

Alumni Tracer and Management System with Data Analytics: Enhancing Alumni Engagement and Data Management for South East Asian Institute of Technology, Inc

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ABSTRACT

Alumni Tracer Systems track graduates' career paths and determine whether they correspond with their undergraduate degrees. These systems help institutions understand employment trends and how well their programs prepare students for the workforce. South East Asian Institute of Technology, Inc. (SEAIT) lacks a system to monitor its alumni, making it difficult to determine whether graduates pursued careers related to their studies. To address this, the SEAIT Alumni Tracer and Management System with Data Analytics was developed as a practical solution by integrating multiple features to improve alumni tracking and engagement. It was designed to aid the institution in keeping track of and strengthening its connection with its graduates. The system was created using the Agile methodology, with iterative sprints ensuring continuous improvements based on survey feedback and data-driven decision-making through data analytics.

The System Usability Scale (SUS) evaluation yielded a high average score of 86.67, confirming the system's usability and effectiveness. The system proved to be practical and viable in assisting SEAIT in monitoring its graduates and enhancing its academic programs by evaluating career alignment with fields of study and supporting data-driven improvements in education. Therefore, the implementation of the system was strongly recommended.

Keywords: Alumni Tracer, SEAIT Alumni, Data Analytics, Career Alignment, Agile Methodology.

INTRODUCTION

Alumni tracking systems have become essential tools for educational institutions to monitor graduates' career trajectories and assess the relevance of academic programs to real-world employment. Effective alumni tracking enables institutions to refine curricula, strengthen industry partnerships, and provide better career support for future students. However, many institutions still struggle with outdated tracking methods, leading to inefficiencies in data management and limited alumni engagement. Without a structured system, schools face difficulties in gathering accurate employment data and maintaining strong connections with their graduates.

According to [1] Institutions with well-established alumni tracking systems benefit from improved communication with their graduates, enabling them to assess career alignment and refine academic offerings. However, many schools lack such systems, which results in missed opportunities for collaboration and engagement. Similarly, [2] Highlighted the growing need for web-based alumni platforms that integrate data analytics to streamline engagement and enhance institutional support. In response to these challenges, the South East Asian Institute of Technology, Inc. (SEAIT) developed the SEAIT Alumni Tracer and Management System with Data Analytics. This web-based platform aims to automate data collection, improve access to

career opportunities, and provide insights into alumni career paths. By leveraging data analytics, SEAIT seeks to enhance its programs, strengthen its alumni network, and improve institutional decision-making.

REVIEW OF RELATED LITERATURE

Alumni Tracer Systems

Alumni tracer systems have played a crucial role in enabling educational institutions to monitor and engage with their graduates effectively. Studies have shown that implementing a Tracer Study Information System improves graduate tracking and provides valuable feedback for curriculum enhancements. [3]. Similarly, some institutions have developed Alumni Tracer Systems that assess the employment status of graduates and determine the relevance of their job roles to their academic degrees, helping schools make necessary educational adjustments. [4].

Furthermore, web-based Online Alumni Tracer Systems have been introduced in universities to systematically track graduates' employment, job alignment, and current locations, improving institutional decision-making. [5].

Alumni Management System

Alumni management systems serve as vital platforms for strengthening relationships between educational institutions and their graduates. These systems allow for centralized data storage, automated communication, and event management to increase alumni participation. [6]. Research indicates that institutions using Alumni Management Platforms benefit from improved alumni networking, career support, and fundraising efforts. [7]. Additionally, some universities have adopted Alumni Engagement Software, which incorporates community-building tools, databases, and integrated communication channels to foster lifelong engagement between alumni and their alma mater. [8].

Data Analytics in Alumni Tracking

The application of data analytics in alumni tracking has provided institutions with valuable insights into alumni career trends and engagement patterns. A study found that integrating Data Analytics in Alumni Systems helps universities track alumni progress, optimize outreach strategies, and enhance institutional development. [9].

Another research highlights how Alumni Data Reporting Tools can generate reports on alumni interactions, event attendance, and employment rates to improve decision-making. Moreover, advanced analytics in alumni management software enables colleges to monitor engagement metrics and participation trends, allowing them to tailor outreach efforts effectively. [10].

