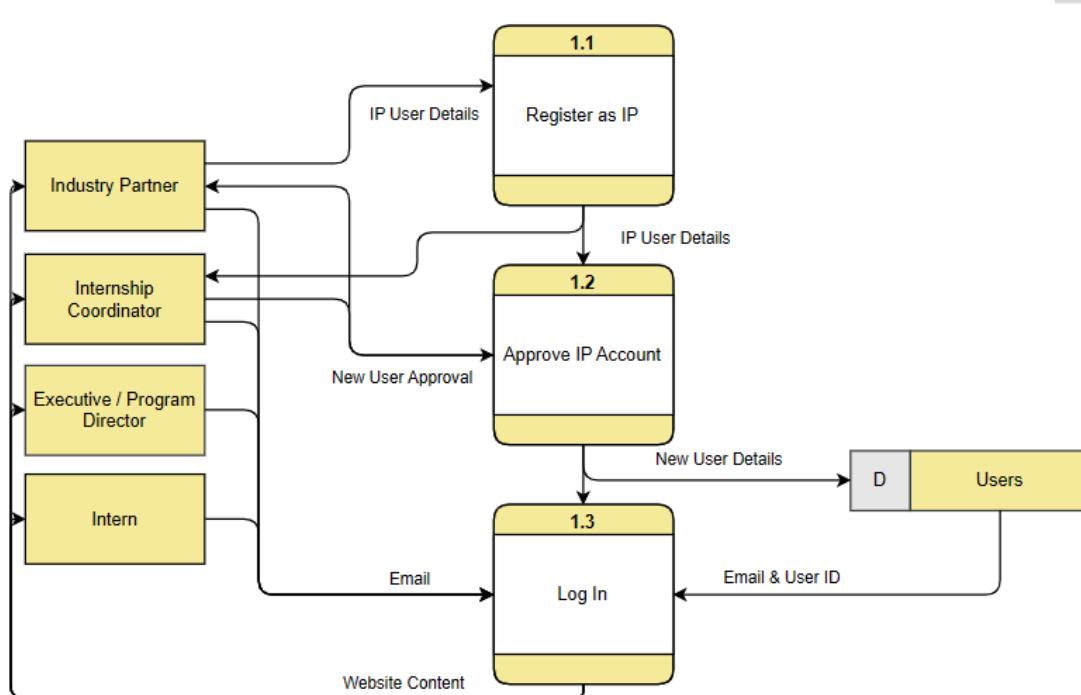


Figure 3 Manage Authentication DFD Level 2

Manage Resumes

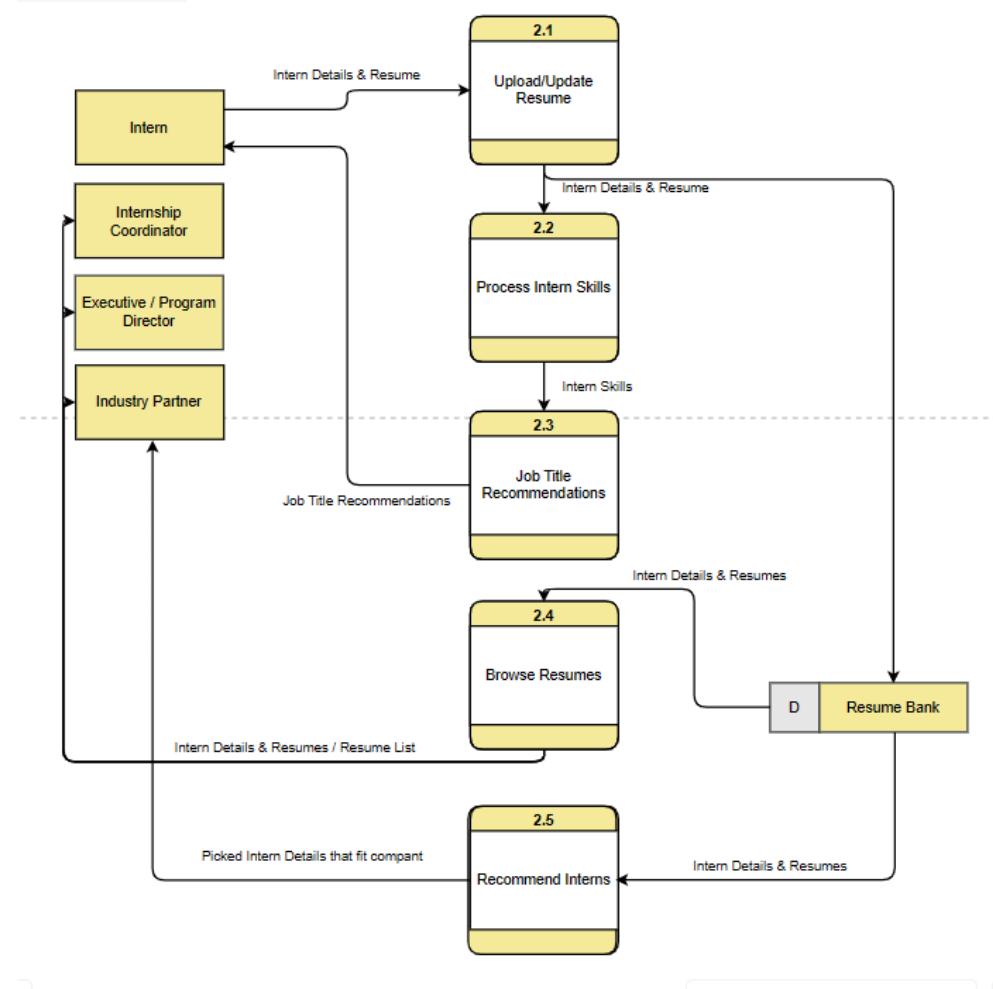


Figure 4 Manage Resumes DFD Level 2

Manage Jobs

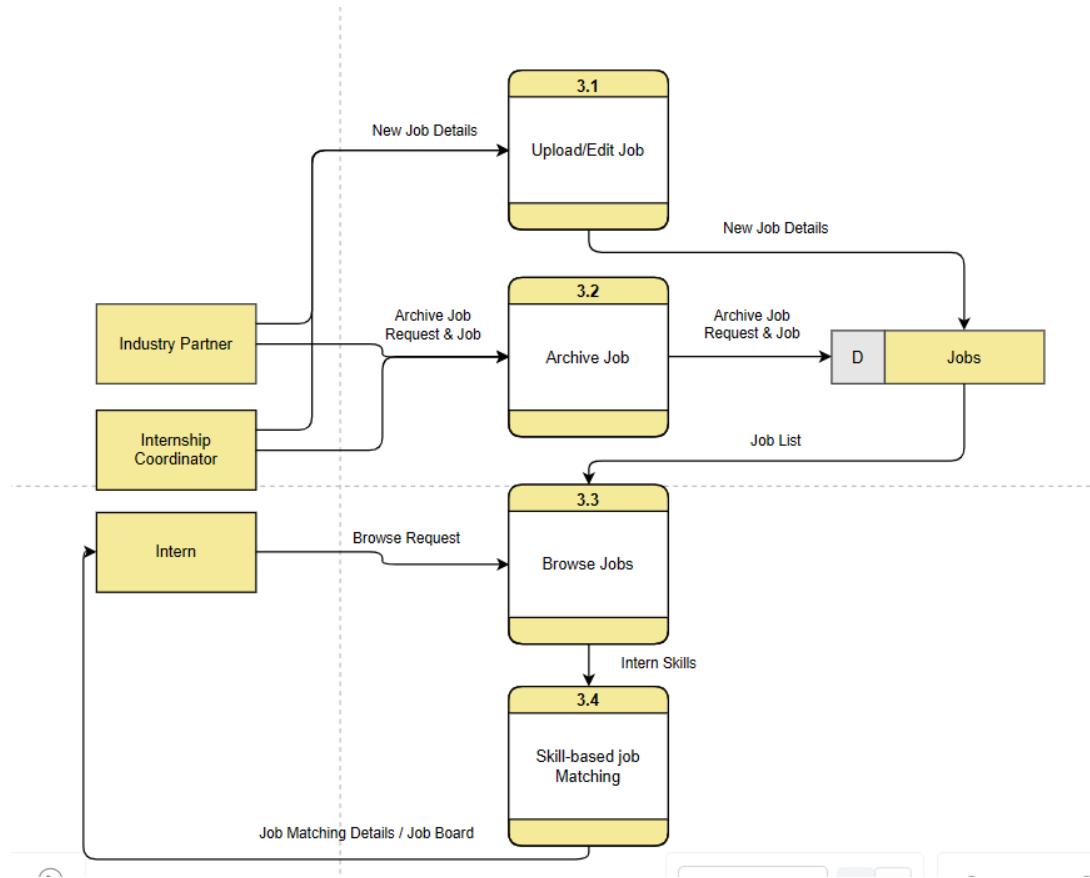


Figure 5 Manage Jobs DFD Level 2

Manage Employment

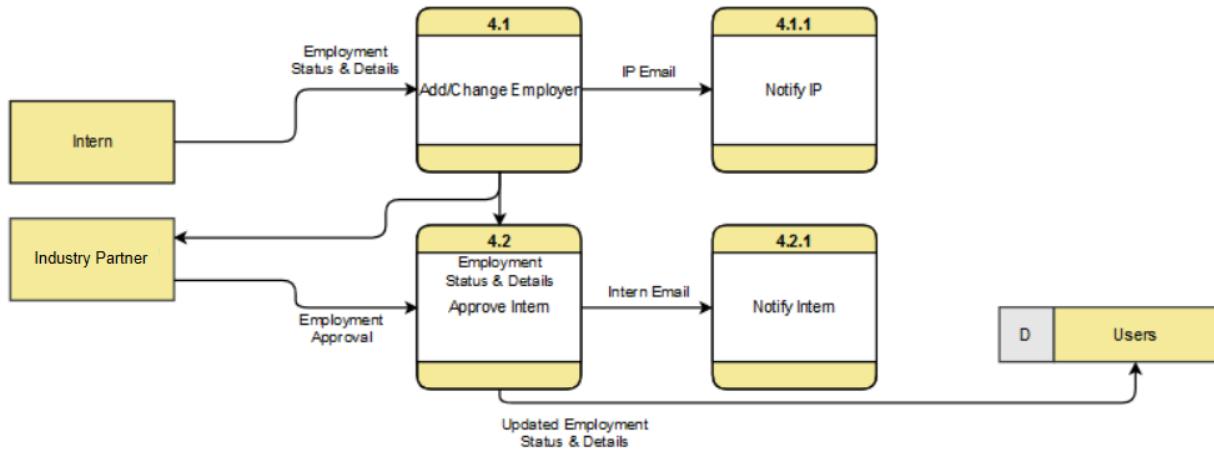


Figure 6 Manage Employment DFD Level 2

Manage Assignments

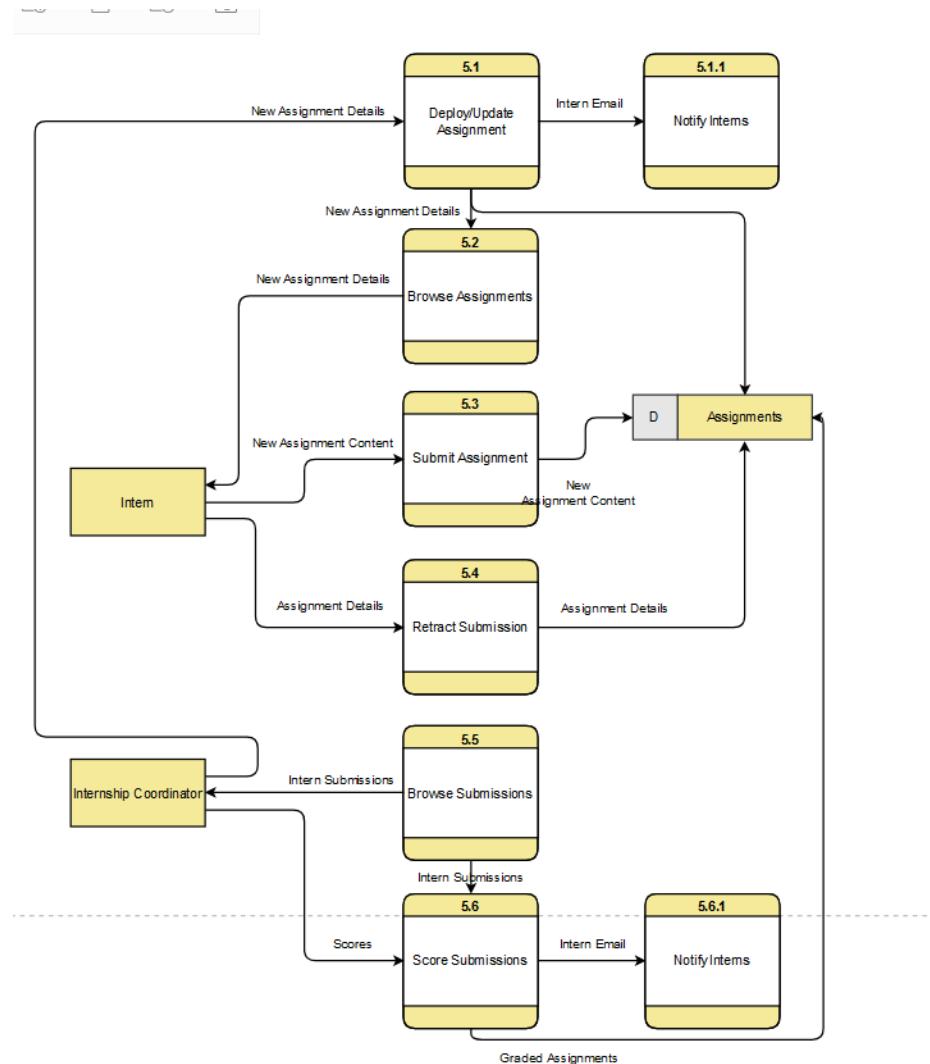


Figure 7 Manage Assignments DFD Level 2

Manage Evaluations

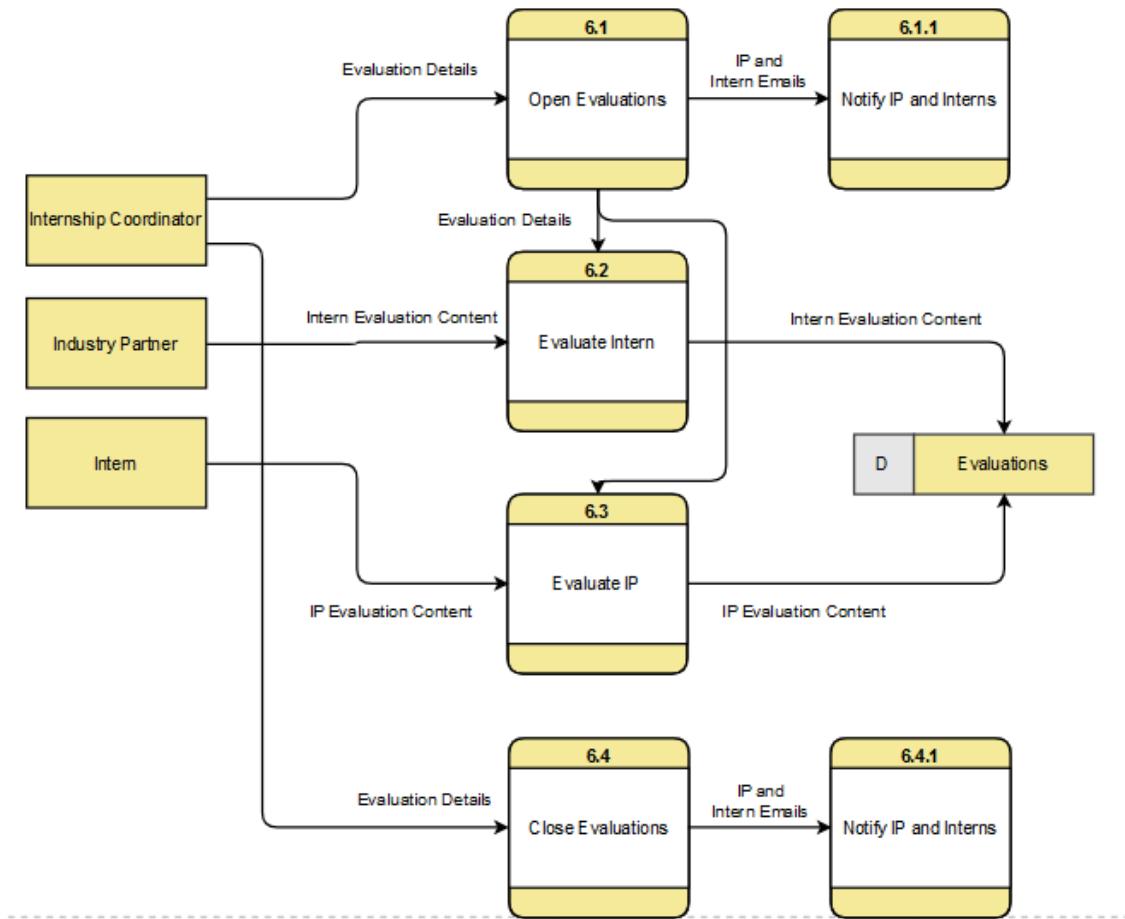


Figure 8 Manage Evaluations DFD Level 2

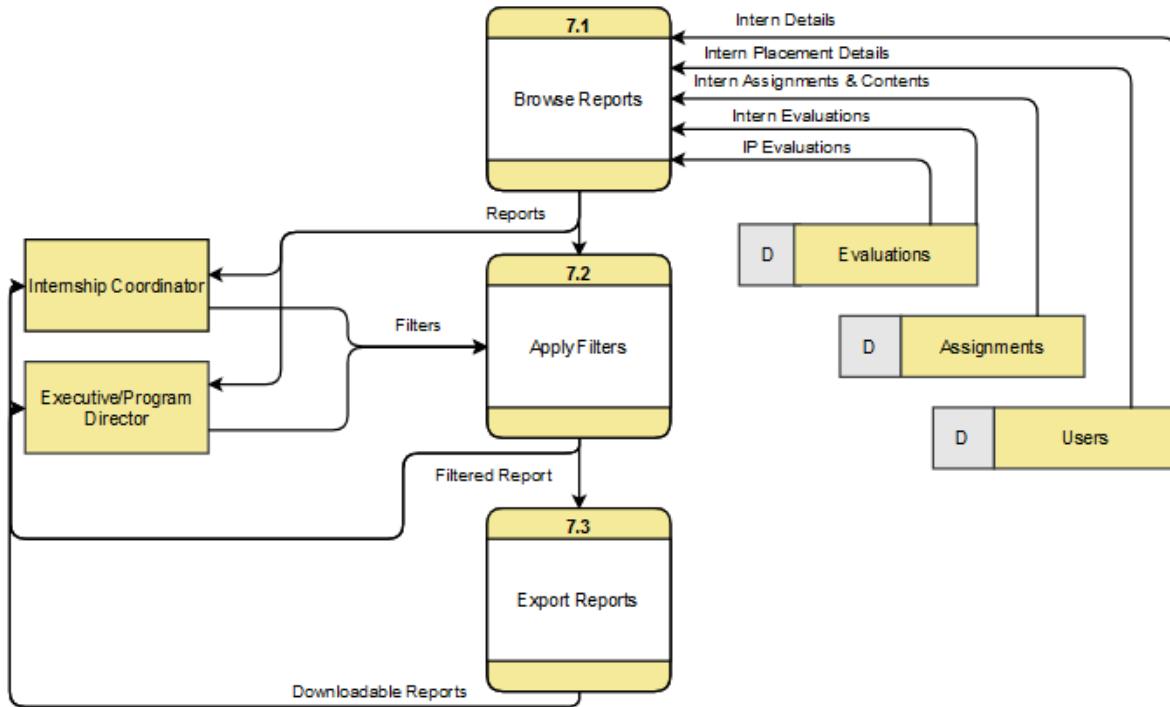


Figure 9 Manage Reports DFD Level 2

2.2 Use Case Diagram

To provide a clear understanding of the proposed system's functionality, we have created a use case diagram that illustrates the interactions between the system and its users. This diagram depicts the primary actions each user can perform within the system.

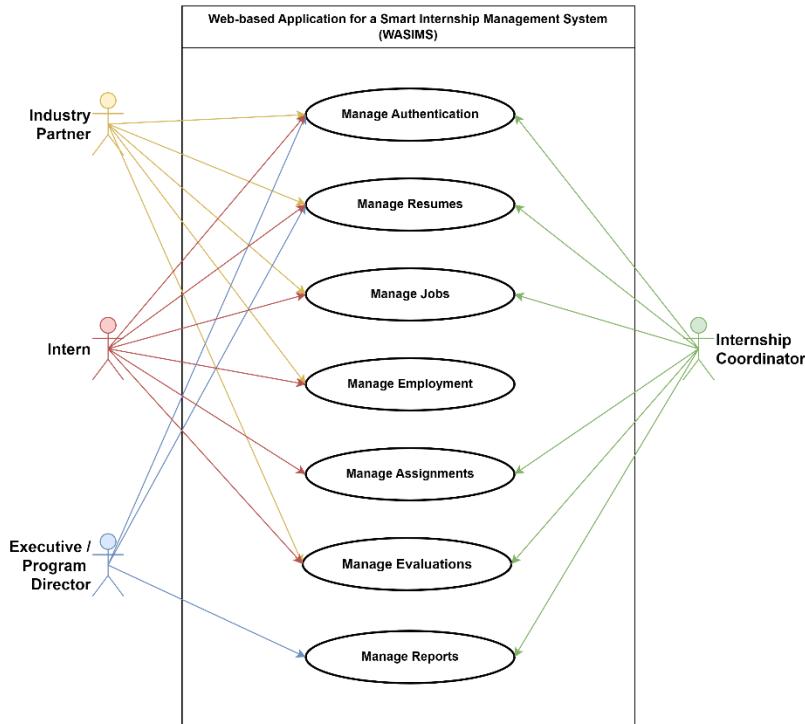


Figure 10 Use Case Diagram

The system is designed for two user types:

- **Primary Actor: Internship Coordinator** - The Internship Coordinator is designated as the primary actor because the system is primarily intended to streamline their workflow in managing interns.
- **Secondary Actors: Intern, Executive/Program Director, and Industry Partner**: These users are classified as secondary actors as they interact with the system less than the Internship Coordinator.

The use case diagram focuses on the key functionalities of the system. These functionalities include authentication, submission of assignments (i.e. monthly attendance reports, accomplishment reports), advertisement of Intern opportunities or availability of positions from industry partners, managing of employment, selection of interns from AI recommendations or resume bank, submission of evaluation on both Intern and industry partner, viewing of analytical reports from data in the system, and deployment of email alerts for various stakeholders in the email server

2.2.1 In-depth Use Case Diagram

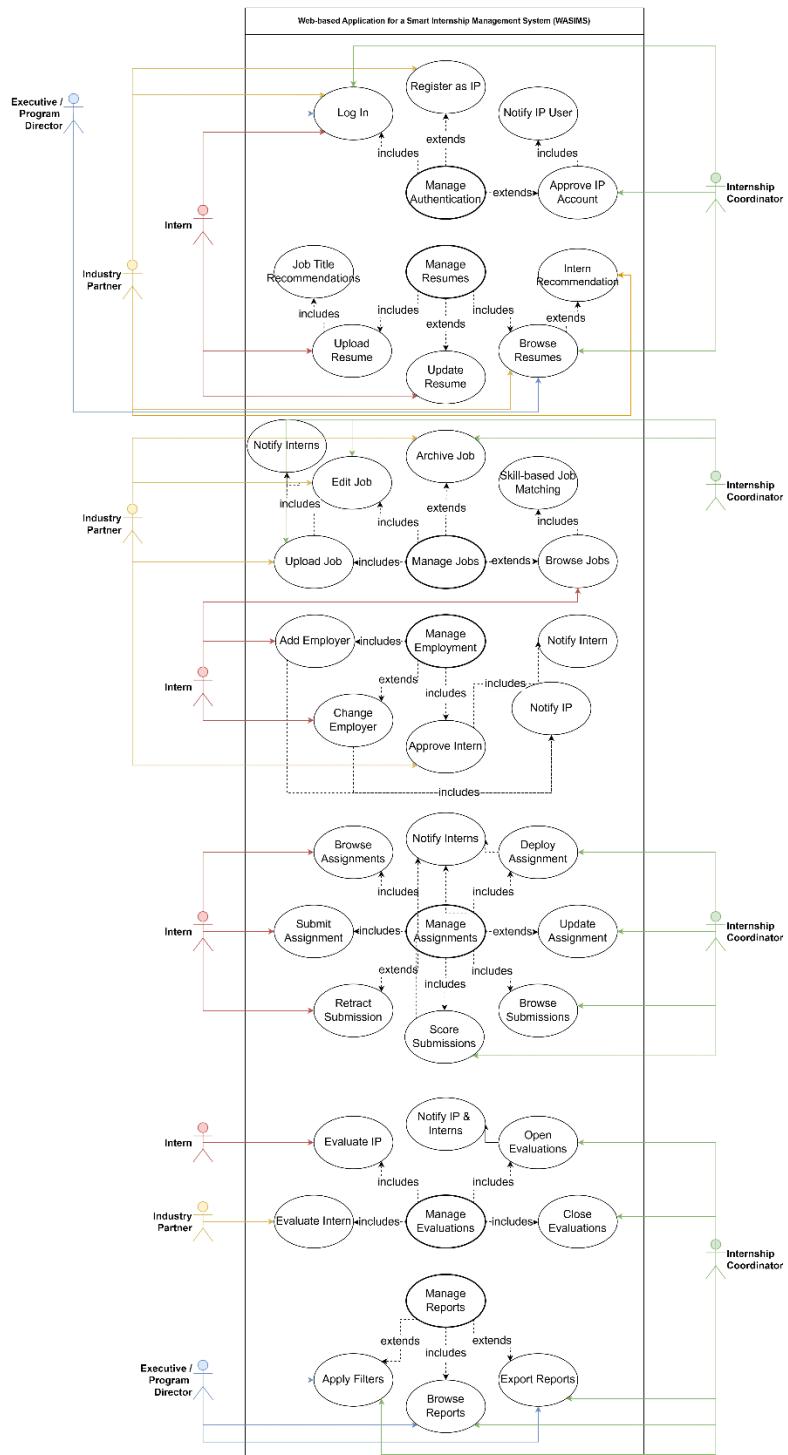


Figure 11 In-depth Use Case Diagram

This diagram shows the specified version of the Use Case Diagram (Fig. 7) including what is the process of each Use Case in every user of the system.

The expanded use case diagram provides a comprehensive overview of the system's high-level functionalities, encapsulating all key interactions within a single visual representation. This diagram effectively incorporates "extend" and "include" relationships to clarify how different use cases interact with each other.

These specific subfunctions will be explained deeply within 2.2.2 (Fully Dressed Use Cases) section.

2.2.2 Fully Dressed Use Cases

This Fully Dressed Use Cases provides a full description of each use case on the Use Case Diagram including each main and alternate flow of the user on a certain use case, what will the system displays if the user interacts with the system, and extensions and exemptions.

In the context of our system, WASIMS, we will provide necessary information that can further supplement our use main use cases:

1. Manage Authentication
2. Manage Resumes
3. Manage Jobs
4. Manage Employment
5. Manage Assignments
6. Manage Evaluations
7. Manage Reports

Manage Authentication

Table 1 Manage Authentication FDUC

Use Case Name	Manage Authentication	
Use Case Number	UC-01	
Created By	Edwin Gumba Jr.	
Date Created	10-24-24	
Description	Users can log-in to access the system.	
Actors	Industry Partner, Industry Coordinator, Executive / Program Director, and Intern	
Related Use Case		
Triggers	The use case is initiated when they log in to the site and there have been no previously saved sessions.	
Pre-Conditions	<ol style="list-style-type: none"> 1. The actor has a stable internet connection. 2. The actor has accessed the Web Application. 	
Post-Conditions	<ol style="list-style-type: none"> 1. The actor has successfully logged in. 	
Main Scenario	Actor	System
	<ol style="list-style-type: none"> 1. The actor navigates to the website 2. The actor is presented with a log-in page 3. User inputs their registered email 	<ol style="list-style-type: none"> 1. System sends OTP to user email 2. System Confirms if OTP is working

	4. User logs in with OTP 5. User logged in	
Exceptions / Alternate Flow	<p>1. User wrong OTP</p> <ul style="list-style-type: none"> • This is triggered when the actor's OTP is incorrect. • They can opt to resend the OTP in their email once again with a subsequent number of times. • Users can log-in until OTP is now correct. <p>2. Account not Registered</p> <ul style="list-style-type: none"> • The system displays a message indicating that the account is not registered. • Interns can contact the Internship Coordinator to verify their account status. <p>3. Industry Partner Account Not Registered</p> <ul style="list-style-type: none"> • The system displays a message indicating the account is not registered. • The Internship Coordinator must be informed that the Industry Partner is creating an account in the system. • The Internship Coordinator approves the account. • The Industry Partner logs in again after receiving approval. 	

Manage Resumes

Table 2
Manage Resumes FDUC

Use Case Name	Manage Resumes
Use Case Number	UC-02
Created By	Edwin Gumba Jr.
Date Created	10-24-24
Description	Users can browse resumes uploaded by interns to evaluate their qualifications for internships or job openings.

Actors	Industry Partner, Industry Coordinator, Executive / Program Director, and Intern	
Related Use Case	UC-03	
Triggers	The use case is initiated when an actor chooses to browse available resumes in the system.	
Pre-Conditions	<ol style="list-style-type: none"> 1. The actor must be logged into the system. 2. Resumes must be uploaded and available in the system. 	
Post-Conditions	<ol style="list-style-type: none"> 1. The actor has successfully viewed resumes. 	
Main Scenario	Actor	System
	<ol style="list-style-type: none"> 1. The actor navigates through the resumes section 2. The Actor selects filters to narrow the search (e.g., school) 3. The actor clicks on a resume to view details 4. The actor can choose to save or check resume 5. An actor can select an intern and view more information about the intern 	<ol style="list-style-type: none"> 1. System displays resume bank 2. The system processes the filters and updates the list of resumes accordingly 3. The system displays the selected resumes details
Exceptions / Alternate Flow	<ol style="list-style-type: none"> 1. Filters return no result <ul style="list-style-type: none"> • The system displays a message indicating that there are no resumes available. • The actor can choose to remove filters or modify their search criteria. 2. Update Resume <ul style="list-style-type: none"> • The intern navigates to their profile and selects the update resume option. 	

	<ul style="list-style-type: none"> The system allows the intern to upload a new resume or edit the existing one. The system saves the updated resume and confirms the change. <p>3. Upload Resume</p> <ul style="list-style-type: none"> The intern uploads a resume The system checks if it's in a valid file format or else it will redirect user again System shows job title recommendations to the intern. <p>4. Filter Intern Resumes Based on Tags</p> <ul style="list-style-type: none"> The Industry Partner puts certain tags within the search bar The system will sort the intern resumes based on said tags <p>5. Recommend Interns Based on Company Tags</p> <ul style="list-style-type: none"> Industry Partners can display recommended interns System Analyzes the Jobs available by industry partner with their specifications System displays Industry partner with the recommended interns <p>6. Recommend Job Titles for Intern</p> <ul style="list-style-type: none"> Intern can go to manage resumes Intern can extract his resume and let NLP read through their resumes and suggest recommending job titles
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Manage Jobs

*Table 3
Manage Jobs FDUC*

Use Case Name	Manage Jobs
Use Case Number	UC-03
Created By	Edwin Gumba Jr.
Date Created	10-24-24
Description	Actors can view jobs recommended for them based on their skill set. They also have the option to view specific jobs.

Actors	Industry Partner, Industry Coordinator, and Intern	
Related Use Case	UC-02 (Manage Resumes)	
Triggers	The use case is initiated when the actor presses the "Job Posts" tab.	
Pre-Conditions	<ol style="list-style-type: none"> 1. The Actor must be a registered user of WASIMS with the proper access rights 	
Post-Conditions	<ol style="list-style-type: none"> 1. The actor has viewed the available job posts 2. The actor has viewed the job posts available and suitable for their skillset 	
Main Scenario	Actor	System
	<ol style="list-style-type: none"> 1. The actor navigates to the Job Posts tab 2. The actor can select a specific job to view more details 3. The actor can choose to archive jobs, browse jobs, edit jobs, or upload new jobs 	<ol style="list-style-type: none"> 1. The system displays the job posts available 2. The system displays the details of the selected job post 3. The system provides options for archiving, browsing, editing, or uploading jobs.
Exceptions / Alternate Flow	<ol style="list-style-type: none"> 1. Upload Job <ul style="list-style-type: none"> • The actor navigates to the upload section. • The system prompts the actor to enter job details (e.g., title, description, requirements). • Upon successful upload, the system confirms that the job has been posted and is now visible to all users. 2. Edit Job <ul style="list-style-type: none"> • The actor selects the edit option for a specific job. • The system displays the current job details for editing. • The actor makes the necessary changes and saves them. • The system confirms that the job has been successfully updated. 3. Invalid Job Post Selected 	

	<ul style="list-style-type: none"> The system notifies the actor that the selected job is no longer available. The actor is redirected back to the list of job posts. <p>4. Archive Job</p> <ul style="list-style-type: none"> Actor selects a job to archive. System prompts for confirmation System notifies the actor that they recently archived a job. They can press undo with the flash message <p>5. Incomplete Fields When Creating Job Post</p> <ul style="list-style-type: none"> When an incomplete field is shown within a job post will not be uploaded <p>6. Skill-Based Job Matching</p> <ul style="list-style-type: none"> Actor initiates skill-based job matching. The system accesses the actor's profile to retrieve their listed skills and qualifications. The system searches the database for job postings that match the actor's skill set. The system displays a list of jobs that match the actor's skill set. The actor can select a job they want to view or apply
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Manage Employment

*Table 4
Manage Employment FDUC*

Use Case Name	Manage Employment
Use Case Number	UC-04
Created By	Edwin Gumba Jr.
Date Created	10-24-24
Description	Actors can approve their employment status on the platform
Actors	Industry Partner and Intern

Related Use Case		
Triggers	The use case is initiated when the actor presses the "Manage Employment / Interns".	
Pre-Conditions	<ol style="list-style-type: none"> 1. The actor must be logged in and have the necessary permissions to manage employment. 2. The actor has either no job title or a job title that can be changed. 	
Post-Conditions	<ol style="list-style-type: none"> 1. The Actor has changed employer. 2. The Actor has approved intern. 3. The Actor has added Employer 	
Main Scenario	Actor	System
	<ol style="list-style-type: none"> 1. The actor navigates to the "Manage Employment" section 2. The actor selects an option: Change Employer, Approve Intern, or Add Employer 3. Actors can see how long the employee has stayed in their company since last stayed 	<ol style="list-style-type: none"> 1. The system displays options for managing employment records 2. The system presents the corresponding form for the selected action 3. The system validates the input data 4. The system updates the actor's employment record with the new employer information (if applicable).
Exceptions / Alternate Flow	<ol style="list-style-type: none"> 1. Invalid Employer Details <ul style="list-style-type: none"> • The system prompts the actor to correct the invalid input • The actor corrects the information and resubmits 2. Approve Intern <ul style="list-style-type: none"> • The actor selects the option to approve an intern from a list of pending approvals • The system displays the intern's details for review • The actor approves the intern's application 	

	<ul style="list-style-type: none"> The system updates the intern's status to approved and notifies them <p>3. Change Employer</p> <ul style="list-style-type: none"> The actor inputs the new employer's details The system validates the input data The system updates the actor's employment record with the new employer information The system confirms that the employer has been changed successfully <p>4. Add Employer</p> <ul style="list-style-type: none"> The actor inputs the new employer's details The system validates the input data The system adds the new employer to the database and associates it with the actor The system confirms that the employer has been added successfully <p>5. Intern Already Approved</p> <ul style="list-style-type: none"> When the actor attempts to approve an intern who has already been approved. The system notifies the actor that the intern has already been approved The actor is redirected to the intern list <p>6. Failed to Add Employer</p> <ul style="list-style-type: none"> The system displays an error message indicating the issue <p>7. Remove Intern</p> <ul style="list-style-type: none"> Industry Partner hovers over manage employee section Industry Partner removes Intern Intern gets notified
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Manage Assignments

*Table 5
Manage Assignments FDUC*

Use Case Name	Manage Assignments
Use Case Number	UC-05
Created By	Daniel Ramolete

Date Created	10-23-24	
Description	Actors can manage assignments based on their role permissions	
Actors	Internship Coordinator and Intern	
Related Use Case		
Triggers	<p>1. When different actors press the “Assignment” link in the application platform, the UI differs.</p> <p>2. Assignment tab will be accessed when intern presses “Assignments” link in the platform.</p>	
Pre-Conditions	<ol style="list-style-type: none"> 1. The Internship Coordinator is authenticated and authorized to manage assignments. 2. The intern is authenticated into the system. 3. The intern has been assigned tasks or assignments. 4. The intern has an assignment to submit. 5. The assignment submission portal is active and available. 	
Post-Conditions	<ol style="list-style-type: none"> 1. Assignments are created, updated, or deleted as needed. 2. Students receive email notifications when new assignments are issued or updated. 3. The system logs all assignment management activities for auditing purposes. 4. The system logs the assignment submission activity on the database for auditing and progress tracking. 5. Assignments are successfully submitted, and the student receives confirmation. 	
Main Scenario	Internship Coordinator Scenario	System

	<ol style="list-style-type: none"> 1. The Internship Coordinator navigates to the "Assignments" section. 2. The internship Coordinator will select an option to create, update, or archive assignments. 3. The internship Coordinator reviews the changes and exits the "Manage Assignments" section. 	<ol style="list-style-type: none"> 1. Navigates to "Assignments" section. 1.1 The system verifies the role 1.2 The system displays a list of current assignments with options to create, update, or view assignments. 3. Log Activity 3.1 The system logs the assignment management activity.
	<p style="text-align: center;">Intern Scenario</p> <ol style="list-style-type: none"> 1. The intern hovers on the "Assignments" on the platform 2. The intern selects the assignment they want to submit. 3. The intern attaches the output. 4. The intern confirms the submission. <p>The intern exits the "Submit Assignments" section or continues submitting other assignments.</p>	<p style="text-align: center;">System</p> <ol style="list-style-type: none"> 1. Navigate to "Assignments" section 1.1 The system verifies the role 1.2 The system displays the list of pending assignments with submission instructions and deadlines. 3. Checking Outputs 3.1 The system validates the file(s) and checks for submission errors (e.g., file size limit, invalid format). 4. Log Activity

		4.1 The system logs the submission activity.
Exceptions / Alternate Flow	<p>1. Create an Assignment</p> <ul style="list-style-type: none"> • The Internship Coordinator navigates to the "Assignments" section. • The Internship Coordinator will create an assignment. • The system will display a page which also displays what assignment type the Internship Coordinator wants (e.g. Monthly Attendance, Monthly Accomplishments, Intern Final Document, etc.). • The Internship Coordinator will select what type of assignment. • The Internship Coordinator will input details • The system validates the input and checks for any conflicts (e.g. duplicate assignment names, invalid deadline, etc.). • If there are no conflicts, the system will post the assignment and send an email notification to interns that an assignment has been uploaded. • The system logs the activity. <p>2. Update an Assignment</p> <ul style="list-style-type: none"> • The Internship Coordinator navigates to the "Assignments" section. • The Internship Coordinator will update an existing assignment. • The system will display pre-filled information (e.g. deadline, assignment type, details, etc.). • The Internship Coordinator will put new information, then review it, and click "Update Assignment" • The system checks if there are no missing inputs or any conflicts. • If there are no conflicts, the system will display a message: "Assignment has been updated successfully." 	

	<ul style="list-style-type: none">• The system logs the activity.• The system will send email notification to the Interns that an existing assignment has been updated. <p>3. Archive an Assignment</p> <ul style="list-style-type: none">• The Internship Coordinator navigates to the "Assignments" section.• The Internship Coordinator will archive an existing assignment.• The system will display a message: "Confirm Archive Assignment?" containing additional buttons "Yes or No."• If the Internship Coordinator clicks No, the system will navigate back to the dashboard of "Assignments".• If the Internship Coordinator clicks Yes, the system will archive the selected assignment.• The system logs the activity. <p>4. View Submissions</p> <ul style="list-style-type: none">• The Internship Coordinator hovers to the "View Submission" button.• The system displays a list of Interns who submit an assignment.• The Internship Coordinator clicks on the specific intern.• The Internship Coordinator reviews the content of the output. <p>4. View Submissions by Sorting</p> <ul style="list-style-type: none">• The Internship Coordinator hovers to the "View Submission" button.• The system displays a list of Interns who submit an assignment.• The Internship Coordinator sorts by specific fields (e.g. School Department, Assignment type, deadline, etc.).• The system displays a sorted list of Interns who submit an assignment.• The Internship Coordinator clicks on the specific intern.• The Internship Coordinator reviews the content of the output.
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	<p>5. Assignment Creation Error</p> <ul style="list-style-type: none">• If the Internship Coordinator attempts to create an assignment but enters invalid data (e.g., past date for the deadline).• The system displays an error message: "Invalid deadline. Please choose a future date."• The Internship Coordinator adjusts the input and resubmits the form. <p>6. Duplicate Assignment Name</p> <ul style="list-style-type: none">• If the Internship Coordinator attempts to create an assignment with a name already in use.• The system displays: "An assignment with this name already exists. Please choose a different name."• The Internship Coordinator must provide a unique assignment name. <p>7. No Assignments to Update</p> <ul style="list-style-type: none">• If the Internship Coordinator clicks "Update" but there are no assignments available.• The system displays: "No existing assignments available for update."• The Internship Coordinator must create a new assignment before attempting to update. <p>8. Submission View Failure</p> <ul style="list-style-type: none">• If the system is unable to retrieve assignment submissions.• The system displays: "Unable to retrieve submissions at this time. Please try again later."• The Internship Coordinator can refresh the page or try again later. <p>9. Intern option to upload a copy of the template</p> <ul style="list-style-type: none">• The system displays template for the assignment submission.• The intern can download the template before starting the assignment.
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	<ul style="list-style-type: none"> The intern uploads the template copy filled with their content along with the final submission. The system validates both the template and the final submission file. <p>10. Assignment already submitted</p> <ul style="list-style-type: none"> The system detects that the Intern has already submitted an assignment. The Intern may view the submitted assignment or re-upload a new version if the deadline allows resubmission. <p>11. Assignment Retraction</p> <ul style="list-style-type: none"> Intern can retract the assignment if they wish They select an assignment and is asked if they want to retract it or no System notifies intern that they retracted the assignment <p>12. Submission Failure</p> <ul style="list-style-type: none"> If the system fails to upload a file (e.g. due to network error), it will display an error message. The Intern can retry the submission or contact technical support for further assistance
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Manage Evaluation

*Table 6
Manage Evaluation FDUC*

Use Case Name	Manage Evaluation
Use Case Number	UC-06

Created By	Daniel Ramolete	
Date Created	10-23-2024	
Description	<ul style="list-style-type: none"> Actors can submit evaluations based on pre-defined criteria such as Performance, Teamwork, and Communication Skills. Actors can also view an Evaluation Dashboard where they can track the evaluation progress, based on their role's permissions. 	
Actors	Intern, Industry Partner, and Internship Coordinator	
Related Use Case	UC-03 (Manage Jobs)	
Triggers	<ol style="list-style-type: none"> The evaluation is successfully submitted and saved to the system. The Internship Coordinator can view and manage all submitted evaluations. The Industry Partner and Intern can view a summary of their own evaluations once submitted. 	
Pre-Conditions	<ol style="list-style-type: none"> The actors are authenticated into the system. The system will contain a list of interns assigned to respective Industry Partner. The system will contain a list of Industry Partner assigned to respective interns. Evaluations are pre-defined to the system (e.g. Performance, Professionalism, Teamwork, etc.) 	
Post-Conditions	<ol style="list-style-type: none"> The evaluation is successfully submitted and saved to the system. The Internship Coordinator can view the submitted evaluation. 	
Main Scenario	Industry Partner Scenario	System
	1. The Industry Partner navigates to "Submit Evaluation" section.	<ol style="list-style-type: none"> Evaluation Dashboard 1.1 The system verifies the role

	<p>2. The system displays a list of interns assigned to the Industry Partner.</p> <p>3. The Industry Partner will select an intern to evaluate.</p> <p>4. The Industry Partner fills out the evaluation for the selected intern.</p> <p>5. The Industry Partner clicks the “Submit” button</p> <p>6. The Industry Partner exits the page.</p>	<p>1.2 The system displays the dashboard based on the role.</p> <p>3. Evaluation Process</p> <p>3.1 The system will present a pre-defined evaluation to the following fields:</p> <ul style="list-style-type: none"> • Performance • Communication Skills • Technical Skills • Teamwork • Overall Performance • Additional Comments (optional) <p>5. Submit Evaluation</p> <p>5.1 The system validates filled out form</p> <p>5.1 The system will display a message: “Evaluation form submitted successfully.”</p> <p>6. Log Activity</p> <p>6.1 The system logs the activity of each actor.</p>
	Intern Scenario	System