Data Analytics in Alumni Tracking

Maintaining alumni engagement is essential for universities aiming to build long-term relationships with their graduates. Studies suggest that Alumni Digital Engagement Platforms help bridge the gap between institutions and their alumni by providing an online space for networking, mentorship, and career development. [11].

Furthermore, Alumni Tracer Studies have been widely used to collect career data from graduates, allowing schools to assess the effectiveness of their academic programs and improve industry alignment. [12]. Some researchers have also emphasized the importance of Data Analytics in Alumni Networks, which uses data-driven insights to personalize engagement strategies and strengthen the university-alumni connection. [13].

METHODOLOGY

Agile Model

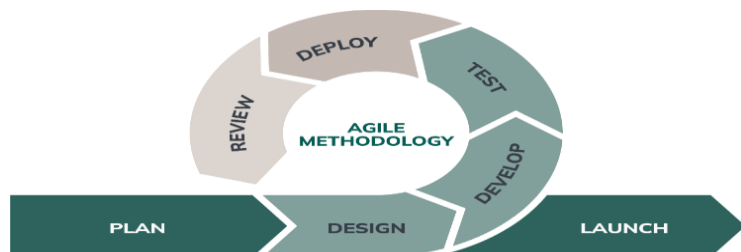


Fig. 1. Agile Model

The development of the SEAIT Alumni Tracer and Management System with Data Analytics follows the Agile Methodology, ensuring an iterative and flexible approach to building its five core modules. The project begins with requirement gathering, where SEAIT administrators and alumni define key functionalities and a Product Backlog is created to guide development. The system is built in multiple sprints, each focusing on a specific module to ensure continuous improvement based on feedback. In early sprints, the Alumni Feedback Collection Module was developed to efficiently gather alumni insights and support SEAIT's program improvements. Subsequent sprints integrate the Engagement and Updates Module, providing alumni with timely notifications on yearbooks and events. To foster career growth, the Job and Networking Platform is implemented, enabling alumni to access job opportunities and professional connections. Another sprint introduces Data Analytics and Reporting, allowing SEAIT to track alum engagement and system performance for data-driven decision-making. Finally, the Document Request System is developed to streamline transcript and diploma requests, reducing wait times and improving user experience. Throughout the process, continuous testing, stakeholder feedback, and sprint reviews ensure that the system evolves to meet user needs efficiently.

Alumni Tracer Survey Form

Department Code: _____ Control Code: _____

SEAIT Contact Person: _____
Mobile Phone No.: _____

Dear Graduate:

Good day! Please complete this GTS questionnaire as accurately and frankly as possible by filling in the blank or checking (✓) the box corresponding to your response. Your answer will be used for research purposes in order to assess graduate employability and eventually, improve course offerings of your Alma Mater and other universities/colleges in the Philippines. Your answers to this survey will be treated with strictest confidentiality.

SEAIT GRADUATE TRACER SURVEY (GTS)

A. GENERAL INFORMATION

- Name: _____
- Permanent Address: _____
- Email Address: _____
- Telephone/Contact Nos. _____
- Mobile Phone Number: _____
- Civil Status: ☐ Single ☐ Separated ☐ Widow or Widower
☐ Married ☐ Single Parent
- Sex: ☐ Male ☐ Female
- Date of Birth: _____/_____/_____
Month Day Year
- Province of Origin: ☐ South Cotabato ☐ Sarangani ☐ North Cotabato ☐ Maguindanao
☐ Sultan Kudarat ☐ Others (Please specify) _____
- Current Residence (Please indicate complete address): _____

B. EDUCATIONAL BACKGROUND

- Educational Attainment (Baccalaureate Degree only)

Degree(s) & Specialization	College or University	Year Graduated	Honor(s) or Award(s) Received
_____	_____	_____	_____
_____	_____	_____	_____

- Professional Skills (Please specify): _____

- Professional Examination(s) Passed

Name of Examination	Date Taken	Rating
_____	_____	_____
_____	_____	_____

Department Code: _____ Control Code: _____

High grades in the course or subject area(s) related to the course ☐ ☐
 Good grades in high school ☐ ☐
 Influence of parents or relatives ☐ ☐
 Peer influence ☐ ☐
 Inspired by a role model ☐ ☐
 Strong passion for the profession ☐ ☐
 Prospect for immediate employment ☐ ☐
 Status or prestige of the profession ☐ ☐
 Availability of course offering in chosen institution ☐ ☐
 Prospect of career advancement ☐ ☐
 Affordable for the family ☐ ☐
 Prospect of attractive compensation ☐ ☐
 Opportunity for employment abroad ☐ ☐
 No particular choice or no better idea ☐ ☐
 Others, please specify: _____

C. TRAINING(S) ADVANCE STUDIES ATTENDED AFTER COLLEGE

- Please list down all professional or work-related training program(s) including advance studies you have attended after college. You may use extra sheet if needed.

Title of Training or Advance Study	Duration and Credits Earned	Name of Training Institution/College/University
_____	_____	_____
_____	_____	_____
_____	_____	_____

- What made you pursue advance studies?
☐ For promotion
☐ For professional development
☐ Others, please specify: _____

D. EMPLOYMENT DATA

- Are you presently employed?
☐ Yes ☐ No ☐ Never Employed
 If NO or NEVER EMPLOYED, proceed to Question 18.
 If YES, proceed to Questions 19-23.
- Please state reason(s) why you are not yet employed. You may check (✓) more than one answer.
☐ Advance or further study ☐ No Job opportunity
☐ Family concern and decided not to find a job ☐ Did not look for a job
☐ Health-related reason(s) ☐ Other reason(s), please specify: _____
☐ Lack of work experience
- Present Employment Status
☐ Regular or Permanent ☐ Contractual
☐ Temporary ☐ Self-employed
☐ Casual ☐ Unemployed

If self-employed, what skills acquired in college were you able to apply in your work?

Department Code _____ Control Code _____

21. Name of Company or Organization including address _____

22. Place of work: ☐ Local _____ ☐ Abroad _____

23. Is this your *first job* after college? ☐ Yes ☐ No
If YES, proceed to Questions 24 and 25.
If NO, proceed to Questions 27 and 28.

24. What are your reason(s) for staying on the job? You may check (✓) more than one answer.
☐ Salaries and benefits
☐ Career challenge
☐ Related to special skill
☐ Related to course or program of study
☐ Proximity to residence
☐ Peer influence
☐ Family influence
☐ Other reason(s), please specify: _____
Please proceed to Question 25

25. Is your *first job* related to the course you took up in college?
☐ Yes ☐ No
If NO, proceed to Question 26.

26. What were your reasons for accepting the job? You may check (✓) more than one answer.
☐ Salaries and benefits
☐ Career challenge
☐ Related to special skills
☐ Proximity to residence
☐ Other reason(s), please specify: _____

27. What were your reasons for changing job? You may check (✓) more than one answer.
☐ Salaries and benefits
☐ Career challenge
☐ Related to special skills
☐ Proximity to residence
☐ Other reason(s), please specify: _____

28. How long did you stay in your *first job*?
☐ Less than a month ☐ 1 year to less than 2 years ☐ Others, please specify: _____
☐ 1 to 6 months ☐ 2 years to less than 3 years
☐ 7 to 11 months ☐ 3 years to less than 4 years

29. How did you find your *first job*?
☐ Response to an advertisement ☐ Arranged by school's job placement officer
☐ As walk-in applicant ☐ Family business
☐ Recommended by someone ☐ Job Fair or Public Employment Service Office (PESO)
☐ Information from friends ☐ Others, please specify: _____

30. How long did it take you to land your *first job*?
☐ Less than a month ☐ 1 year to less than 2 years ☐ Others, please specify: _____
☐ 1 to 6 months ☐ 2 years to less than 3 years
☐ 7 to 11 months ☐ 3 years to less than 4 years

31. Job Position:
First job: _____
Current or Present Job: _____

32. What is your *initial gross monthly earning* in your *first job* after college? _____

Department Code _____ Control Code _____

☐ Yes ☐ No

If NO, please proceed to Question 35.