	<ol style="list-style-type: none"> 1. The Intern navigates to “Submit IP Evaluation” section. 2. The system displays an Industry Partner Profile assigned to the Intern. 3. The Intern will select an Industry Partner to evaluate. 4. The Intern fills out the evaluation for the selected Industry Partner. 5. The Intern clicks the “Submit” button. <p>The Intern exits the page.</p>	<ol style="list-style-type: none"> 1. Evaluation Dashboard <ol style="list-style-type: none"> 1.1 Validate user credentials 3. Evaluation Process <ol style="list-style-type: none"> 3.1 The system will present a pre-defined evaluation to the following fields: <ul style="list-style-type: none"> • Performance • Communication Skills • Technical Skills • Teamwork • Overall Performance • Additional Comments (optional) 5. Submit Evaluation <ol style="list-style-type: none"> 5.1 The system validates filled out form 5.2 The system will display a message: “Evaluation form submitted successfully.” 6. Log Activity <ol style="list-style-type: none"> 6.1 The system logs the activity of each actor.
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	Internship Coordinator Scenario	System
	<ol style="list-style-type: none"> 1. The Internship Coordinator navigates to the “Evaluation” section. 2. The Internship Coordinator selects the “View Evaluation” option. 3. The Internship Coordinator applies the filters. 4. The Internship reviews the Submitted Evaluations. 5. The Internship Coordinator chooses to download the Evaluation in PDF Form. 6. The Internship Coordinator exits the “Evaluations” section. 	<ol style="list-style-type: none"> 1. Evaluation Dashboard <ol style="list-style-type: none"> 1.1 The system verifies the role. 1.2 The system displays the dashboard based on the role. 2. View Evaluation <ol style="list-style-type: none"> 2.2 The system displays a filter option to search for evaluations for viewing. 3. Applied Filters <ol style="list-style-type: none"> 3.3 The system retrieves the evaluations based on the applied filters 3.4 The system will display a list of evaluations 5. Download Evaluation <ol style="list-style-type: none"> 5.1 The system processes the request and downloads the evaluation. 6. Log Activity <ol style="list-style-type: none"> 6.1 The system logs the activity.
Exceptions / Alternate Flow	<ol style="list-style-type: none"> 1. Incomplete Evaluation Form <ul style="list-style-type: none"> • The system will check for missing mandatory fields if a user clicks “Submit” button. • If the system detects missing fields, it will display a message: “Please complete all required fields” 2. System Error during Submission 	

	<ul style="list-style-type: none"> • If the system encounters an issue while submitting the evaluation, the system displays a message: “An error occurred while submitting the evaluation. Please try again.” • The user (Intern and Industry Partner can reattempt submission after resolving the error. <p>3. Eval forms are not yet open</p> <ul style="list-style-type: none"> • The system displays: “Evaluation forms are not yet open. Please try again later.” • If the Internship Coordinator indicated a date on when it will be opened, the message will display “Evaluation Season Date: [date]” <p>4. Evaluation Scheduling</p> <ul style="list-style-type: none"> • Internship coordinator can open and close evaluation. • Once the evaluation is scheduled, it will notify the dates it will be opened • Once the evaluation is open, it will notify all users. <p>5. Error in Setting Evaluation Schedule</p> <ul style="list-style-type: none"> • System tells the internship coordinator that the evaluation is already over by x number of days. Set a later time
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Manage Reports

*Table 7
Manage Reports FDUC*

Use Case Name	Manage Reports
Use Case Number	UC-07
Created By	Daniel Ramolete
Date Created	10-23-2024

Description	This use case describes how reports are managed within the system. Actors have permissions to generate and view reports, with differing levels of access and functionality.	
Actors	Program Director (PD), Executive Director (ExD), and Internship Coordinator	
Related Use Case	UC03 (Manage Jobs) UC04 (Manage Employment) UC06 (Manage Evaluation)	
Triggers	1. When the Internship Coordinator or Program/Executive Director clicks the "Reports" link in the application platform, the UI is adjusted based on their role. 2. The "Manage Reports" section is accessed in a specified period, when either actor selects the appropriate option.	
Pre-Conditions	1. Both the Internship Coordinator and the Program/Executive Director must be authenticated and authorized to manage or view reports. 2. Data for the reports (e.g., intern submissions, evaluation results) has already been collected and logged in the system.	
Post-Conditions	1. The reports are displayed for the authorized actor in a clear and understandable format 2. The system then logs the actor for auditing. 3. The actors can download or print the reports for future reference.	
Main Scenario	Executive / Program Director Scenario	System
	1. The Executive / Program Director logs in and navigates the "Reports" section. 2. The Executive / Program Director reviews the report.	1. View Reports <ul style="list-style-type: none"> 1.1 The system will verify the role 1.2 The system will display a report with various report

	<p>3. The Executive / Program Director has chosen to download or export the report as a PDF or Excel file.</p> <p>4. The Executive / Program Director exits the "Manage Reports" section.</p>	<p>options. (e.g. Internship Final Report etc.)</p> <p>2. Report Details</p> <p>2.1 The system displays detailed reports.</p> <p>3. Download/Export</p> <p>3.1 The system processes the request and downloads the report.</p> <p>4. Log Activity</p> <p>4.1 The system logs the activity.</p>
	Internship Coordinator Scenario	System
	<p>1. The Internship Coordinator navigates to the "Reports" on the dashboard.</p> <p>2. The Internship Coordinator selects a report to generate.</p> <p>3. The Internship Coordinator clicks "Generate Report."</p> <p>4. The Internship Coordinator reviews the generated report.</p> <p>5. The Internship Coordinator chooses to download the report as a PDF or Excel file.</p> <p>6. The Internship Coordinator exits the "Manage Reports" section.</p>	<p>1. View Reports</p> <p>1.1 The system verifies the role</p> <p>1.1 The system will display a list of available reports.</p> <p>2. Report Generating</p> <p>2.1 The system displays filtering options to generate (e.g. Intern Absorption, Deployment etc.)</p> <p>3. Generate a Specific Report</p> <p>3.1 The system generates the requested report based on the filters applied.</p> <p>5. Download Report</p> <p>5.1 The system processes the request and downloads the report.</p>

		<p>6. Log Activity</p> <p>6.1 The system logs the activity.</p>
Exceptions / Alternate Flow	<ol style="list-style-type: none"> 1. Error in Report Generation <ul style="list-style-type: none"> • If an error occurs during report generation (e.g., insufficient data, invalid filter criteria): • The system displays an error message: "Unable to generate report due to insufficient data. Please adjust filters or try again later." • The user adjusts the filters or retries the report generation. 2. Invalid Filters <ul style="list-style-type: none"> • If the user applies invalid filters (e.g., selecting a date range with no data): • The system displays: "No data available for the selected filters. Please choose a different filter." 3. System Unavailable <ul style="list-style-type: none"> • If the reporting module is temporarily unavailable: • The system displays: "Reports are currently unavailable. Please try again later." • The user can exit the section or retry later. 4. Custom Report Creation <ul style="list-style-type: none"> • The Program/Executive Director selects "Create Custom Report." • The system displays options for selecting data sources, customizing report layout, and saving the report template for future use. • The system generates and saves the custom report according to the specified criteria. 	

2.3 Test Cases for Fully Dressed Use Cases

A Fully Dressed Test Case provides a detailed and structured description of how to test a particular feature or functionality in a system. This format is generally used in software testing and quality assurance to ensure that all aspects of a test are fully defined and leave minimal room for ambiguity. The goal is to create a test case that can be executed consistently, regardless of who performs the test.

Manage Authentication (UC 01) Test Case

Test Case ID:	TC01	Test Case Description:	Test Case for "Manage Authentication"		
Created By:	Daniel	Reviewed By:	Edwin		
QA Tester's Log:	N/A				
Tester's Name:	Daniel	Date Tested	25-Oct-24	Test Case (Pass/Fail/Not)	Pass
S #	Prerequisites		S #	Test Data	
1	The actors are registered to the database.		1	username = student@test.test	
2	The actors has accessed the web application.		2	one_time_pass = 5432	
3	OTP are fully functional		3	role = student	
Test Scenario: Verify that the actors has successfully logged into the web application					
Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended	
1	The actor navigates to the website		As Expected	Not Executed	
2	The actor is presented a log-in page		As Expected	Not Executed	
3	User inputs their registered e-mail	System sends OTP to the user's registered e-mail	As Expected	Not Executed	
4	User logs in with OTP	System confirms if the OTP is working	As Expected	Not Executed	
5	User logged in	System will display a dashboard based on their role	As Expected	Not Executed	

Figure 12 Manage Authentication Test Case

Manage Resume (UC 02) Test Case

Test Case ID:	TC02	Test Case Description:	Test Case for "Manage Resumes"		
Created By:	Daniel	Reviewed By:	Edwin		
QA Tester's Log:	N/A				
Tester's Name:	Kenett	Date Tested	25-Oct-24	Test Case (Pass/Fail/Not)	Pass
S #	Prerequisites		S #	Test Data	
1	The actors are registered to the database.		1	username = student@test.test	
2	Resume must be uploaded and available in the System		2	one_time_pass = 5432	
3			3	role = student	
Test Scenario: Verify that the actors has successfully logged into the web application					
Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended	
1	The actor navigates through resumes section	System displays resume bank	As Expected	Not Executed	
2	The actor selects filters to narrow search	The system processes the filters and updates the list of resume according	As Expected	Not Executed	
3	The actor clicks on a resume to view details	The system displays the selected resumes details	As Expected	Not Executed	
4	The actor can choose to save or check resume		As Expected	Not Executed	
5	The actor can select an intern and view more information about the intern		As Expected	Not Executed	

Figure 13 Manage Resume Test Case

Manage Jobs (UC 03) Test Case

Test Case ID:	TC03	Test Case Description:	Test Case for "Manage Jobs"		
Created By:	Daniel	Reviewed By:	Edwin		
QA Tester's Log:	N/A				
Tester's Name:	Kenett	Date Tested	25-Oct-24	Test Case (Pass/Fail/Not)	Pass
S #	Prerequisites		S #	Test Data	
1	The actor must be logged in and have the necessary permissions to manage employment.		1		
2	The actor has either no job title or a job title that can be changed.		2		
3			3		
Test Scenario: Verify that the actors has successfully logged into the web application					
Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended	
1	The actor navigates to the "Manage Employment" section	The system displays options for managing employment records	As Expected	Not Executed	
2	The actor selects an option: Change Employer, Approve Intern, or Add Employer	The system presents the corresponding form for the selected action	As Expected	Not Executed	
3		The system validates the input data	As Expected	Not Executed	
4		The system updates the actor's employment record with the new employer information (if applicable)	As Expected	Not Executed	

Figure 14 Manage Jobs Test Case

Manage Assignments (UC 05) Test Case

Test Case ID:	TC05	Test Case Description:	Reviewed By:	Test Case for "Manage Assignments"	
Created By:	Daniel		Edwin	Version	2.1
QA Tester's Log:	N/A				
Tester's Name:	Daniel		Date Tested	25-Oct-24	Test Case (Pass/Fail/Not Executed)
S #	Prerequisites		S #	Test Data	
1	The actors are registered to the database.		1	assignment_type = Intern Document	
2	The actors has accessed the web application.		2	file_type = PDF	
3	The actors can access the "Assignment" section		3	file_size = 20MB	
			4	deadline = 10/10/2026	
			5	score = 95	
Test Scenario:	Verify that the actors can manage the assignment based on their roles.				
Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended	
1	The Internship Coordinator navigates to the "Assignment" section	The system verifies the role	As Expected	Not Executed	
2	The Internship Coordinator will select an option to generate, update, view, or archive assignments	The system displays an option to generate, update, view, or archive assignments	As Expected	Not Executed	
3	The Internship Coordinator reviews the changes and exits the "Assignment" section	The system logs the activity	As Expected	Not Executed	
4	The intern navigates to the "Assignments" section	The system verifies the role	As Expected	Not Executed	
5	The intern selects an assignment they want to submit	The system will display a list of pending assignments with details and deadline	As Expected	Not Executed	
6	The intern attaches the output	The system validates the output and check for submission errors (file format, file size, deadline, score)	As Expected	Not Executed	
7	The intern confirms the submission	The system retrieves the request and process	As Expected	Not Executed	
8	The intern exits the "Assignments" section or will continue to submit other assignments	The system logs the activity	As Expected	Not Executed	

Figure 15 Manage Assignments Test Case

Manage Evaluation (UC 06) Test Case

Test Case ID:	TC06	Test Case Description:	Reviewed By:	Test Case for "Manage Evaluation"	
Created By:	Daniel		Edwin	Version	2.1
QA Tester's Log:	N/A				
Tester's Name:	Daniel		Date Tested	25-Oct-24	Test Case (Pass/Fail/Not Executed)
S #	Prerequisites		S #	Test Data	
1	The actors are registered to the database.		1	eval_form = Intern Midterm Evaluation	
2	The actors has accessed the web application		2	department = HR Department	
3	The actors can access the "Evaluations" section		3	term = 2	
4	The actors can see the web form		4	ratings = performance: 4, punctuality: 5, teamwork: 3	
5	Web Forms are fully functional		5	feedback = sample feedback for intern <name>	
			6	file_type = PDF	
Test Scenario:	Verify that the actors can manage evaluations based on their roles				
Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended	
1	The Industry Partner navigates to the "Evaluations" section	The system displays a list of interns assigned to the Industry Partner	As Expected	Not Executed	
2	The Industry Partner selects an intern to evaluate	The system displays a pre-defined web form to the following fields	As Expected	Not Executed	
3	The Industry Partner fills out the web form	The system displays a pre-defined web form to the following fields	As Expected	Not Executed	
4	The Industry Partner clicks the "submit" button	The system validates the web form, and display a message if it is successful or not	As Expected	Not Executed	
5	The Industry Partner exits the "Evaluation" section	The system logs the activity	As Expected	Not Executed	
6	The intern navigates to the "Evaluation" section	The system displays a web form titled "Internship Experience Form"	As Expected	Not Executed	
7	The intern selects the web form to evaluate	The system displays a pre-defined web form to the following fields	As Expected	Not Executed	
8	The intern fills out the form	The system displays a pre-defined web form to the following fields	As Expected	Not Executed	
9	The intern clicks the "Submit" button	The system validates the web form, and display a message if it is successful or not	As Expected	Not Executed	
10	The intern exits the "Evaluation" section	The system logs the activity	As Expected	Not Executed	
11	The Internship Coordinator navigates to the "Evaluations" section	The system displays a list of submitted web forms to the dashboard	As Expected	Not Executed	
12	The Internship Coordinator will select a option to "View Evaluation"	The system displays a filter option to search for a specific web form for viewing	As Expected	Not Executed	
13	The Internship Coordinator views the specific submitted evaluation	The system displays a detailed filled out web form	As Expected	Not Executed	
14	The Internship Coordinator reviews the evaluation	The system retrieves the request and downloads the evaluation in a specific file format	As Expected	Not Executed	
15	The Internship Coordinator will select a option to "Download" the evaluation	The system retrieves the request and downloads the evaluation in a specific file format	As Expected	Not Executed	

Figure 16 Manage Evaluation Test Case

Manage Reports (UC 07) Test Case

Test Case ID:	TC07	Test Case Description:	Reviewed By:	Test Case for "Manage Reports"	Version	2.1
Created By:	Daniel			Edwin		
QA Tester's Log:	N/A					
Tester's Name:	Daniel		Date Tested	25-Oct-24	Test Case (Pass/Fail/Not)	Pass
S #	Prerequisites		S #	Test Data		
1	The actors are registered to the database.		1	report_title = Internship A.Y 2026-2027		
2	The actors have accessed the web application.		2	data = int_absorpt, int_deploy		
3	The actors can access the "Reports" section.		3	data_type = chart		
4	Sample data for the report are collected and logged.					
Test Scenario:	Verify that the actors can manage reports based on their roles					
Step #	Step Details	Expected Results		Actual Results	Pass / Fail / Not executed / Suspended	
1	The Program/Executive Director navigates to the "Reports" section	The system displays a list of reports		As Expected	Not Executed	
2	The Program/Executive Director selects a specific report			As Expected	Not Executed	
3	The Program/Executive Director reviews the report	The system displays detailed reports		As Expected	Not Executed	
4	The Program/Executive Director chooses to download the report	The system processes the request and downloads the report in a specific file format (e.g. PDF, Excel)		As Expected	Not Executed	
5	The Program/Executive Director exits the "Reports" section	The system logs the activity		As Expected	Not Executed	
6	The Internship Coordinator navigates to the "Reports" section	The system displays a list of reports		As Expected	Not Executed	
7	The Internship Coordinator selects a report to generate	The system displays a filter option to generate a report (e.g. Intern Deployment, Absorption etc.)		As Expected	Not Executed	
8	The Internship Coordinator will fill out the generated report			As Expected	Not Executed	
9	The Internship Coordinator clicks the "Generate Report" button	The system processes the request and generates the report		As Expected	Not Executed	
10	The Internship Coordinator reviews the generated report			As Expected	Not Executed	
11	The Internship Coordinator chooses to download the generated report	The system processes the request and downloads the generated report (e.g. PDF, Excel)		As Expected	Not Executed	
	The Internship Coordinator exits the "Reports" section	The system logs the activity		As Expected	Not Executed	

Figure 17 Manage Reports Test Case

2.4 Activity Diagrams with Swimlane

Swim lanes is a way to group activities performed by the same actor on an activity diagram or to group activities in a single thread [4]. This activity diagram contains procedures that may coincide with other parts of the swim lanes, depending on their function and usage. It represents a high-level overview of the system's actions for each major use case. The extended version of the use case diagram goes hand in hand with the Activity Diagram, along with the Fully Dressed Use Case and DFD.

Manage Authentication

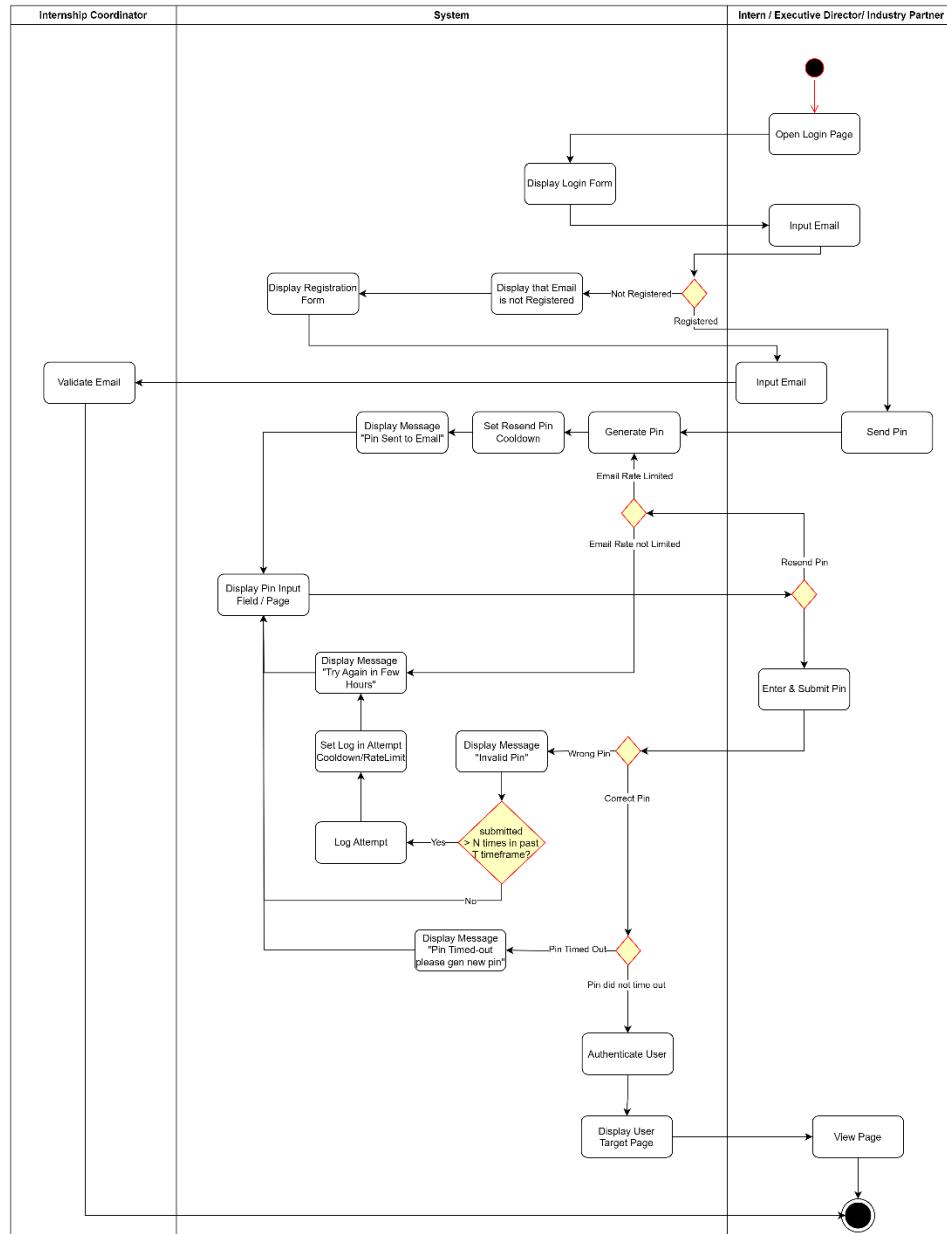


Figure 18 Manage Authentication Activity Diagram

Manage Resumes

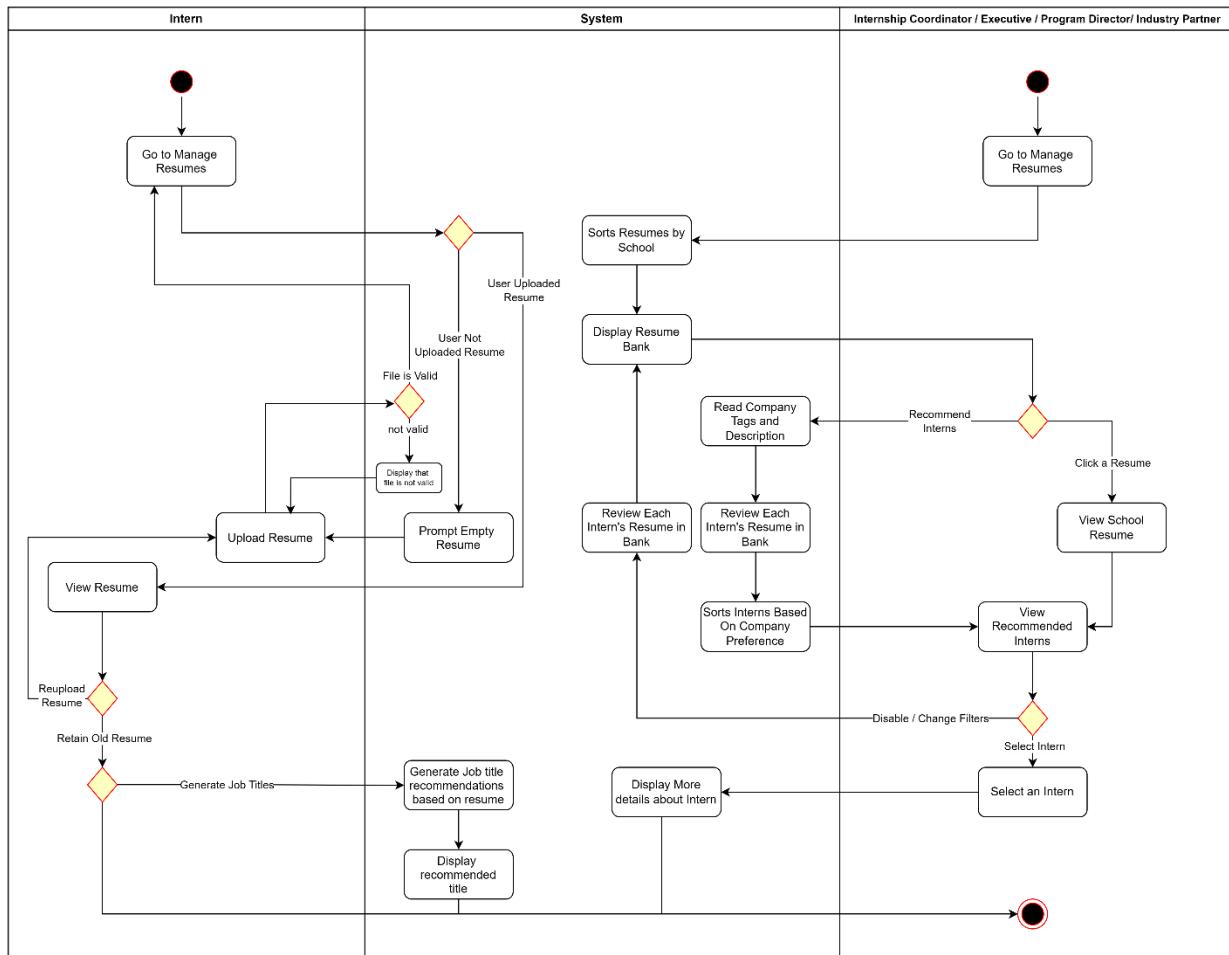


Figure 19 Manage Resumes Activity Diagram

Manage Jobs

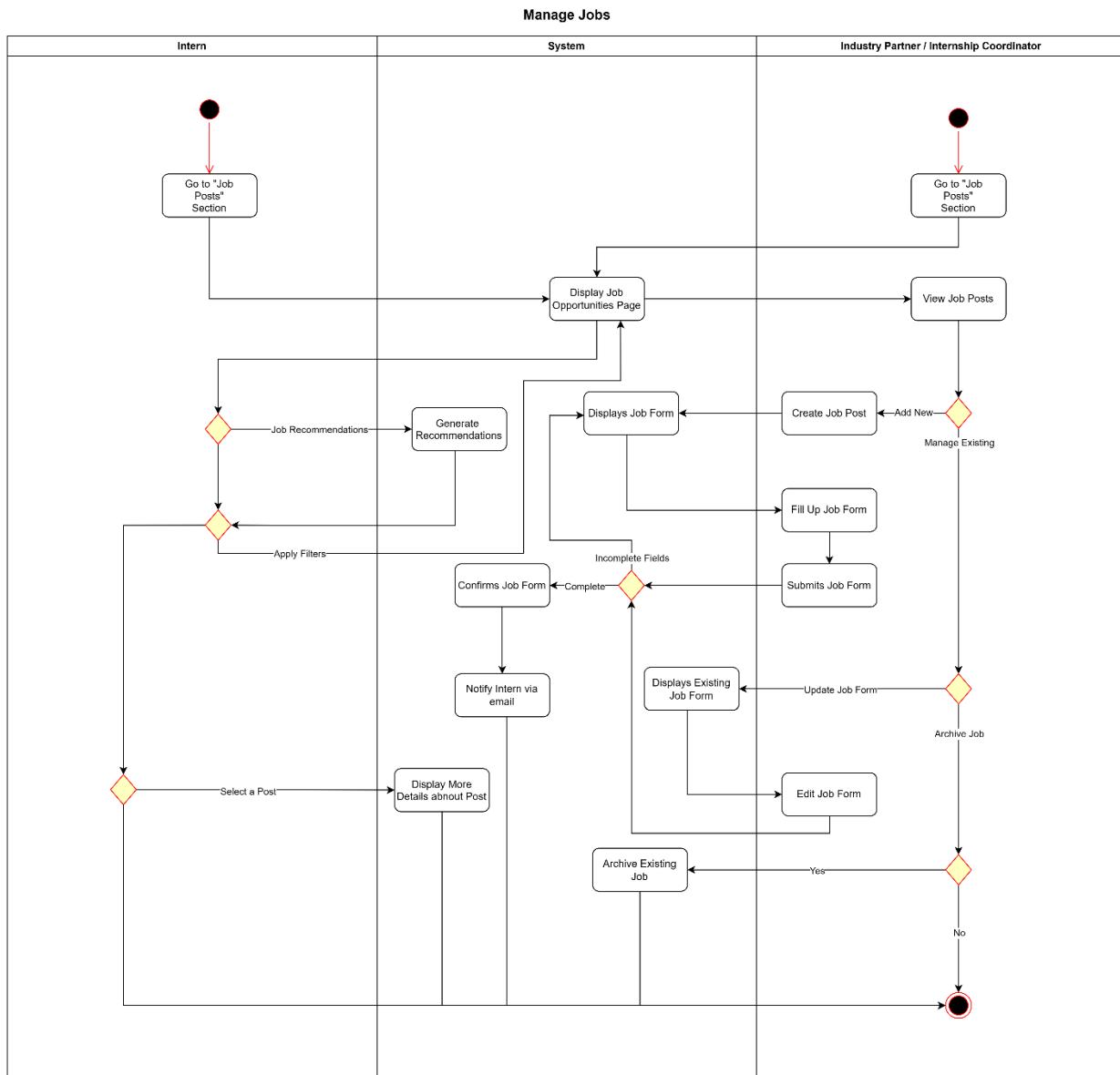


Figure 20 Manage Jobs Activity Diagram

Manage Employment

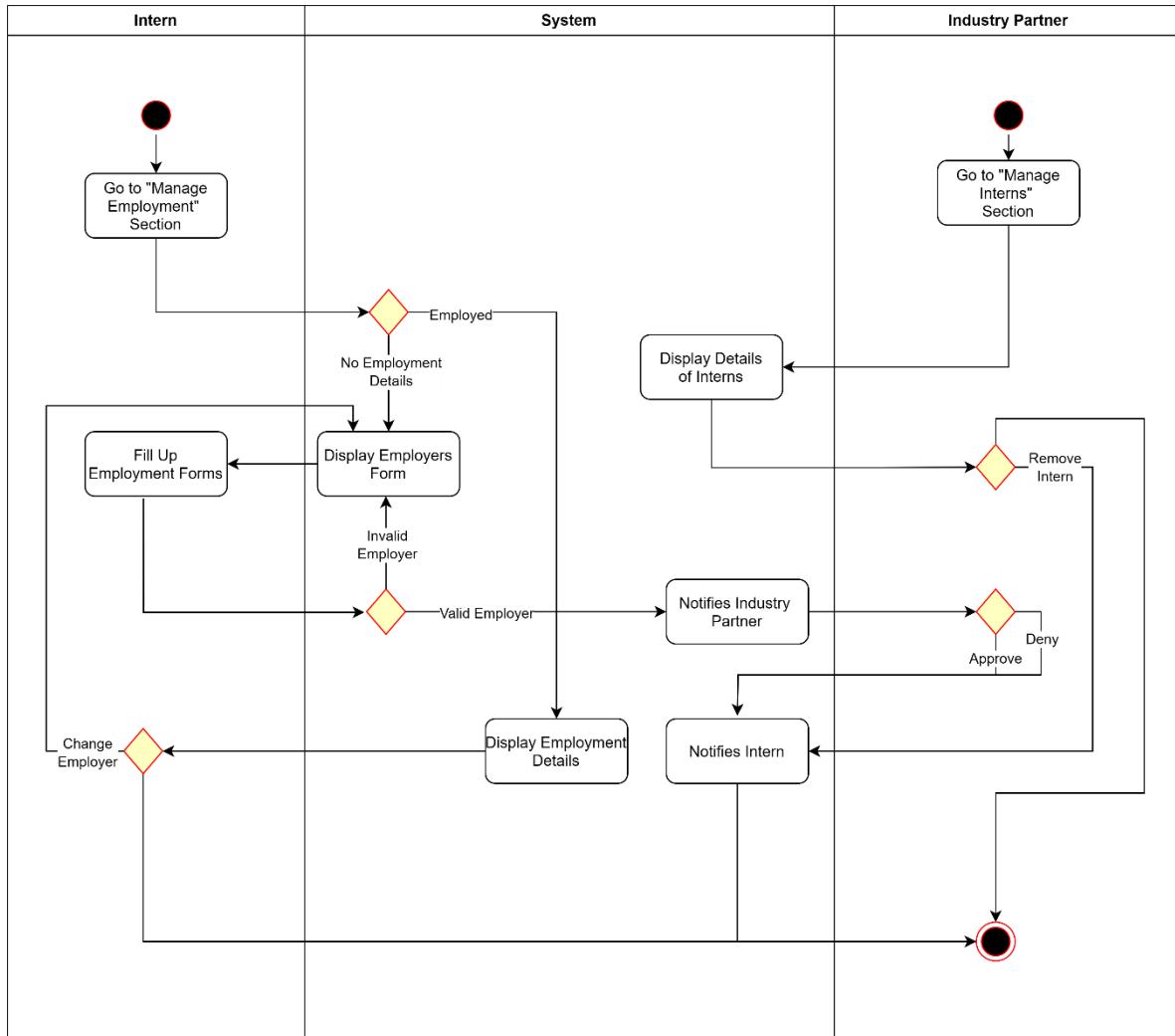


Figure 21 Manage Employment Activity Diagram

Manage Assignments

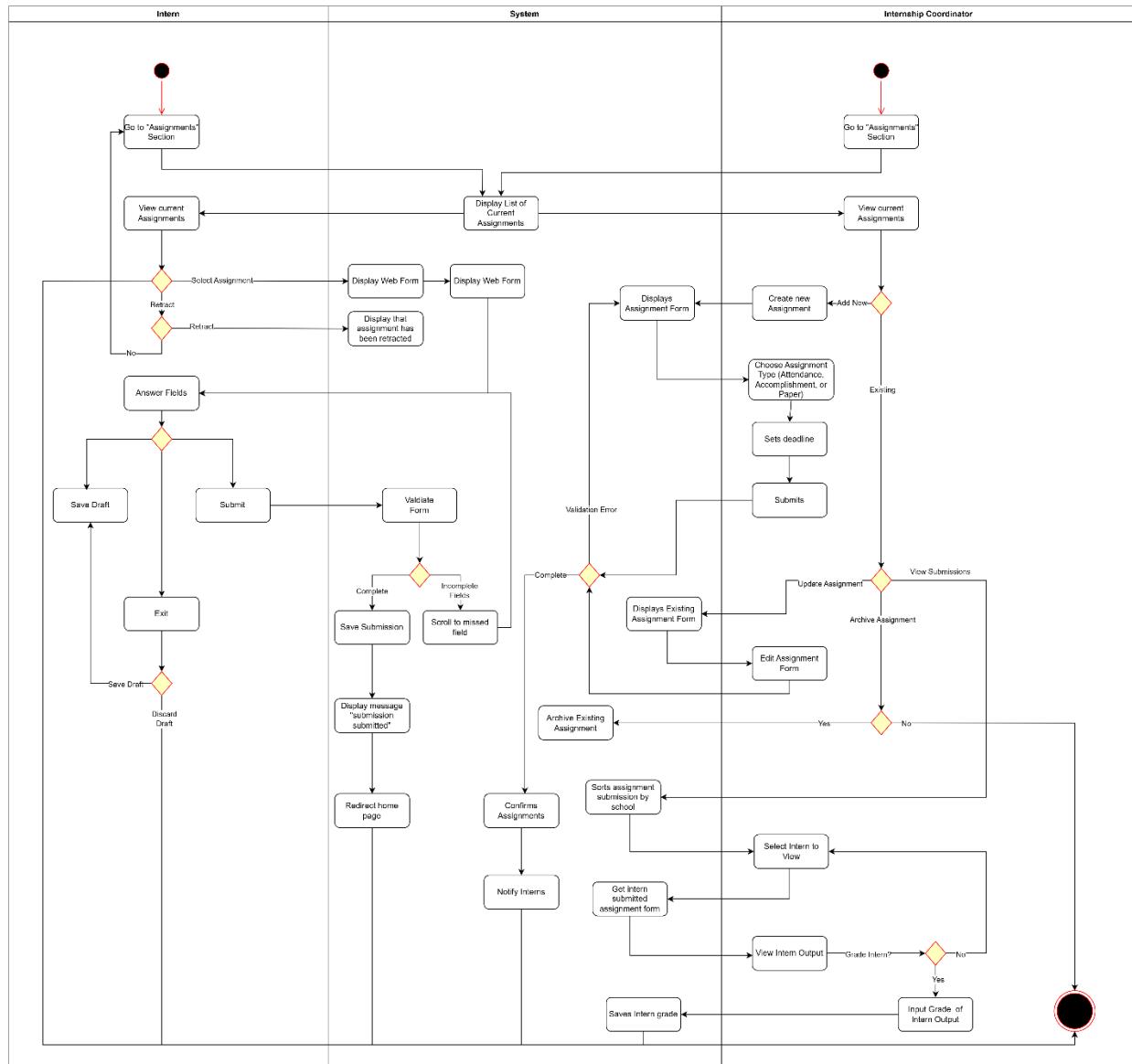


Figure 22 Manage Assignments Activity Diagram

Manage Evaluations

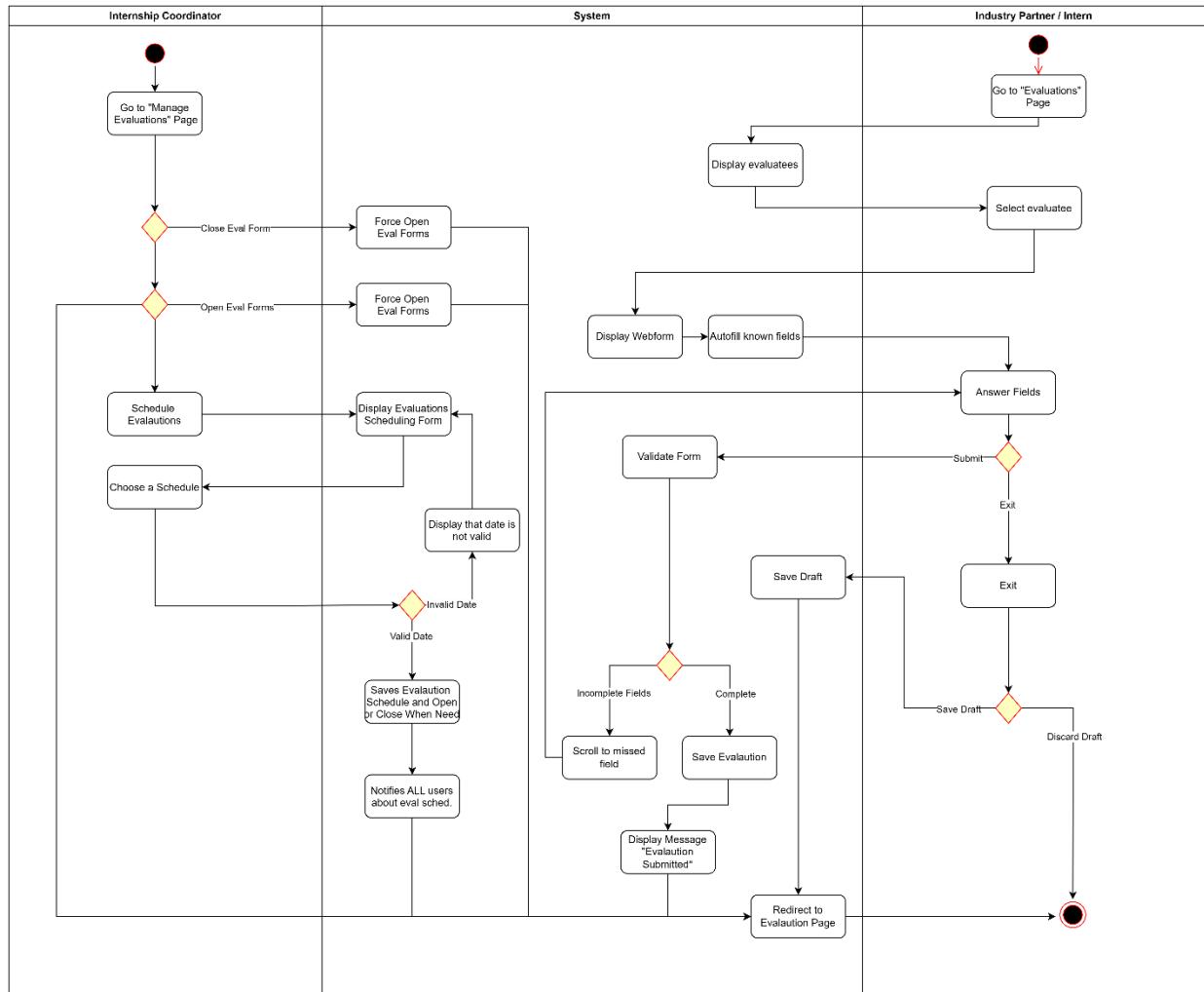


Figure 23 Manage Evaluations Activity Diagram

Manage Reports

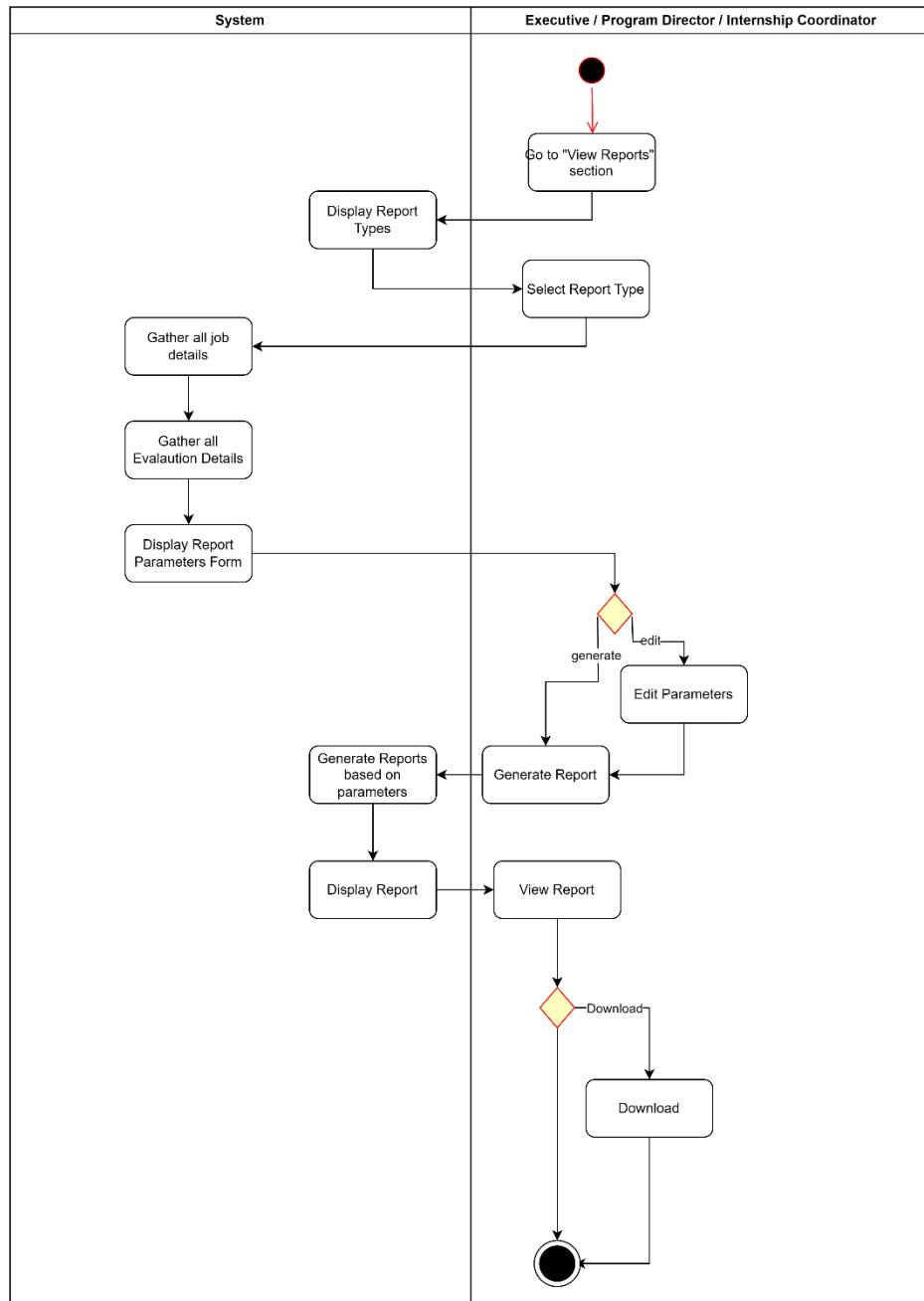


Figure 24 Manage Reports Activity Diagram

2.5 Database Design

This database design uses a relational structure tailored for a role-based access control system, intended to support a broad set of use cases and complex relationships. The core tables—*users*, *roles*, *permissions*, and their intermediary tables—establish flexible user permissions and access control. Specific user types, such as *students* and *supervisors*, are accommodated with dedicated tables for additional attributes. The design also integrates internship and job matching features, form and evaluation handling, group assignments, and reporting. This layered approach ensures scalability while maintaining efficient data normalization across all interactions.

2.5.1 Entity-Relationship Diagram

The ERD design is built to support role-based access control (RBAC) and advanced functionality across a range of use cases, normalized up to the Third Normal Form (3NF) to ensure minimal redundancy and efficient data integrity. It's designed for flexibility since the system was built with AGILE methodology concepts. This structure enables flexible user permissions through key relationships between users, roles, and permissions tables, while specialized tables (e.g., *students*, *supervisors*) extend attributes for specific roles. By normalizing up to 3NF, the design balances complexity with scalability, allowing seamless handling of job matching, internship details, group management, and detailed evaluation forms without data redundancy.