34. If YES, what competencies learned in college did you find very useful in your *first job*? You may check (✓) more than one answer.
☐ Communication skills
☐ Human Relations skills
☐ Entrepreneurial skills
☐ Information Technology skills
☐ Problem-solving skills
☐ Critical Thinking skills
☐ Other reason(s), please specify: _____

35. List down suggestions to further improve your course curriculum:

36. What values did you learn from your Alma Mater that you have been practicing in your life and at work?
You may check (✓) more than one answer:
☐ Family spirit ☐ Honesty ☐ Love of work
☐ Presence ☐ Preference for the least favored ☐ Simplicity
☐ Respect for the integrity of creation ☐ Justice and Peace
Others, please specify: _____

37. Please cite the services you have rendered to the community after graduation from college (if any).

38. Being a SEAIT alumnus/alumna, what do you think is/are the best feature(s) of your Alma Mater. You may check (✓) more than one answer.
☐ Administration ☐ Faculty ☐ Instruction
☐ Library ☐ Laboratories ☐ Physical Plant and Facilities
☐ Community Extension ☐ Student Services (Student Affairs, Guidance, Clinic, Athletics, Canteen)
Others, please specify: _____

Thank you for taking time out to fill out this questionnaire. Please return this GTS to your institution. Being one of the alumni of South East Asian Institute of Technology (SEAIT), may we request you to list down the names of other SEAIT graduates (AY ____ to AY ____) from your institution including their addresses and contact numbers. Their participation will also be needed to make this study more meaningful and useful.

Name	Full Address	Contact Number

Research Instrument

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 7 8 9 10 Extremely likely

Fig. 2. System Usability Scale Evaluation Form

Figure 2 illustrates the System Usability Scale (SUS) Evaluation Form, which is used to assess the system's usability and functionality. This form consists of a 10-item questionnaire designed to collect user feedback on their experience, utilizing a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree."

CONCEPTUAL FRAMEWORK OF THE STUDY

Use Case Diagram Design

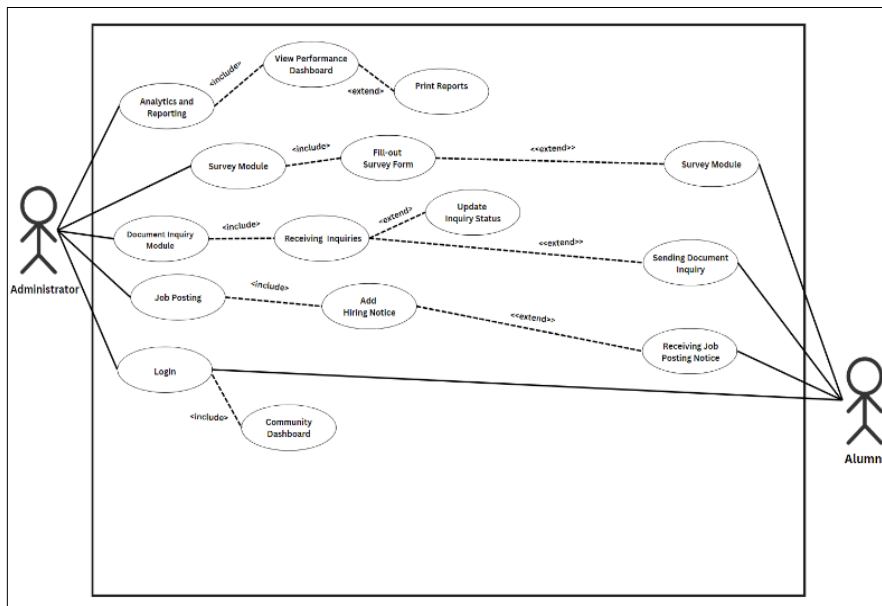


Fig. 3. Use case diagram of the Study.