Figure 25 WASIMS ERD

2.5.2 Data Dictionary

Table 8 Data Dictionary

Table	Column	Type	Key	Description
users	id	serial	pk	Unique identifier for each user
	email	varchar		User's email address
	first_name	varchar		User's first name
	last_name	varchar		User's last name
	middle_name	varchar		User's middle name
	suffix	varchar		Suffix to user's name, if applicable
	created_at	timestamp		Timestamp when the user was created
	updated_at	timestamp		Timestamp when the user was last updated
	deleted_at	timestamp		Timestamp when the user was deleted
role_user	id	serial	pk	Unique identifier for role-user relationship
	user_id	integer	fk	References users.id
	role_id	integer	fk	References roles.id
roles	id	serial	pk	Unique identifier for each role
	role_name	varchar		Name of the role
	created_at	timestamp		Timestamp when the role was created
	updated_at	timestamp		Timestamp when the role was last updated
permission_role	id	serial	pk	Unique identifier for permission-role relationship
	permission_id	integer	fk	References permissions.id
	role_id	integer	fk	References roles.id
permissions	id	serial	pk	Unique identifier for each permission
	permission_name	varchar		Name of the permission
	created_at	timestamp		Timestamp when the permission was created
	updated_at	timestamp		Timestamp when the permission was last updated
students	user_id	integer	pk, fk	References users.id
	course	varchar		Student's course of study
	specialization	varchar		Student's specialization
	school	integer		School associated with the student

supervisor_partner	user_id	integer	pk, fk	References users.id
	is_admin	bool		Indicates if the supervisor has admin rights
	partner_id	integer	fk	References partners.id
partners	id	serial	pk	Unique identifier for each partner
	name	varchar		Name of the partner
	domain	varchar		Domain or industry of the partner
	description	text		Description of the partner
jobs	id	serial	pk	Unique identifier for each job
	partner_id	integer	fk	References partners.id
	title	varchar		Job title
	description	text		Description of the job
	created_at	timestamp		Timestamp when the job was created
	updated_at	timestamp		Timestamp when the job was last updated
	archived	bool		Indicates if the job is archived
internship_details	id	serial	pk	Unique identifier for each internship detail
	supervisor_id	integer	fk	References users.id (supervisor)
	student_id	integer	fk	References users.id (student)
	term	varchar		Term or duration of the internship
	department	varchar		Department associated with the internship
	position	varchar		Position assigned in the internship
	created_at	timestamp		Timestamp when the internship detail was created
form_response	id	serial	pk	Unique identifier for each form response
	internship_detail_id	integer	fk	References internship_details.id
	form_type_id	integer	fk	References form_assign.id
	created_at	timestamp		Timestamp when the form response was created
	updated_at	timestamp		Timestamp when the form response was last updated
	submitted_at	timestamp		Timestamp when the form response was submitted
assignmentscores	id	serial	pk	Unique identifier for each assignment score
	assignment	integer	fk	References form_response.id
	score	integer		Score for the assignment
	created_at	timestamp		Timestamp when the score was created
form_type	id	serial	pk	Unique identifier for each form type
	form_type_name	varchar		Name of the form type
	description	text		Description of the form type
	created_at	timestamp		Timestamp when the form type was created
	updated_at	timestamp		Timestamp when the form type was last updated
form_assign	id	serial	pk	Unique identifier for each form assignment
	form_type_id	integer	fk	References form_type.id
	deadline	date		Deadline for the form assignment
	class_id	integer	fk	References groups.id
	created_at	timestamp		Timestamp when the form assignment was created
	updated_at	timestamp		Timestamp when the form assignment was last updated
form_field_responses	id	serial	pk	Unique identifier for each form field response
	form_response_id	integer	fk	References form_response.id
	form_field_id	integer	fk	References form_field.id
	response	varchar		Response provided for the form field
form_field	id	serial	pk	Unique identifier for each form field
	form_type_id	integer	fk	References form_type.id
	field_id	integer	fk	References field.id
field	id	serial	pk	Unique identifier for each field
	label	varchar		Label or title of the field
	field_type	varchar		Type of field (e.g., text, integer, etc.)
	created_at	timestamp		Timestamp when the field was created
matches	id	serial	pk	Unique identifier for each job match

	job_id	integer	fk	References jobs.id
	user_id	integer	fk	References users.id
groups	id	serial	pk	Unique identifier for each group
	name	varchar		Name of the group
	created_at	timestamp		Timestamp when the group was created
groups_students	group_id	integer	fk	References groups.id
	student_id	integer	fk	References students.user_id
reports	id	serial	pk	Unique identifier for each report
	created_at	timestamp		Timestamp when the report was created
	report	json		JSON-structured report data
grades	id	serial	pk	Unique identifier for each grade
	student_id	integer	fk	References students.user_id
	partner_grade	float		Grade provided by the partner
	coordinator_grade	float		Grade provided by the coordinator
	final_grade	float		Final calculated grade
evaluation_forms	id	serial	pk	Unique identifier for

2.6 Deployment Diagram

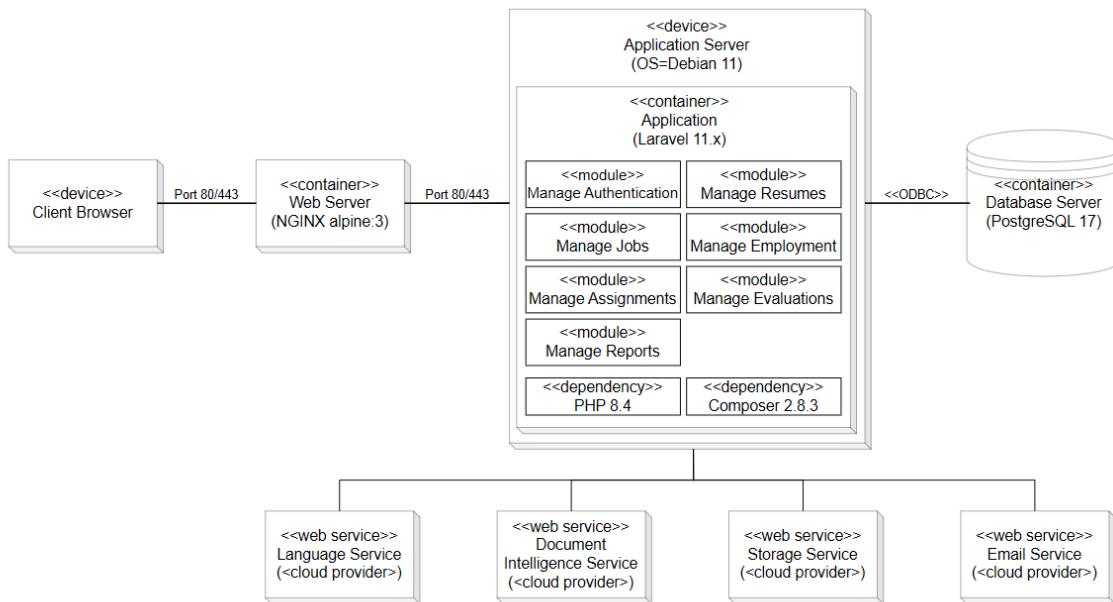


Figure 26 Deployment Diagram

The Deployment Diagram provides a clear architecture of a web application system, detailing its components, dependencies, and communication pathways.

Components:**1. Client Browser:**

- Represents the user's interface to access the system via HTTP/HTTPS (Ports 80/443).

2. Web Server:

- Runs on a NGINX container (based on Alpine Linux 3).
- Handles HTTP/HTTPS requests from the client browser and forwards them to the application server.

3. Application Server:

- Hosted on a device running Debian 11 OS.
- Contains the core application built with Laravel 11.x, broken into several modules:
 - **Manage Authentication**
 - **Manage Jobs**
 - **Manage Resumes**
 - **Manage Employment**
 - **Manage Assignments**
 - **Manage Evaluations**
 - **Manage Reports**
- Dependencies:
 - PHP 8.4 for execution.
 - Composer 2.8.3 for dependency management.

4. Database Server:

- A containerized PostgreSQL 17 instance connected to the application via ODBC.

5. Cloud-based Web Services:

- Provides auxiliary services:
 - **Language Service** (e.g., for translations).
 - **Document Intelligence Service** (e.g., document processing).
 - **Storage Service** (e.g., for file storage).
 - **Email Service** (e.g., for communication).

Communication Pathways:

- The **Client Browser** interacts with the **Web Server** over HTTP/HTTPS.
- The **Web Server** communicates with the **Application Server**, which processes requests through its Laravel application.
- The **Application Server** accesses the **Database Server** for data storage and retrieval.
- The **Application Server** also interacts with external **cloud-based web services** for additional functionalities.

This setup signifies a modular, containerized, and service-oriented architecture, ensuring scalability, maintainability, and efficient communication between components.

2.7 Updated Product Backlog/User Stories

Table 9 User Stories

ID	As a...	I want to be able to...	So that...	Priority
1	Internship Coordinator	Have the Intern reports in one file type	I will not have to download and change the file type	Must
2	Coordinator Internship	Have universal file names for each of the documents	I will not have to change the submitted documents to their appropriate filename	Must
3	Coordinator Internship	Instantly view the content of the documents	I will not have to wait for the document to load in Microsoft Teams	Must
4	Coordinator Internship	View and automatically calculate the grades in one place	I will not have to use multiple applications to calculate and store the grades of the Interns	Must
5	Coordinator Internship	Have a list that automatically updates when an Intern gets evaluated	I will not have to follow-up on both Interns and Industry Partners	Must
6	Coordinator Internship	Send automated email reminder to the Industry Partners	I will not have to author an email asking the Industry Partners to evaluate the Interns	Must
7	Coordinator Internship	Have a list of Industry Partners that have not viewed the automated email	I could check whether they have received the email, or it ended in their spam folder	Could
8	Industry Partner	Receive immediate notice when Intern evaluation starts	I could give my evaluation as soon as possible	Must
9	Industry Partner	Have a form that is not editable	There will not be a case where the form gets tampered	Should
10	Industry Partner	Have a way to upload my signature template or sign on-the-go	I will not break the document by inserting the signature template	Must
11	Intern	Have a digital document that my immediate supervisor has access to	I will not have to print the documents to be signed by my immediate supervisor	Must
12	Intern Executive/Program Director	Set my schedule on a calendar	I will not have to keep an extensive list of my Daily Time Record	Must
13	Executive/Program Director	Immediately see the reports made by the interns	I could better align the curriculum with the industry	Must
14	Executive/Program Director	Immediately see the evaluations made by the Industry Partners	I could better align the curriculum with the industry	Must
15	Executive/Program Director	Filter the reports and evaluations	I could efficiently search through the reports and evaluations	Must

2.8 Cloud Hosting Prototype

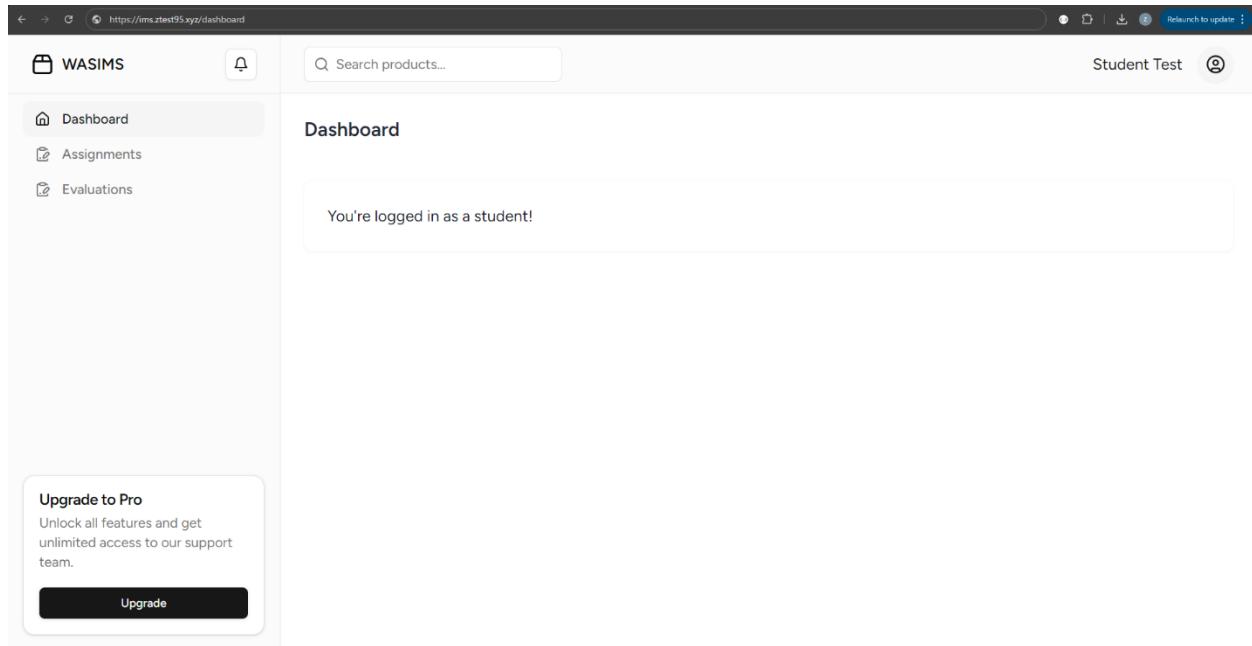


Figure 27 Cloud Hosted Website

We hosted the prototype on one of our developer's domains through Namecheap. To prevent unexpected visitors from accessing the site, we occasionally take it offline. The prototype is hosted temporarily to allow team members and stakeholders to review the functionality and provide feedback

The site is accessible at: <https://ims.ztest95.xyz/>

Once testing is complete, we plan to migrate to a more permanent hosting solution for better stability and continuous availability."

2.9 Contents of Project GitHub Repository

The screenshot shows a GitHub repository page for 'ims'. At the top, there are navigation links for Code, Issues (9), Pull requests (2), Discussions, Actions, Projects, Wiki, Security, and Insights. Below the header, there's a search bar and a 'Watch' button. The repository name 'ims' is shown with a 'Private' badge. On the right, there are buttons for Fork (0) and Star (0). The main content area shows a list of commits from 'tarikuzuma' and 'bbd506c'. The commits are organized by file or folder, with details like commit message, author, date, and number of commits. To the right of the commits, there are sections for 'About', 'Contributors' (with two entries: 'ztest95' and 'tarikuzuma'), and 'Languages' (JavaScript 47.4%, PHP 43.9%, TypeScript 7.7%, and Other 1.0%).

Figure 28 Contents of GitHub Repository

We work in a separate repository, or a submodule of the SoCIT Repo, called “IMS” which stands for Internship Management System.

This repository is where we carefully manage our branches and develop, ensuring that no duplicated or untested code is uploaded to the main SoCIT source. We use the concept of submodules, which allow whatever is pushed in the IMS environment to be pushed into the SoCIT repository. A submodule is essentially a repository contained within your main repository. This is so that we may quickly split large codebases into numerous repositories [5].

We have two protected and main branches: main and staging. We followed a strategy of test environment -> staging -> main to ensure extensive testing and stability before merging changes into the main branch. When the main branch is confirmed or a big update is complete, we push it to the parent SoCIT repository.

Main components of the repository include the following:

1. `.github ISSUE_TEMPLATE/`

- This folder contains **issue templates**, which standardize how issues (bugs, feature requests, etc.) are reported within the project. These templates help maintain a consistent structure for user feedback or problems.

2. `docker-compose.yml`

- This file is essential for setting up **Docker containers**. As our program moves toward the final stages of PBL (the deployment phase), we are using Docker to containerize all the system's functions. This will ensure a consistent and portable environment, making the deployment process more efficient. It defines services, volumes, and networks needed for the development environment. In this case, it's configured to use **PostgreSQL** (pgsql) as the database.

3. `Docs`

- The docs folder is located in the main module of the SocIT repository. This folder contains a list of members along with their usernames, as well as the documentation paper that explains the system's diagrams and other key details.

4. `.gitignore`

- This file specifies which files and directories should be **ignored** by Git. It is used to prevent sensitive files or unnecessary build artifacts (like pnpm and node_modules) from being included in commits.

5. `README.md`

- This file typically serves as the **project documentation**. It contains a general overview of the project, how to set it up, key features, and other essential information. It was created during the first commit but might need updates as the project evolves.

6. `.env.example`

- This is an **example environment configuration file**. It lists the environment variables that the system expects, without providing actual sensitive values (like API keys or database credentials for future AI implementations). Developers would copy this file to create their own `.env` file for their local environment.

7. `package.json` & `package-lock.json`

- These files are part of **Node.js** and **JavaScript** package management. `package.json` lists the project's dependencies, scripts, and metadata, while `package-lock.json` locks down the specific versions of dependencies to ensure consistent builds.

8. `tailwind.config.js` & `postcss.config.js`

- Configuration files for **Tailwind CSS** and **PostCSS**, respectively. These files define how the CSS framework and post-processing tools like **PostCSS** should behave in our system.

9. `vite.config.js`

- The configuration for Vite, a modern build tool that serves as the frontend tooling for your project. This file manages how the app is built and optimized, resolving imports, etc.

2.10 Prototype

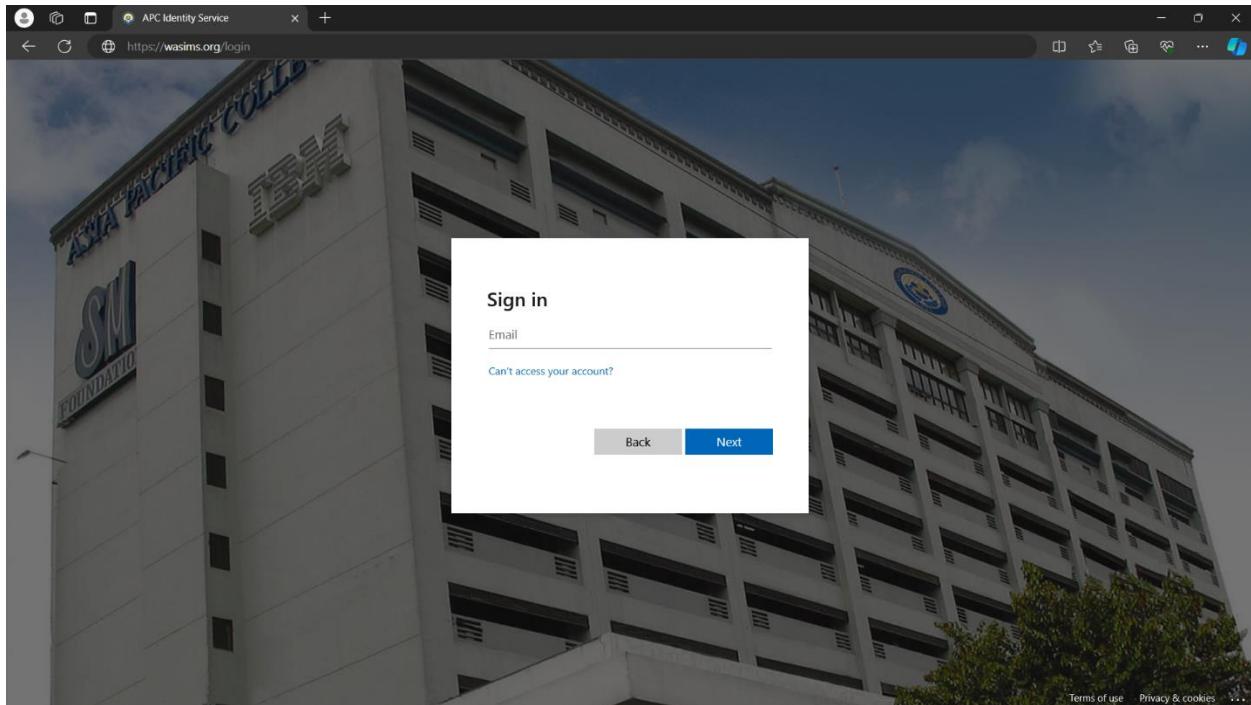


Figure 29 Login Page

The login page is the initial screen every user encounters when visiting the web application. To simplify account management and reduce issues related to lost passwords, the team decided to use email as the sole user credential. The system cross-validates the email entered with the database. If it matches, an OTP is sent to the user's email; otherwise, an error message is displayed.

The screenshot shows the Intern Management page of the RAMS system. At the top, there are filters for 'All', 'SoMA', 'SoCIT', 'SoE', and 'SoH'. Below these are buttons for 'Evaluated' and 'Not Evaluated'. Further down are buttons for 'SR1', 'SR2', and 'SR3'. To the right of these buttons is a search bar with a magnifying glass icon. Below the search bar are buttons for 'SR4', 'SR5', 'SR6', and 'Evaluated'. On the far right, there is a 'Grades' button.

The main content area displays four rows of intern information:

- Mertens, Finn**: Associated with 'SoHA'. Requirements: ✓ view, ✓ view, ✓ view. Evaluation: ✓ view, ✓ view, ✓ view, ✓ view. Total: XY%
- the Dog, Jake**: Associated with 'SoM'. Requirements: ✓ view, ✓ view. Evaluation: ✓ view, ✓ view, ✓ view, ✓ view, ✓ view, ✓ view. Total: XY%
- Rainicorn, Lady**: Associated with 'SoCIT'. Requirements: ✓ view, ✓ view. Evaluation: ✓ view, ✓ view, ✓ view, ✓ view, ✓ view, ✓ view, ✓ view. Total: XY%
- Bubblegum, Princess**: Associated with 'SoE'. Requirements: ✓ view, ✓ view. Evaluation: ✓ view, ✓ view, ✓ view, ✓ view, ✓ view, ✓ view, ✓ view. Total: XY%

At the bottom of the page, there is a copyright notice: "Copyright © 2020 Asia Pacific College. All rights reserved." Below the notice is a navigation bar with page numbers 1, 2, 3, ..., 8, and a right arrow.

Figure 30 Intern Management

The Intern Management Page is designed for Internship Coordinators and Executive/Program Directors. Both roles can view all submitted Intern requirements and filter them by school and evaluation status by the industry partner. However, only Internship Coordinators can view and modify Intern grades. The list of Interns and requirements is presented in a tabular view. Each requirement, when submitted, is represented by a tick and will be viewable.

Note: The email will be sent one day before the starting date at 11:00 AM Manila Time. Email reminders will be sent every other day until all the interns are evaluated or until the closing date is reached.

Auto Generated Email to be sent to IP

Good day <>Industry Partner<>!

This is the evaluation Link available starting on January 13, 2022 up to January 20, 2022 for the Interns:
 <>Department<> <>Intern Name<>
 <>Department<> <>Intern Name<>
 <>Department<> <>Intern Name<>
 <>Department<> <>Intern Name<>
 <>Department<> <>Intern Name<>

<https://www.wasims.org/>

We hope to receive a feedback soon.

Note: Online Intern Evaluation Link will Only Last for 7 Days. Email reminders will be sent every other day until all the interns are evaluated or until the closing date is reached.

JANUARY 2022						
M	T	W	Th	F	S	Su
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

STARTING DATE **CLOSING DATE**

Save as Draft **Set Scheduled Email**

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Figure 31 Online Intern's Evaluation (OIE) scheduler for the Internship Coordinator

The OIE scheduler allows the Internship Coordinator to configure the email content and set the access dates for the OIE. Once the start date is set, a batch email is sent to Industry Partners, including a list of interns and their respective departments. Email reminders are sent every other day to Industry Partners who have not yet completed their evaluations. These reminders stop when either all interns are evaluated, or the closing date is reached.

The screenshot shows a web browser window for the URL <https://wasims.org>. The page is titled "User Management". On the left sidebar, there are three main categories: "INTERN MANAGEMENT" (Manage Interns, Distribute Assignments), "INDUSTRY PARTNER MANAGEMENT" (Online Intern Evaluation, Distribute Resume Bank), and "USER MANAGEMENT" (List of Interns, List of Industry Partners, List of Executive Directors). The main content area features a table header with columns: Full Name, Email, Section, Course, and School. Above the table is a button labeled "Edit List" and an "Import CSV File" button. A large warning icon (a circle with an exclamation mark) is centered on the page, with a note: "IMPORTANT! The CSV file to be imported should not contain a header and the per column contents should exactly match the prefixed columns in the above bar." At the bottom of the page, a dark blue footer bar contains the text "Copyright © 2020 Asia Pacific College. All rights reserved."

Figure 32 User Management

The User Management Page allows the Internship Coordinator to add, remove, or update user information. Given that the coordinator receives the student list in a spreadsheet, we proposed a solution where they can upload the list directly to the database using a CSV file. This approach eliminates the need for the coordinator to interact with the database or worry about system intricacies.

The screenshot shows a web-based application interface for managing intern resumes. On the left, there's a sidebar with navigation links: 'INTERN MANAGEMENT' (Manage Interns, Distribute Assignments), 'INDUSTRY PARTNER MANAGEMENT' (Online Intern Evaluation, Distribute Resume Bank), and 'USER MANAGEMENT' (List of Interns, List of Industry Partners, List of Executive Directors, Resume Bank). The main content area has a header with the college logo and the title 'Bonnibel Bubblegum'. It includes a search bar ('Job title, keywords, or company') and filters for 'SoMA', 'SoCIT', 'SoE', and 'SoM'. Below the search is a table with four rows of intern data:

Full Name	Email	Section	Course	School
Mertens, Finn	finn@gmail.com	BSCS-SS251	Computer Science	SoCIT
Bonnable, Bubblegum	bb@gmail.com	BSCS-SS251	Computer Science	SoCIT
Abadeer, Marecline	mcline@gmail.com	BSHMA 251	Multimedia Arts	SoMA
Mertens, Jake	jake@gmail.com	BSCE - SS252	Computer Engineering	SoE

At the bottom of the page, a dark blue footer bar contains the text 'Copyright © 2020 Asia Pacific College. All rights reserved.'

Figure 33 New Resume Bank

The resume bank allows for tracking Intern resume submissions. Any resume uploaded by an Intern will be reflected in the resume bank, accessible to both the Internship Coordinator and Industry Partners.

The resume bank can be sorted into distinct categories, including School, Section, Course, and Name. This feature is vital for IPs to efficiently sort through internship documents to find candidates suitable for their business models.

The Internship Coordinator can also edit the list to add or discard resumes. Additionally, the Internship Coordinator can manually upload a resume into the system when needed.

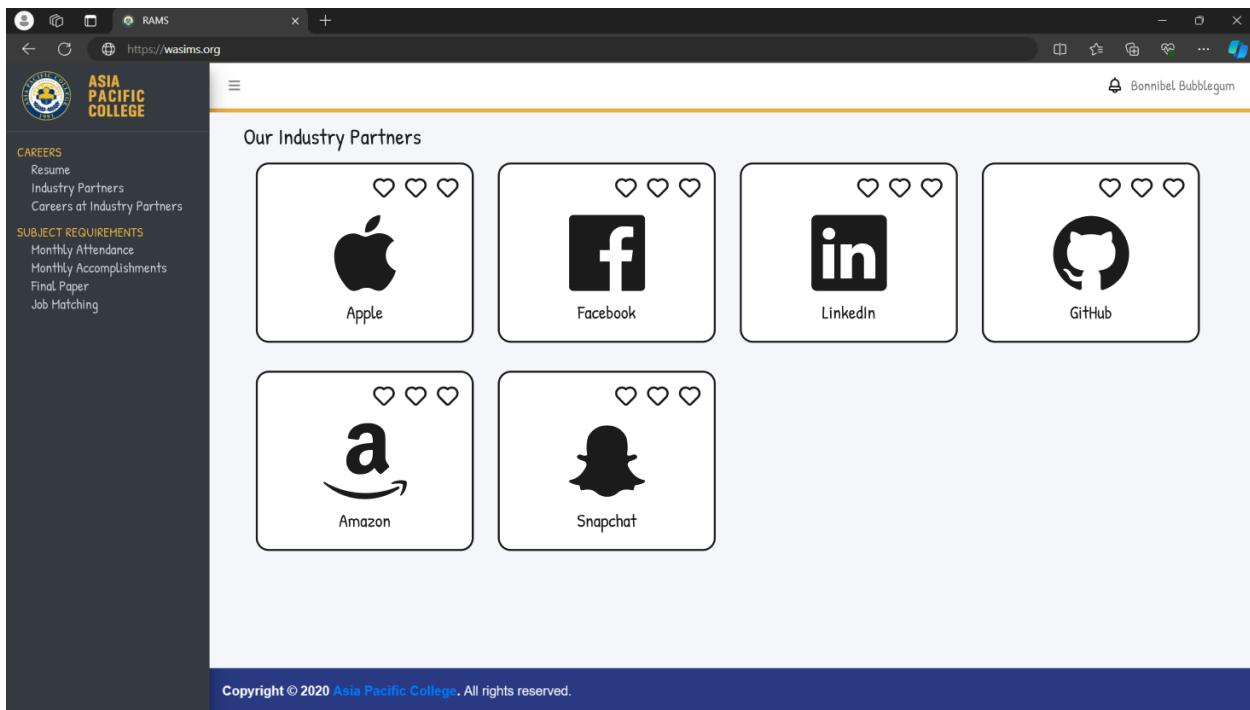


Figure 34 Intern's Home Page

The Intern's home page displays available internship opportunities. The Internship Coordinator can update the details of each opportunity with Industry Partners. When a new opportunity is added, interns receive an email notification. This page offers a more efficient way to distribute new opportunities compared to using an MS Teams channel thread. The front page includes the number of ratings each industry partner received by the intern's experience. With that feature, interns can gauge the internship performance that the industry partner will give.

The screenshot shows a web browser window for the RAMS system at <https://wasims.org/attendance>. The page title is "Intern's Attendance". On the left sidebar, there are links for CAREERS (Resume, Industry Partners, Careers at Industry Partners) and SUBJECT REQUIREMENTS (Monthly Attendance, Monthly Accomplishments, Final Paper). The main content area contains four input fields: "Intern's Name:", "Company:", "Department Assigned:", and "Position:". Below these is a section titled "Attendance Report for the Month of:" with a dropdown menu showing "JANUARY 2022". A calendar grid for January 2022 is displayed, with the 13th highlighted in black. At the bottom of the page is a copyright notice: "Copyright © 2020 Asia Pacific College. All rights reserved."

Intern's Name:	
Company:	
Department Assigned:	
Position:	
Attendance Report for the Month of:	

JANUARY 2022						
M	T	W	Th	F	S	Su
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

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Figure 35 Intern's Attendance Calendar View

The Intern Attendance Page allows interns to set their scheduled shifts. Once a schedule is set, they receive an email reminder fifteen minutes before their shift, which they can accept or decline. Their attendance is updated based on their response. To minimize the risk of falsified attendance, this form is submitted to the Industry Partner for validation by the intern's immediate supervisor.

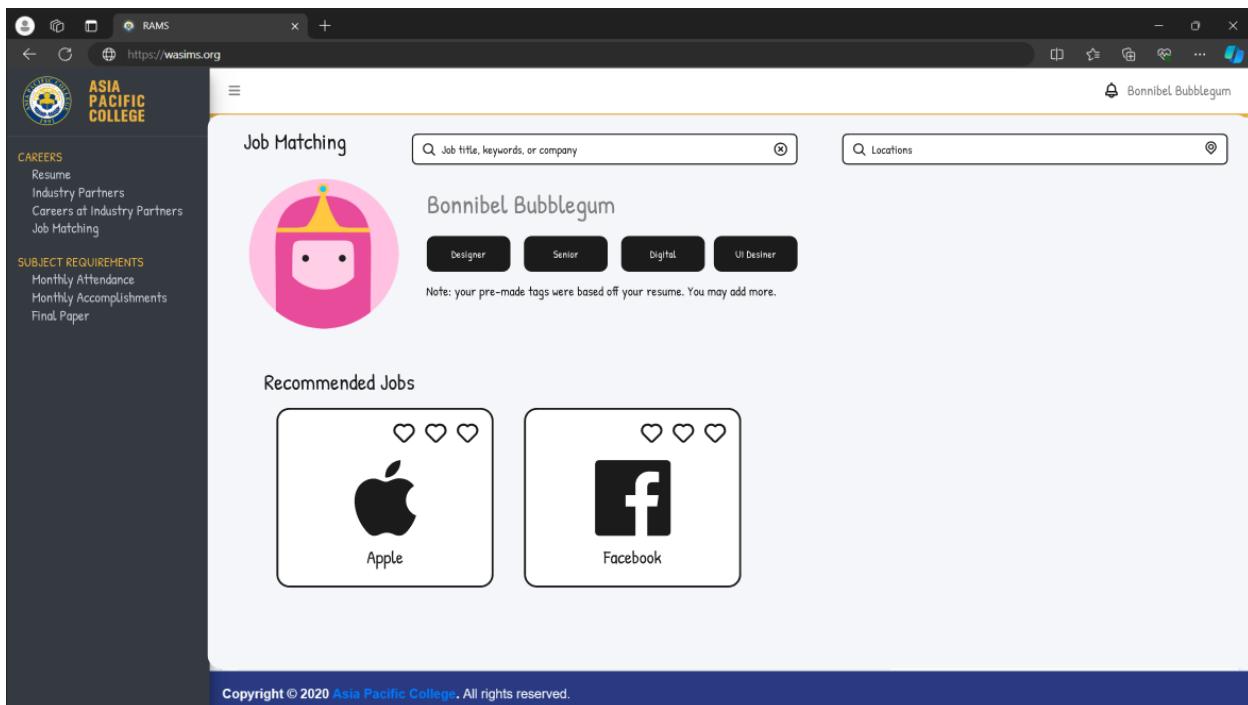


Figure 36 Job Matching

Job matching, a key innovation of our project, enhances the internship experience by intelligently aligning Intern profiles with suitable job opportunities. Once an Intern uploads their resume to the resume bank, our application uses Natural Language Processing (NLP) and Machine Learning algorithms to analyze the document and extract relevant tags such as skills, qualifications, and experiences. These tags create a comprehensive profile of the intern, which the system then uses to match them with industry partners seeking similar attributes. Interns can view and refine these tags to better represent their abilities, and they can also adjust their preferred job locations.

Lastly, the system will display company ratings based on previous interns' experiences, allowing prospective interns to see what they can expect from each company. This transparency helps interns make informed decisions about which opportunities to pursue, ensuring they choose placements that align with their expectations and career goals.

The screenshot shows a Microsoft Edge browser window displaying the 'ASIA PACIFIC COLLEGE | ONLINE INTERN'S EVALUATION' page. The URL is https://wasims.org/eval. The page header includes the college name and a Microsoft logo. Below the header, there are five filter tabs: 'IT Department' (selected), 'Creatives', 'Human Resources', 'Marketing', and 'Accounting & Finance'. Each tab has a corresponding icon. The main content area displays five intern profiles in cards:

Intern Name	Role	Hours Worked	Status	Action
Finn Mertens	DevOps Engineer	200 Hours	Active	Evaluate
Jake the Dog	Data Engineer	72 Hours	Active	Evaluate
Lady Rainicorn	Software Engineer	24 Hours	Inactive	Evaluate
Princess Bubblegum	Cloud Developer	0.5 Hours	Missing	Evaluate
Marceline Abadeer	Cloud Developer	-	Missing	Evaluate

At the bottom of the page, a dark blue footer bar contains the text 'Copyright © 2020 Asia Pacific College. All rights reserved.'

Figure 37 Evaluation

The Online Intern's Evaluation (OIE) page is the sole landing page for Industry Partners. Here, they can filter interns by department and evaluate them based on criteria set by the Internship Department. The Internship Coordinator controls the dates when this page is accessible to Industry Partners. This concept is inspired by Asia Pacific College's Online Teacher's Evaluation (OTE).

The screenshot shows a Microsoft Edge browser window displaying an intern evaluation form. The title is "ASIA PACIFIC COLLEGE | ONLINE INTERN'S EVALUATION". The user is identified as "Finn Mertens" (DevOps Engineer at Trend Micro, 200 Hours, Active). The form contains a table with a header row "Criteria" and a "Rating Scale" row. The rating scale columns are: Never Observed, Rarely Observed (10% of the time), Occasionally Observed (30% of the time), Sometimes Observed (50% of the time), Frequently Observed (70% of the time), Often Observed (90% of the time), Always Observed (100% of the time), and Not Applicable. Three rows of criteria are listed: "The Intern Reports to the Office with regular punctuality", "The Intern Submits reports on or Before the Deadline", and "The Intern enjoys a comfortable working relationship with the supervisor and colleagues". Each row has eight radio buttons corresponding to the rating scale. At the bottom are "Cancel" and "Submit" buttons, and a copyright notice: "Copyright © 2020 Asia Pacific College. All rights reserved."

Criteria	Rating Scale							
	Never Observed	Rarely Observed (10% of the time)	Occasionally Observed (30% of the time)	Sometimes Observed (50% of the time)	Frequently Observed (70% of the time)	Often Observed (90% of the time)	Always Observed (100% of the time)	Not Applicable
The Intern Reports to the Office with regular punctuality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Intern Submits reports on or Before the Deadline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Intern enjoys a comfortable working relationship with the supervisor and colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 38 Intern Evaluation Form

The Intern evaluation will primarily include the intern's photo, name, position, hours worked, and additional relevant information. This form will feature specific metrics to assess the intern's performance comprehensively. These metrics will allow the internship coordinator to compile and analyze the data more efficiently, simplifying the creation of the narrative report. By leveraging the structured and detailed information from the Intern evaluations, the coordinator can generate accurate and insightful reports, enhancing the overall assessment process and ensuring that the narrative report is both thorough and easy to produce. This streamlined approach reduces the workload and improves the evaluations' quality and consistency, benefiting the interns and industry partners.

The screenshot shows a Microsoft Edge browser window with the URL <https://wasims.org/eval/Intern=fmertens>. The page title is "ASIA PACIFIC COLLEGE | ONLINE INTERN'S EVALUATION". The main content area displays a rating scale for various criteria, with columns for "Criteria", "Never Observed", "Rarely Observed", "Occasionally", "Sometimes", "Frequently Observed (70% of the time)", "Often Observed (90% of the time)", "Always Observed (100% of the time)", and "Not Applicable". A modal dialog box is overlaid on the page, containing the following text:

I hereby acknowledge that the evaluation regarding Intern's Performance is a truthful and accurate representation of the assessed criteria.

This acknowledgement is based on a thorough review and analysis of the relevant data and observations made during the evaluation period. The evaluation process adhered to the established guidelines and standards set forth by Asia Pacific College. I affirm that no information has been misrepresented or omitted in the report.

The findings and conclusions in the evaluation reflect my unbiased judgment and are intended to provide constructive feedback and actionable insights for improvement. Any recommendations included are based on factual data and aimed at enhancing performance and achieving our organizational goals.

Below the text are two input fields: "Evaluator's Full Name" and "Upload Signature over Printed Name". There are also "Cancel" and "Finish" buttons.

At the bottom of the page, there is a "Remarks" text area, a "Cancel" button, and a large "Submit" button. The footer contains the copyright notice: "Copyright © 2020 Asia Pacific College. All rights reserved."

Figure 39 Industry Partner's Acknowledgement View

The acknowledgement view will require the evaluator to include their full name and signature to confirm their assessment. The signature will be captured using a digital canvas, ensuring a secure and verifiable record of the evaluation.

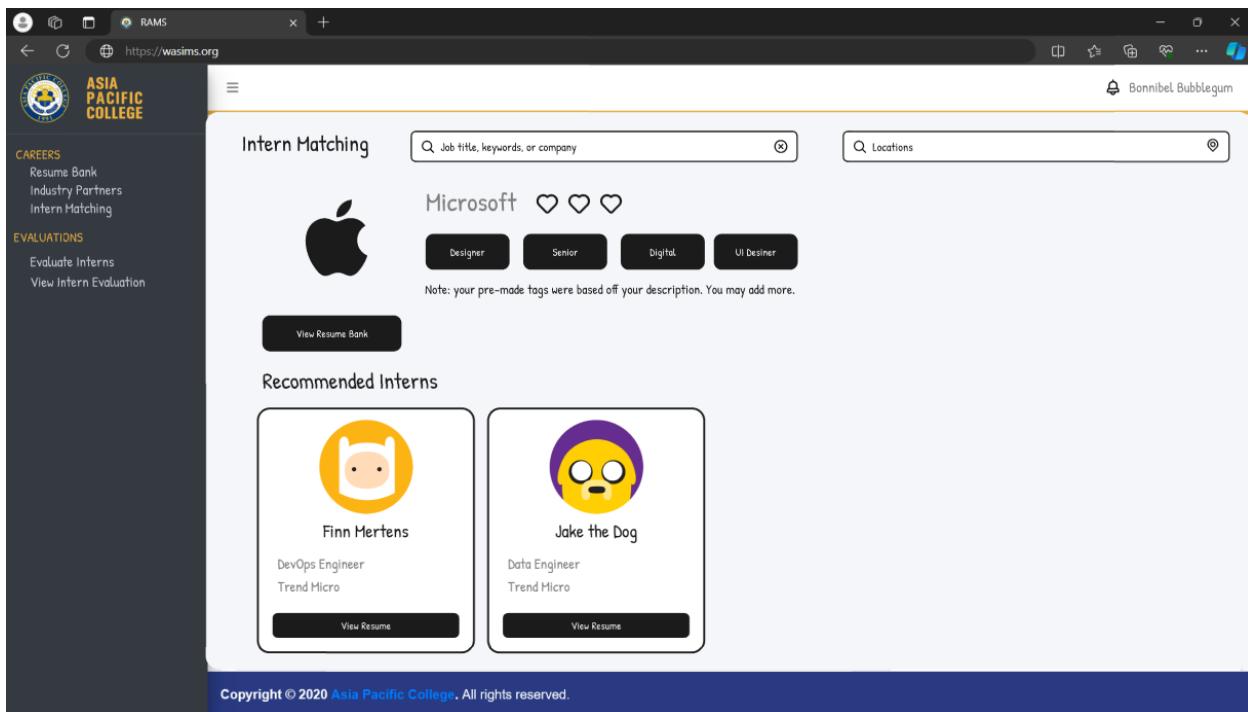


Figure 40 Intern Matching View

The Intern matching feature works by analyzing the company's details, requirements, and desired Intern profiles to identify suitable candidates. Industry partners can add tags to refine their search and find more relevant interns. They are then redirected to a page displaying the resume bank, where they can view the resumes of potential candidates. Based on this information, the industry partner can directly contact the Intern via email. This streamlined process ensures that industry partners find the best-fit interns efficiently, enhancing the overall internship experience.

III. Other Requirements

3.1 Technology Stack

*Table 10
Technological Specifications*

Frontend Technologies	<ol style="list-style-type: none"> 1. Languages <ol style="list-style-type: none"> a. HTML/Blade b. CSS/Shadcn c. JavaScript d. Type Script 2. Frameworks/Libraries <ol style="list-style-type: none"> a. React b. Vite 3. UI/UX Tools <ol style="list-style-type: none"> a. Figma
Backend Technologies	<ol style="list-style-type: none"> 1. Languages <ol style="list-style-type: none"> a. PHP 2. Frameworks <ol style="list-style-type: none"> a. Laravel 3. API Design <ol style="list-style-type: none"> a. RESTful 4. Authentication and Authorization <ol style="list-style-type: none"> a. Laravel Breeze b. Built-in Laravel Authentication
Database Technologies	<ol style="list-style-type: none"> 1. Database Type: <ol style="list-style-type: none"> a. Relational Database 2. Database System: <ol style="list-style-type: none"> a. PostgreSQL
DevOps and Development	<ol style="list-style-type: none"> 1. Version Control: <ol style="list-style-type: none"> a. Git b. GitHub 2. Containerization: <ol style="list-style-type: none"> a. Docker 3. Hosting/Cloud Services: <ol style="list-style-type: none"> a. GitHub Codespaces b. AWS LightSail for Hosting c. Nginx Web Server

For frontend technologies, we utilize Blade, shadcn (a React component library framework), and plain JavaScript or TypeScript to facilitate seamless data integration and communication across components. Vite's optimized build process also speeds up our production builds, which is especially useful in complex applications with multiple dependencies. We also used Figma to prototype.

For backend technologies, we chose the Laravel Framework because Asia Pacific College (APC) commonly works with Laravel, making it easier to collaborate. Laravel's built-in authentication and Laravel Breeze simplify authentication and other common backend requirements.

In terms of database technologies, we opted for PostgreSQL since it can efficiently store files as binary large objects (BLOBs), unlike traditional SQL databases. Given the volume of files we'll be managing, PostgreSQL offers the flexibility and storage options we need.

Version control is standardized through Git, using GitHub as our platform to track and review the latest commits and changes over time. For containerization, we plan to use Docker, which allows us to package applications and dependencies into isolated containers, ensuring consistency across development and production environments. Lastly, since most of the developers have free student access to GitHub pro, we will be using GitHub Codespaces to run Dev Demos, AWS Lightsail for Hosting, and Nginx as the web server to manage web requests.

3.2 GitHub Repository

The APC-2024-2025-T1-02-WASIMS repository is a collaborative effort among multiple contributors. Each contributor has created individual forks of the project to facilitate independent development, followed by integration into a unified project. This approach enables smooth collaboration, version control, and ensures that all changes are reviewed before merging into the main branch.

The primary goal of this project is to develop the Internship Management System while initiating the fundamentals needed to create GitHub concepts following best practices in software development, including collaborative coding, version control, and continuous integration.

Main repository

The screenshot shows the GitHub repository page for 'APC-2024-2025-T1-02-WASIMS'. The repository is private and has 9 branches and 0 tags. The main commit is from 'takukuzma' merging pull request #2 from APC-SoCIT/docs, dated 2 weeks ago. The commit message is 'Merge pull request #2 from APC-SoCIT/docs'. The commit details show updates to various files: app (Update packages), bootstrap (Add laravel development template), config (Add laravel development template), database (Add laravel development template), docker (Add laravel development template), dns (Update README.md), public (Add laravel development template), resources (Update packages), routes (Update packages), storage (Add laravel development template), tests (Add laravel development template), editorconfig (Add laravel development template), and .env.example (Add laravel development template). The repository description is 'WASIMS: A Web-Based Application for SMART Internship Management System'. The sidebar includes sections for Activity, Custom properties, Stars (0), Watching (0), and Forks (0).

Figure 41 Main SoCIT Repository

Regarding submodules, we primarily developed the application in a separate and private repository (IMS) to ensure that any updates pushed to the final system (SoCIT) are reliable and fully tested. This does not include the documentation folder, as it is not related to the development environment. However, the documentation will be pushed within the SoCIT repository.

The link to the main repo is: <https://github.com/APC-SoCIT/APC-2024-2025-T1-02-WASIMS>

IMS Repository

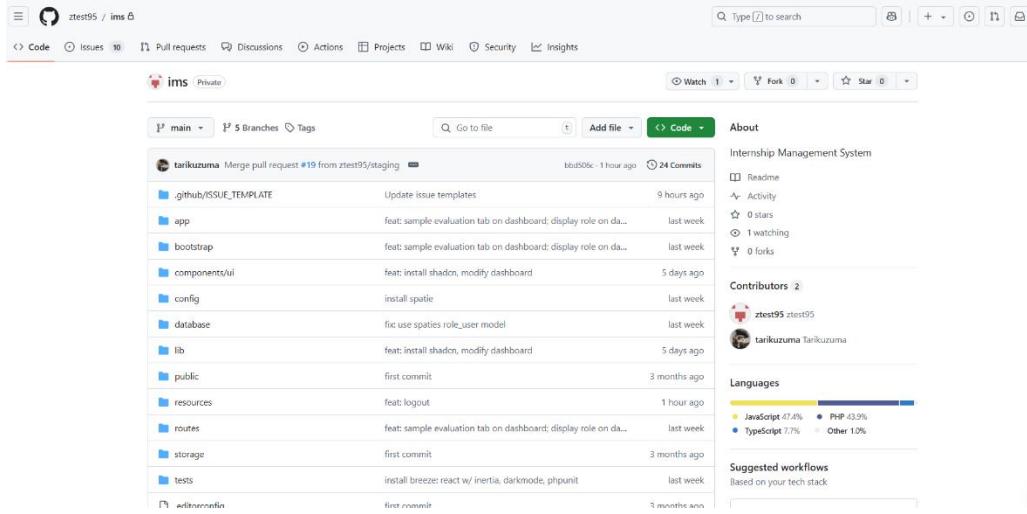


Figure 42 IMS Repository

This repository is where we manage our branches and develop carefully, ensuring that nothing replicated or untested is pushed to the main SoCIT repository. We employ the concept of submodules, allowing whatever is pushed in the IMS environment to also be pushed into the SoCIT repository. A submodule is basically a repository embedded in your main repository. This is so that we can promptly separate big codebases into multiple repositories [5].

In our project, we prioritize creating issues for every new feature or enhancement before making a pull request. This practice ensures that all proposed changes are documented and discussed, allowing contributors to clarify requirements and gather feedback. Once the feature is developed and the associated issue is addressed, we then create a pull request to merge the changes into the staging branch. This structured approach promotes thorough review and testing, ensuring that only reliable and well-documented code is integrated into the main project. We used a workflow of **test environment -> staging -> main** because it ensures thorough testing and stability before merging changes into the main branch. Once the main branch is verified or if a major update is ready, we then push it to the parent SoCIT repository.

3.3 Conclusion

The Web-based Application for a Smart Internship Management Systems (WASIMS) will be developed to address the specific problems faced by the Internship Department of Asia Pacific

College. By automating key processes such as grading, document submissions, and evaluations, WASIMS enhances efficiency for both the Internship Department and the Interns. The system reduces manual tasks, allowing the staff to dedicate more time to improving the overall quality of the internship program and providing better support for the interns.

WASIMS serves as a centralized application where interns can easily track submissions, internship, find internship or job opportunities, and receive evaluations. For the Internship Department, the system improves document management, simplifies evaluation workflows, and gives a clear overview of each intern's progress. By integrating technologies such as Natural Language Processing for job matching and real-time data analytics, the system ensures that both interns and staff experience a more organized and efficient process.

3.4 Release Plan

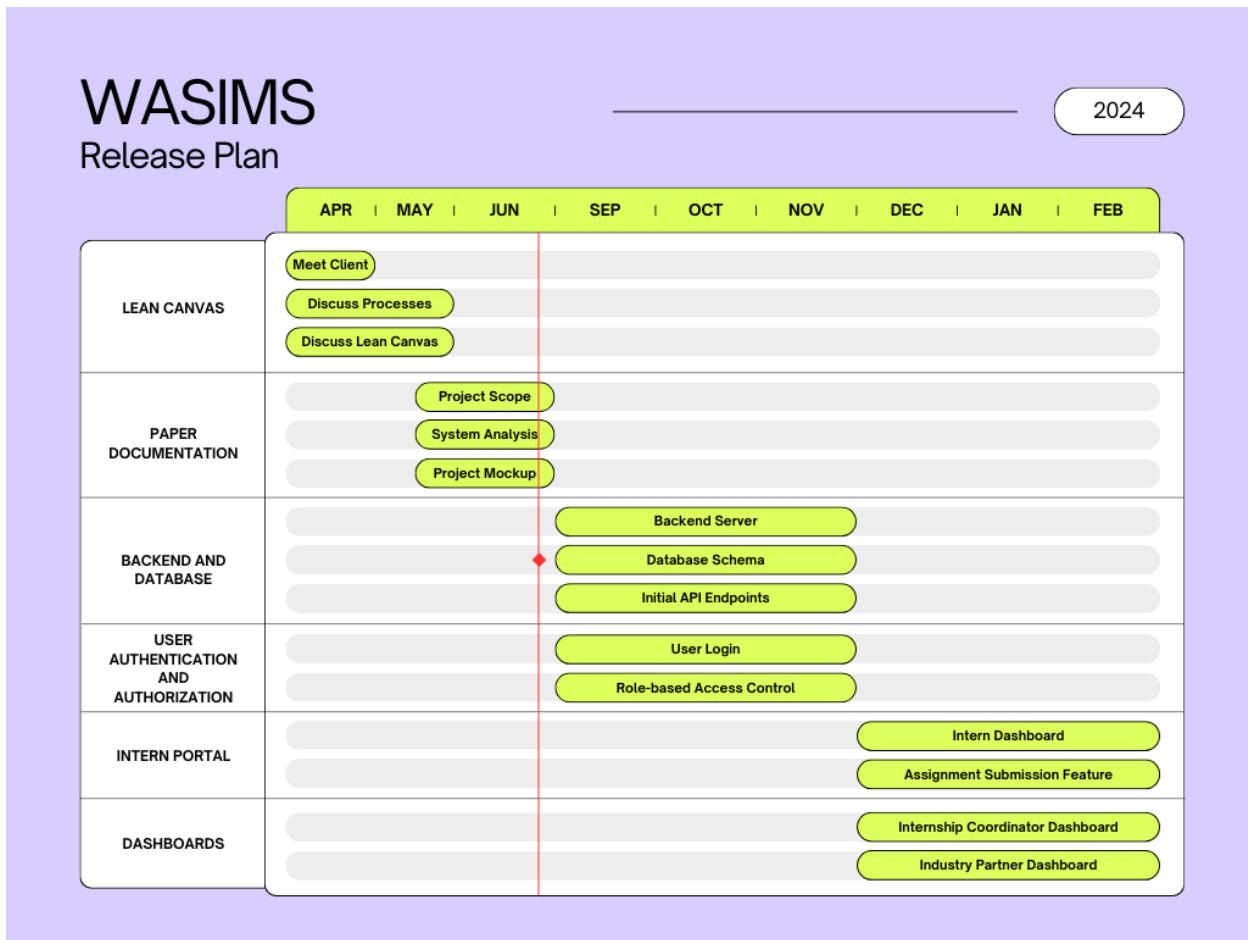


Figure 43 Release Plan

Based on the release plan, the team is on schedule to finish the Paper Documentation; and is on route to the development of Backend and Databases. Once the paper documentation is approved, the team will begin developing some miniature projects to test the knowledge on the proposed tech stack. At the start of the first term Academic Year 2024-2025, beginning with the SYSADD1 subject, the team will be asking for guidance from Professor Ryan John Perez (the team's project adviser) and Doc Manuel L. Calimlim, Jr. (the team's project consultant) in the development of Database Schema and Backend Server.

IV. References

- [1] D. Galbraith and S. Mondal, "The Potential Power of Internships and The Impact on Career," *Research in Higher Education Journal*, vol. 38, 2020.
- [2] S. Anjum, "Impact of internship programs on professional and personal development of business students: a case study from Pakistan," *Future Business Journal*, vol. 1, no. 2, p. 6, 2020.
- [3] National Association of Colleges and Employers, "2021 Internship & Co-op Survey Report," National Association of Colleges and Employers, 2021.
- [4] V. Paradigm, "What Is Activity Diagram," Visual Paradigm, 2024.
- [5] gitaarik, "Git Submodules basic explanation," 2014.

V. Appendices

Appendix A: Project Vision

Table 11 WASIMS Product Vision

For	Asia Pacific College's Internship Department		
Who	needs a faster, more efficient, and centralized way to manage internship processes.		
The	WASIMS	Is an	internship management web-application integrated within APC's School Information System
That	streamlines the internship management system by providing a centralized platform		
Unlike	traditional and distributed methods with MS Excel, MS Outlook, MS Teams, and other ways to store Intern submissions, evaluations, and more.		
Our Product	offers an all-in-one solution that has the power to automate and expedite the internship process for the industry partners, internship departments, executive/program directors, and interns.		

Appendix B: Schedule/Release Plan

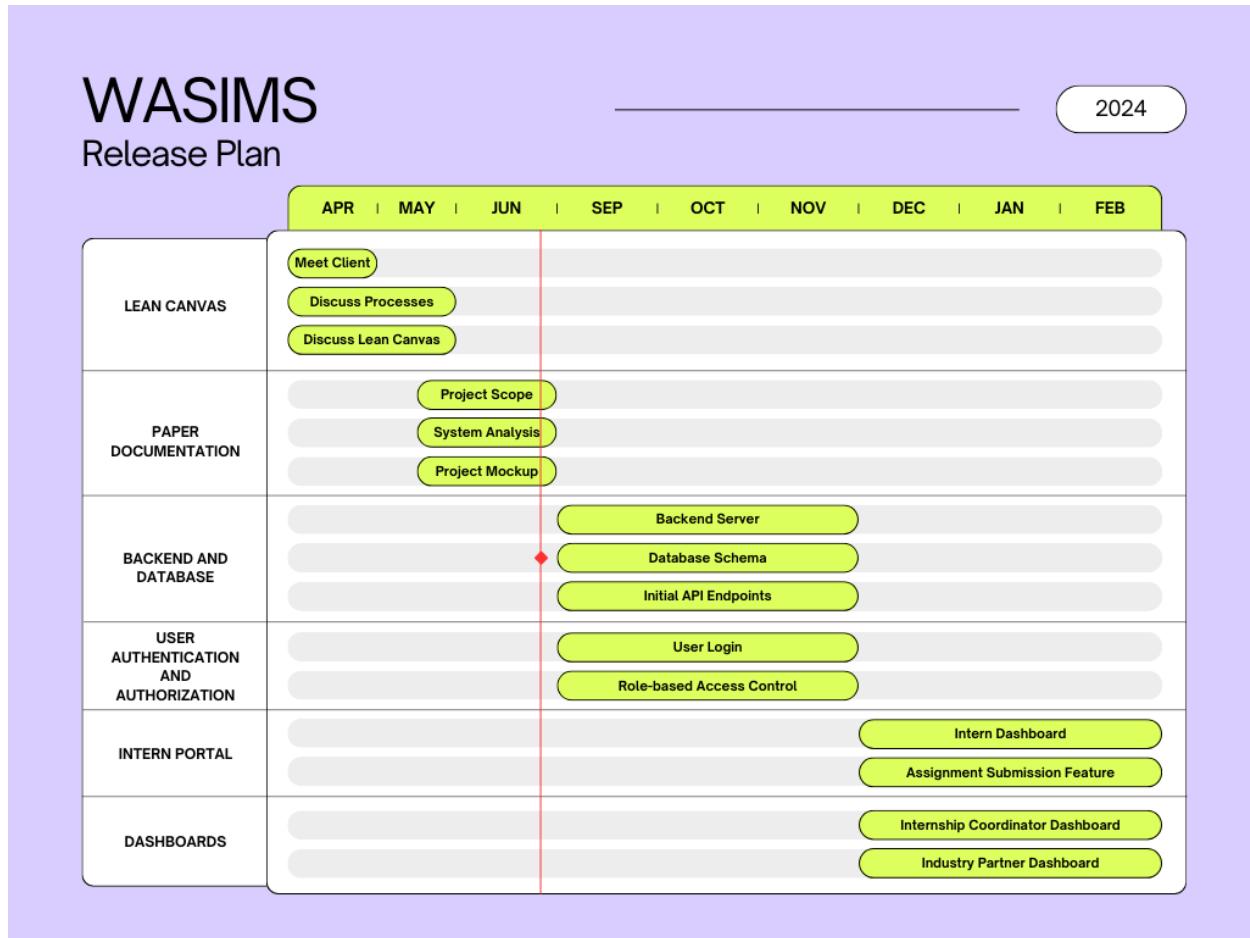


Figure 44 Gantt Chart Release Plan

Appendix C: Product Roadmap

Term 1: Foundations

Term 1.1 - Lean Canvas

- **Milestone:** Complete the Lean Canvas to outline the project's business model and strategy.

Term 1.2 - Paper Documentation

- **Milestone:** Finish comprehensive paper documentation including requirements analysis, project scope, and initial design mockups.

Term 2: Initial Development and Core Features

Term 2.1 - Backend and Database Setup

- **Milestone:**
 - Set up the backend infrastructure.
 - Design and implement the database schema.
 - Establish the basic API endpoints.
- **Deliverables:** Backend server, database schema, initial API endpoints.

Term 2.2 - User Authentication and Authorization

- **Milestone:**
 - Implement user authentication and authorization.
 - Develop user roles (Internship Coordinators, Interns, Industry Partners, Executive Directors).
- **Deliverables:** User login, registration, and role-based access control.

Term 3: Core Functionalities

Term 3.1 - Intern Portal and Assignment Submission

- **Milestone:**

- Develop the Intern's dashboard.
- Implement the assignment submission functionality.
- Create an assignment tab for Interns.
- **Deliverables:** Intern dashboard, assignment submission feature.

Term 3.2 - Coordinator and Industry Partner Dashboards

- **Milestone:**
 - Develop the Internship Coordinator dashboard with access to Interns' information and contacts.
 - Implement the Industry Partner dashboard with Intern overview and evaluation forms.
- **Deliverables:** Coordinator dashboard, Industry Partner dashboard, evaluation forms.

Term 4: Enhanced Functionalities and Integrations

Term 4.1 - Automated Emails and Notifications

- **Milestone:**
 - Implement the automated email system.
 - Develop notification systems for all users.
- **Deliverables:** Automated email functionality, notification system.

Term 4.2 - Analytics and Reporting

- **Milestone:**
 - Develop analytics features for Internship Coordinators.
 - Create reporting tools for Executive Directors to view intern's performance and evaluations.
- **Deliverables:** Analytics dashboard for coordinators, reports for Executive Directors.

Term 5: Testing, Refinement, and Deployment

Term 5.1 - Testing and Quality Assurance

- **Milestone:**
 - Conduct extensive testing (unit, integration, and user acceptance testing).
 - Collect feedback and make necessary refinements.
- **Deliverables:** Tested and refined application, bug fixes, and improvements.

Term 5.2 - Deployment and Final Documentation

- **Milestone:**
 - Deploy the application to a live environment.
 - Complete final project documentation and user manuals.
 - Prepare and present the project demo.
- **Deliverables:** Live application, final documentation, user manuals, project presentation.

Appendix E: Teams Meetings

Client Meetings

October 9, 2024: Dev Updates with Client

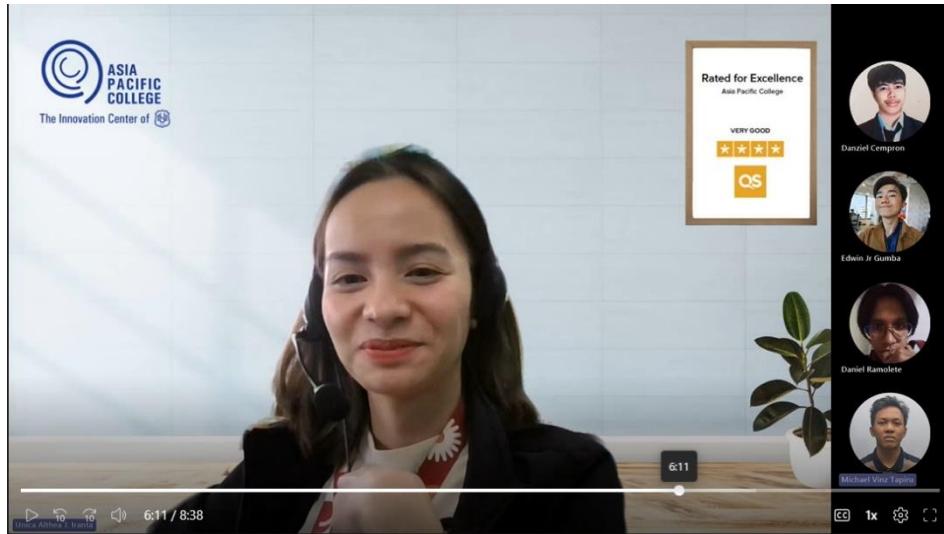


Figure 45 Client Update Meeting

The meeting focused on explaining to the client our commitment to developing diagrams and the overall program to ensure smooth progress on the development side. We also clarified some terms related to the project. Additionally, we inquired whether it would be acceptable to serve as Student Assistants during the day to gain a better understanding of the processes and the meticulous details involved.

Consultant Meetings

August 16, 2024: Initial Adviser Meeting

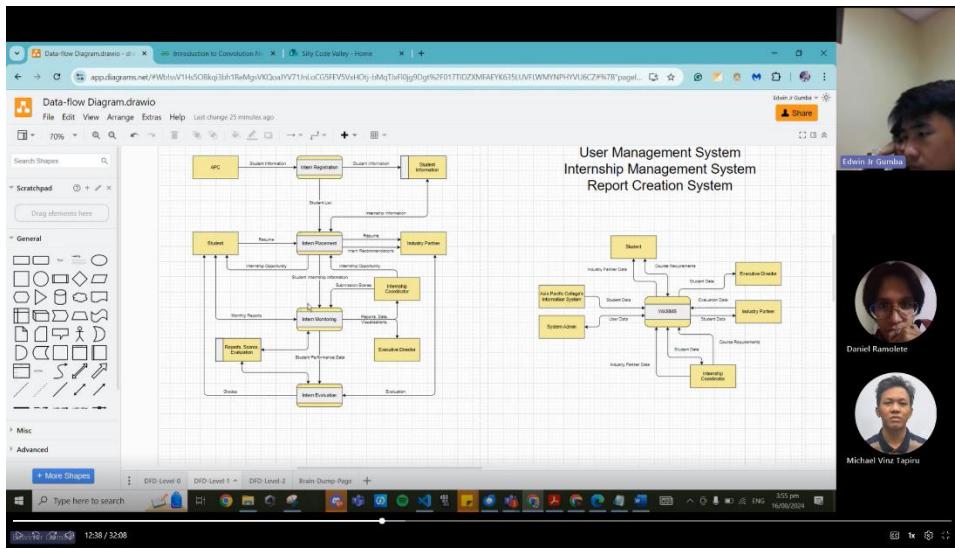


Figure 46 Stage 1 Explanation of DFD

The meeting focused on explaining the initial Data Flow Diagram (DFD) of our project. We also sought further clarification on what to expect in the future processes of SYSADD. Additionally, we learned that we need to be meticulous in developing the DFD to ensure that the subsequent diagrams are accurate and aligned with our project objectives.

September 10, 2024: DFD, UCD, and AD Check Up with Consultant



Figure 47 Consultation with Doc. Manny

The meeting focused on reviewing all of our diagrams and identifying areas that needed refactoring to clarify confusing aspects. Our goal is to ensure that the diagrams are seamless and presented at a high enough level for easy understanding at a glance. It became clear that our initial diagrams were not sufficient to satisfy the requirements for the next panel

September 11, 2024: UCD Consultation

Figure 48 Consultation with Miss Wednesday UCD

We had a consultation with one of our consultants to explain what it is to change in the DFD.

September 18, 2024: Pre-defense meeting with Adviser

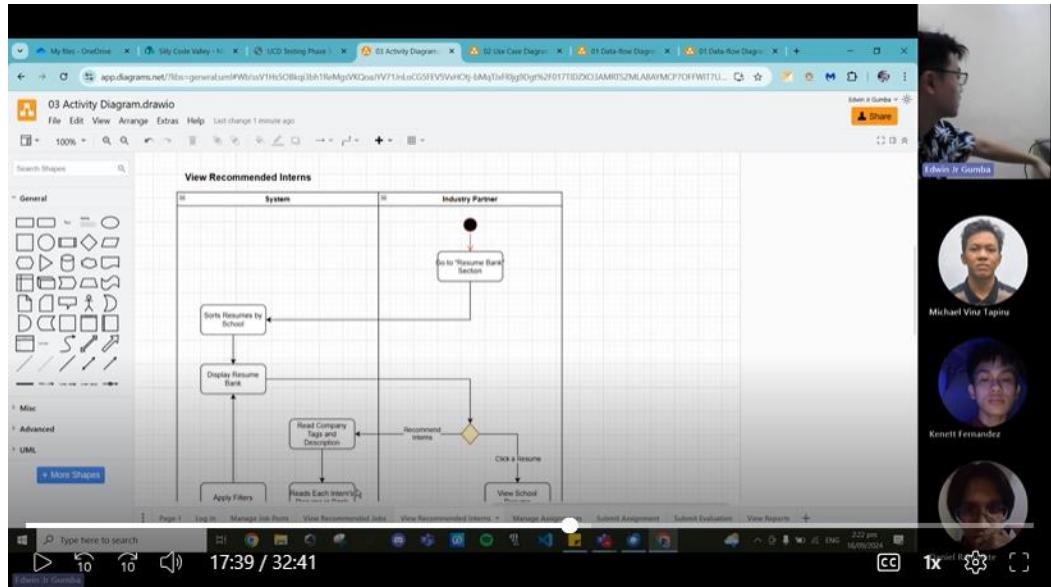


Figure 49 Pre-defense Advising Midterm

The meeting focused on reviewing our outputs with our adviser, including our Data Flow Diagram (DFD), use cases, fully dressed use case, test cases, and activity diagrams with swim lanes. He expressed satisfaction with our work and could not identify any loopholes concerning the necessary midterm requirements.

Sep 24, 2024: Post-Defense Consultation

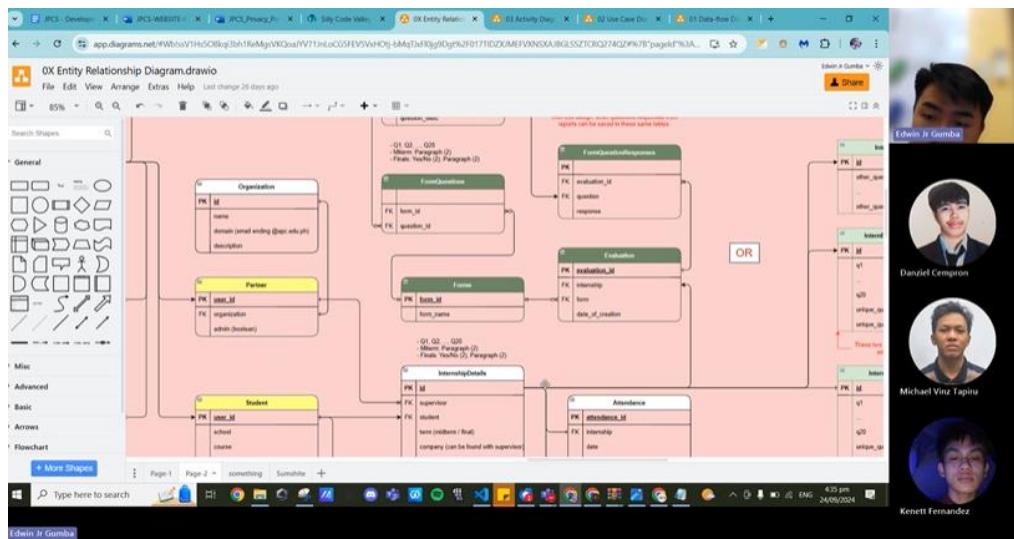


Figure 50 Post-defense Advising Midterm

We had a consultation regarding our defense, where we explained the panelists' expectations, discussed what we did well, and identified areas for improvement. Our adviser stated the things that we can do in order to move forward, starting from Diagram making, development, and code structure.

Sep 24, 2024: Post-Defense Updates



Figure 51 Post-defense consultation with Doc. Manny (Midterm)

We updated one of our consultants regarding on what happened o the defense itself. We also asked what we can do onwards to improve our diagrams. He stated that we should meet more and must focus on the development od diagrams as the panelists will be meticulous about that prior to SYSADD.

October 14, 2024: ERD UCD Cleanup

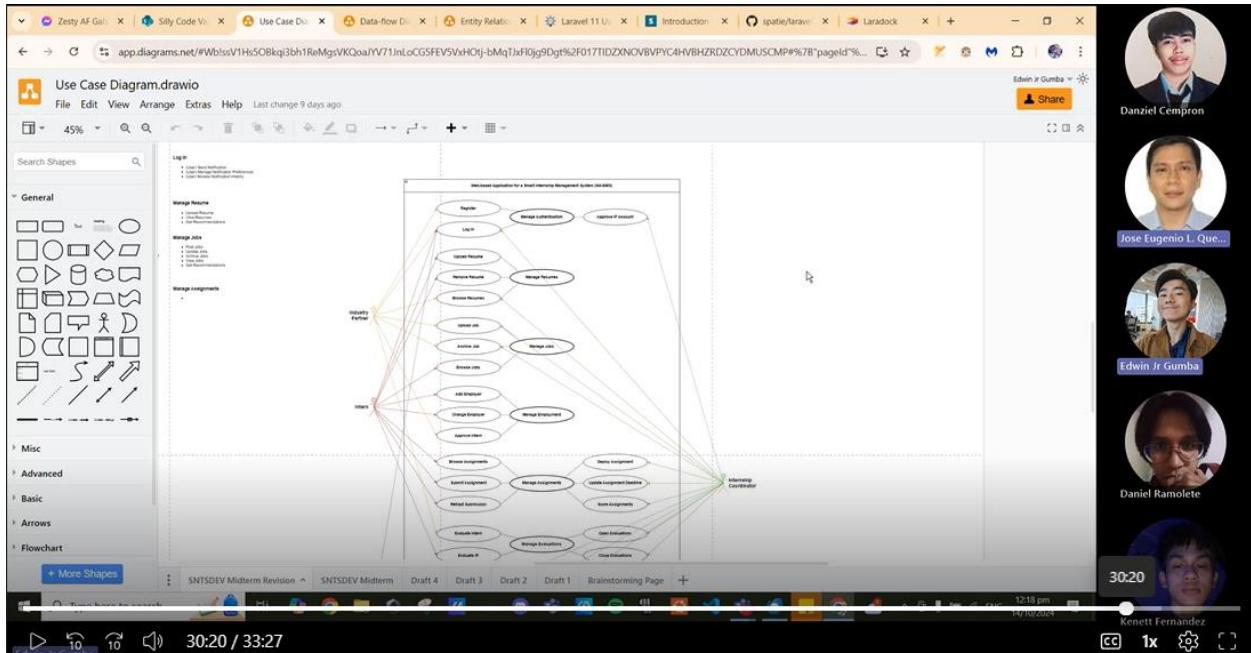


Figure 52 ERD and UCD Clean-up

We had a consultation with one of our consultants, who explained how we can further improve our Entity-Relationship Diagram (ERD). He provided a resource to reference: the Role-Based Access Control (RBAC) module in Laravel Breeze, which automates the RBAC process. Additionally, he advised that we should ensure users and roles are not hardcoded in our ERD.

October 16, 2024: Tech Stack Consultation



Figure 53 Photo with our Adviser, sir Ryan John Perez (GOAT)

We had a consultation with our adviser regarding the development process and the tech stack. We explained that some of our groupmates would be developing solely in a Linux environment, while others would be using Windows with Laravel Herd. Laravel Herd is a local development environment designed specifically for Laravel applications, streamlining the setup and management of development environments by simplifying the process of running multiple services like PHP, MySQL, and more.

We also discussed the database structure and our plan to use seeders for developing dummy data. Our adviser advised us not to add more to the tech stack if the current components aren't functioning well or if the complexity is too high. Since Laravel is already a challenging framework, adding additional components could make development even more difficult.

October 25, 2024: Diagrams Checkup

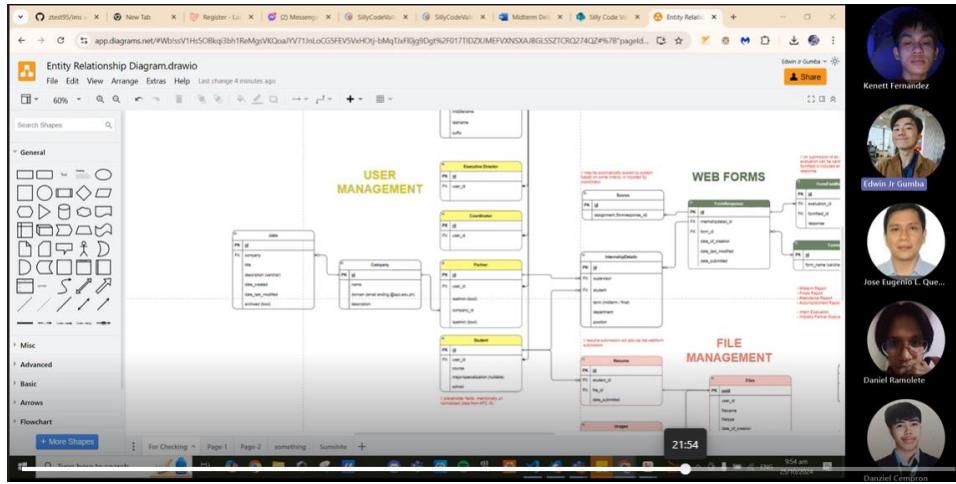


Figure 54 Pre-defense Diagram Check-up with sir Jose Quesada

We had a check-in regarding our ERD diagrams. Our consultant advised us to adhere to the Role-Based Access Control (RBAC) framework provided by Laravel Breeze. He also mentioned that we can utilize other repositories, even if they are not part of the SoCIT GitHub.

October 26, 2024: ERD Finilization

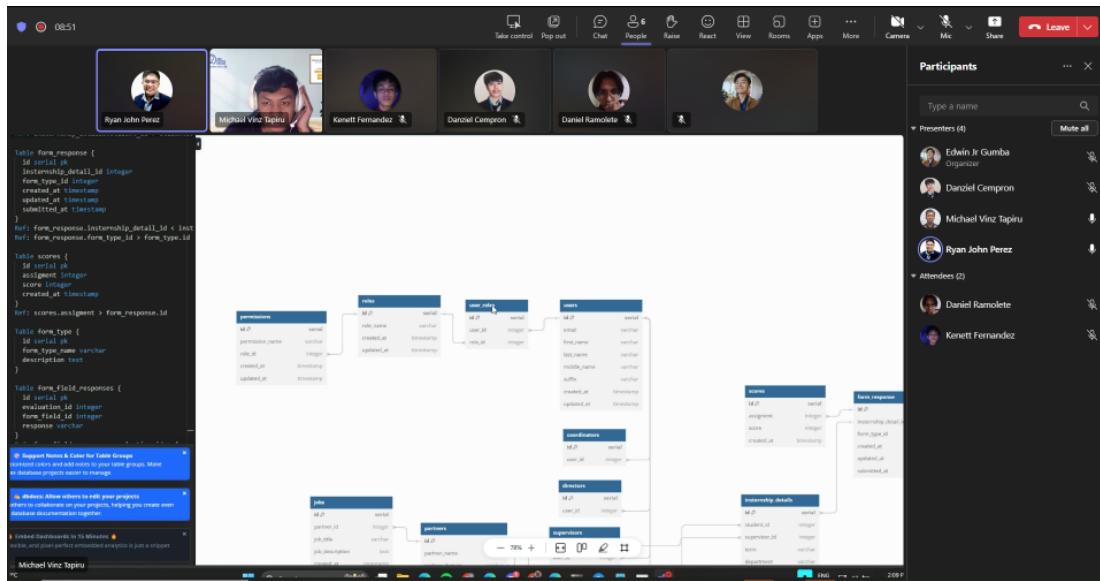


Figure 55 Pre-defense Checkup ERD

He explained that grouping multiple users into a large group would help distinguish APC members from external participants. A designation table is essential. The best approach to

designing an ERD is to merge multiple roles into one, then normalize the structure to reduce the number of tables.

We also inquired about how the OTE forms at APC were programmed, as this could guide us in implementing additional views to manage form data. Since our system is similar to the OTE system, we can adjust the ERD to align with its standards. He also suggested considering a third-party application for form tracking, or opting for JSON, which offers a faster data retrieval method.

In the OTE system, individual questions aren't stored per response; only the response ID is recorded. He reassured us that issues with the initial ERD are normal and can be resolved as development progresses.

Appendix F: Software Requirements Specification

To provide an in-depth explanation of our system, we will provide a Software Requirements Specification which pertains to the Functional Requirements, Non-functional Requirements, System Requirements, and other important information that are needed to prove the feasibility of our system.

1. Introduction

1.1 Purpose

The purpose of **WASIMS** in the context of **Software Requirements Analysis** is to systematically identify, document, and define the functional and non-functional requirements of the system to ensure that the software meets the needs of its stakeholders, including interns, internship coordinators, industry partners, and executive/program directors. The analysis focuses on aligning these requirements with the goals of improving the efficiency, reliability, and scalability of the internship management process.

1.2 Key Objectives

1. Ensure interns receive a real-time list of job openings from Industry Partners that highlight positions relevant to their specialization.
2. Eliminate email delivery issues with Industry Partners during evaluation season.

3. Eliminate the manual tracking of intern-submitted documents and reduce the number of manual updates done by the Internship Coordinator to two (2) steps.
4. Allow files to be stored in a centralized system for quick file access and retrieval procedures.
5. Ensure data availability for the Executive/Program Director upon the submission of the Intern's reports.

1.3 Intended Audiences and Reading Suggestions

This Software Requirements Specification (SRS) document is designed for the following audiences:

1. Project Team

- **Developers:** To understand the functional and technical requirements of the system to guide design and implementation.
 1. **Back-end Developer:** Focuses on server-side logic, database interactions, and API creation to handle data processing.
 2. **Front-end Developer:** To create the user interface (UI) to ensure the application is visually appealing and user-friendly. They implement designs using technologies working closely with the back-end developer to integrate APIs for smooth functionality.
 3. **UI/UX Designer:** They conduct user research and testing to refine designs and ensure the system meets user needs effectively.
 4. **DevOps:** Automate testing and deployments, monitor performance, and address issues in production environments.
- **System Analysts:** To analyze and validate requirements, ensuring alignment with project goals.
- **Quality Assurance/Testers:** To develop test cases and perform validation to ensure the system meets defined requirements.

- **Project Manager:** They are responsible for conducting meetings, grading people, and simply managing the team to fit the project deadline.

2. Stakeholders

- **Internship Coordinator:** To comprehend system functionalities such as managing assignments, monitoring evaluations, and generating reports.
- **Industry Partners:** To familiarize themselves with features like job postings, evaluations, and accessing intern profiles.
- **Executive/Program Directors:** To understand how the system provides analytics and reporting for strategic decision-making.

3. Clients/End Users

- **Interns:** To understand features like job matching, resume submissions, and evaluation tracking.

4. Regulatory and Compliance Teams

- To ensure the system adheres to any legal or organizational data management and security standards.

2. Overall Description

2.1 Product Perspective

The **Web-based Application for SMART Internship Management System (WASIMS)** is a centralized platform designed to replace traditional manual processes used by the Internship Department of Asia Pacific College. It integrates all the critical components of internship management into a single, user-friendly web application.

2.2 Product Features

The **Web-based Application for SMART Internship Management System (WASIMS)** is designed to streamline internship management by incorporating the following key features:

2.2.1. Authentication and Role Management

- **Secure Login with OTP:**

Users authenticate with a One-Time Password (OTP) sent via email for enhanced security.

- **Role-Based Access Control:**

- Internship Coordinators: Manage assignments, evaluations, and reports.
- Interns: View job postings, submit assignments, and track evaluations.
- Industry Partners: Post jobs and evaluate interns.
- Executive/Program Directors: Access analytics dashboards and reports.

2.2.2. Job Management

- **Job Posting:**

- Industry partners and coordinators can create and edit detailed job postings.
- Include job descriptions, requirements, and deadlines.

- **Skill-Based Job Matching:**

- Uses Natural Language Processing (NLP) to recommend job opportunities to interns based on their resumes and skills.

- **Job Archiving:**

- Archive outdated or irrelevant postings while keeping them accessible for reporting

2.2.3. Resume Management

- **Resume Uploads:**

- Interns can upload resumes in PDF format.

- **Filtering and Sorting:**

- Coordinators and industry partners can filter resumes based on skills, tags, or other criteria.

- **Job Title Suggestions:**

- NLP-based analysis provides interns with job title recommendations to improve resume alignment with industry expectations.

2.2.4. Assignment Management

- **Assignment Creation and Distribution:**
 - Coordinators can create assignments (e.g., reports, attendance logs) with predefined templates.
 - Automatically notify interns of new assignments.
- **Submission Tracking:**
 - Tracks submission status and deadlines in real-time.
- **Automated Notifications:**
 - Alerts interns about upcoming deadlines or overdue assignments.

2.2.5. Evaluation Management

- **Intern Evaluations by Industry Partners:**
 - Industry partners can evaluate interns based on predefined criteria like performance, communication, and teamwork.
- **Industry Partner Evaluations by Interns:**
 - Interns can provide feedback on their experiences with industry partners.
- **Dashboard for Evaluations:**
 - Coordinators can monitor evaluation progress and completion rates.
- **Weighted Grading:**
 - Automates the calculation of final grades based on evaluations and submitted assignments.

2.2.6. Reporting and Analytics

- **Custom Report Generation:**
 - Generates reports on intern submissions, evaluation results, job placements, and more.

- Provides filters for focused data retrieval (e.g., by date range, department, or performance metrics).
- **Export Options:**
 - Reports are downloadable in PDF and Excel formats.
- **Real-Time Analytics Dashboards:**
 - Visualizes data trends and KPIs for informed decision-making by coordinators and directors.

2.2.7. Notifications and Reminders

- **Automated Email Notifications:**
 - Sends reminders for pending evaluations, upcoming deadlines, or missing documents.
- **In-System Alerts:**
 - Real-time notifications within the platform to update users about critical events.

2.2.8. Dashboard System

- **Stakeholder-Specific Dashboards:**
 - Each user role has a personalized dashboard showing relevant information, such as submission statuses, evaluation progress, and analytics.

3. System Features

3.1 Manage Authentication:: REQ1 UC01-TC01

- **Description:** Allows secure login using OTP for role-based access control.
- **Features:**
 - Generate OTP and send via email.
 - Authenticate roles (Intern, Internship Coordinator, Industry Partner, Director).
- **Pre-conditions:**
 - User is registered in the system.
- **Post-conditions:**

- Successful login grants access based on the user's role.
- **Exceptions:**
 - Invalid OTP triggers the option to resend.
 - Unregistered accounts notify the user to contact the administrator.

3.2 Manage Resumes:: REQ2 UC02-TC02

- **Description:** Users can browse resumes uploaded by interns to evaluate their qualifications for internships or job openings.
- **Features:**
 - Interns upload resumes in PDF format.
 - NLP-powered job title suggestions based on resume content.
 - Filters for industry partners to sort resumes by skills and tags.
- **Pre-conditions:**
 - The actor must be logged into the system.
 - Intern must have a valid resume.
 - Resumes must be uploaded and available in the system
- **Post-conditions:**
 - Resumes are available for viewing by authorized users.
- **Exceptions:**
 - Invalid resume formats prompt the user to re-upload.

3.3 Manage Jobs:: REQ3 UC03-TC03

- **Description:** Industry Partners and Coordinator manage job postings.
- **Features:**
 - Job creation with detailed descriptions.
 - Skill-based matching for interns.
 - Archiving old or irrelevant job posts.
- **Pre-conditions:**
 - The user must be authenticated.
- **Post-conditions:**
 - Job posts are available for interns to browse.
- **Exceptions:**

- Missing job details display an error prompt.

3.4 Manage Employment::REQ4 UC04-TC04

- **Description:** Actors can approve their employment status on the platform
- **Features:**
 - View a list of pending employment approvals.
 - Approve or reject employment requests with a single click.
 - Automatically notify the Internship Coordinator and intern upon approval.
- **Pre-conditions:**
 - The actor must be logged in and have the necessary permission to manage employment.
 - The actor has either no job title or a job title that can be changed.
- **Post-conditions:**
 - The Actor has changed employer.
 - The Actor has approved intern.
 - The Actor has added Employer
- **Exceptions:**
 - Intern is already approved

3.5 Manage Assignments:: REQ5 UC05-TC05

- **Description:** Automates the assignment submission and tracking process.
- **Features:**
 - Coordinators create assignments with deadlines.
 - Interns submit assignments via the portal.
 - Automated notifications for overdue assignments.
- **Pre-conditions:**
 - Assignments are predefined and active.
- **Post-conditions:**
 - Submissions are logged and tracked.
- **Exceptions:**
 - Late submissions are flagged for review.

3.6 Manage Evaluations:: REQ6 UC06-TC06

- **Description:** Coordinates evaluation submissions and status tracking.
- **Features:**
 - Interns evaluate IPs based on predefined criteria.
 - IPs evaluate interns with weighted grading.
 - Coordinators monitor evaluation completion rates.
- **Pre-conditions:**
 - Evaluation criteria must exist in the database.
- **Post-conditions:**
 - Submitted evaluations are stored securely.
- **Exceptions:**
 - Invalid or incomplete evaluation forms return an error.

3.7 Manage Reports:: REQ7 UC07-TC07

- **Description:** Generates detailed reports for stakeholders.
- **Features:**
 - Filters for customizable report generation.
 - Downloadable formats (PDF, Excel).
 - Real-time dashboards with aggregated metrics.
- **Pre-conditions:**
 - Data exists for the selected period.
- **Post-conditions:**
 - Reports are ready for decision-making.
- **Exceptions:**
 - Insufficient data prompts the user to modify filters.

4. Other Nonfunctional Requirements

4.1 Performance Requirements

The system must meet the following performance criteria to ensure smooth and efficient operation:

- **Response Time:**

- User interactions (e.g., viewing resumes, job postings, or dashboards) must have a response time of ≤ 2 seconds under normal loads.
 - Bulk operations, such as generating reports or uploading multiple resumes, must be completed within ≤ 5 seconds.
- **Concurrent Users:**
 - The system must support 300 concurrent users without degradation in performance.
 - **Scalability:**
 - The architecture must allow for scalability to handle up to 200 users simultaneously by adding resources such as servers or database capacity.
 - **Data Processing:**
 - Real-time job recommendations and NLP-based analysis must process and return results in ≤ 3 seconds.

4.2 Safety Requirements

The safety requirements ensure the system operates reliably without compromising user or organizational data:

- **Data Backup and Recovery:**
 - The system must implement daily automated backups to prevent data loss due to unexpected failures.
 - Backup restoration must not exceed 30 minutes in the event of a system crash.
- **Error Handling:**
 - The system must detect and gracefully handle failures (e.g., invalid data, network disruptions) by providing clear error messages and options for retrying.
- **System Downtime:**
 - Scheduled maintenance periods must be communicated to users at least 24 hours in advance.
 - Unexpected downtime must not exceed 1 hour per month (99.9% uptime).

4.3 Security Requirements

The system must protect sensitive data and ensure secure access to all functionalities:

- **Authentication and Authorization:**
 - All users must log in with an OTP-based authentication process.
 - Role-based access control must restrict access to features and data based on user roles (e.g., intern, coordinator, industry partner, director).
- **Data Encryption:**
 - All data transmissions (e.g., resume uploads, evaluations) must use TLS (Transport Layer Security) to prevent interception.
 - Sensitive data (e.g., passwords, evaluations) must be encrypted in the database using AES-256 encryption.
- **Logging and Auditing:**
 - All user activities, such as login attempts, data modifications, and system errors, must be logged for auditing purposes.
 - Logs must be stored securely and accessible only by authorized personnel.
- **Vulnerability Mitigation:**
 - Regular security assessments, including penetration testing, must be conducted.
 - The system must protect against common web vulnerabilities (e.g., SQL injection, XSS, CSRF).