The use case diagram for the SEAIT Alumni Tracer and Management System with Data Analytics illustrates the interaction between Administrators and Alumni, showcasing key system functionalities. The Administrator manages the system, including survey collection, job postings, document inquiries, analytics, and reporting. Alumni engage by filling out surveys, submitting document requests, and receiving job postings and updates. The Survey Module allows alumni to provide feedback, while administrators analyze responses, view performance dashboards, and print reports. The Document Inquiry Module enables alumni to request documents, which administrators process and update accordingly. The Job Posting Module allows administrators to add hiring notices, which alumni receive for career opportunities.

Additionally, both actors access the Community Dashboard for updates. The diagram uses “include” relationships to indicate required actions, such as survey completion and login access, and “extend” relationships for optional features like report printing and inquiry status updates. This framework ensures efficient alumni engagement, career development, and streamlined document processing, supporting SEAIT’s data-driven decision-making.

User Story

1. Alumni Feedback Collection Module

“As an alumnus, I want to provide feedback through an online survey so SEAIT can improve its programs by analyzing alumni experiences and making data-driven enhancements.”

2. Alumni Engagement and Updates Module

“As an alumnus, I want to receive timely updates on yearbooks and events to stay connected and engaged with the SEAIT community.”

3. Job and Networking Platform

“As an alumnus, I want access to job opportunities and professional networking within the SEAIT community so I can advance my career.”

4. Data Analytics and Reporting Module

“As a SEAIT administrator, I want to analyze alumni progress and engagement so I can make data-driven decisions to improve services and track system performance.”

5. Document Request System

“As an alumnus, I want to request important documents like transcripts and diplomas online so I can receive them faster without long wait times.”

Conceptual Framework

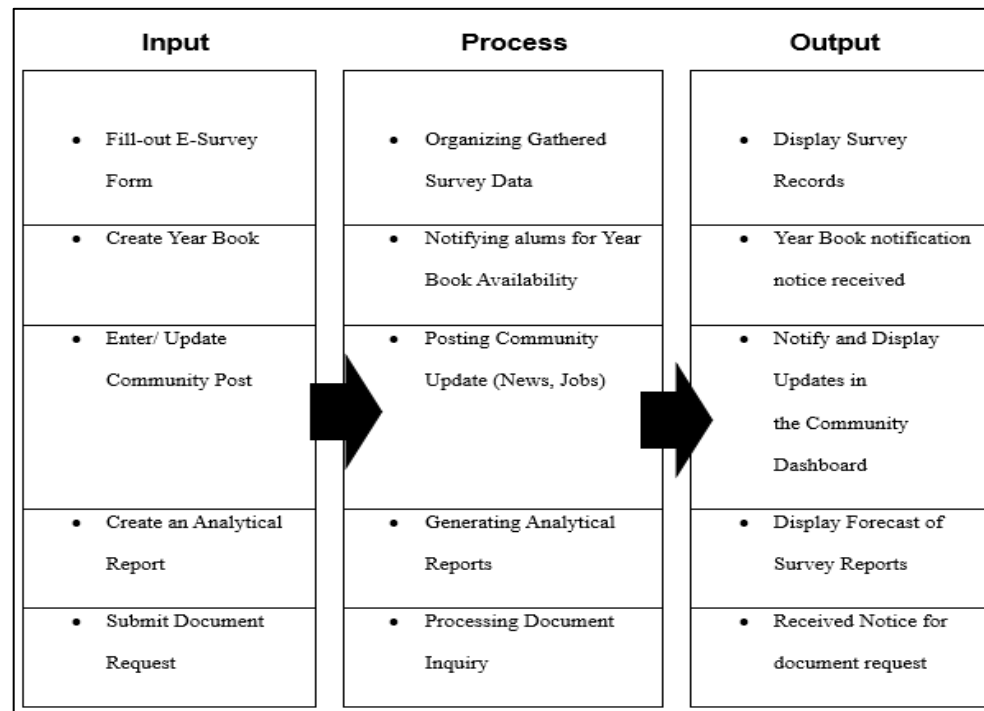



Fig. 4. Conceptual Framework of the Study

The conceptual framework of the SEAIT Alumni Tracer and Management System with Data Analytics follows an Input-Process-Output (IPO) Model, illustrating how data flows through the system to improve alumni engagement and institutional decision-making. The Input stage consists of data collection and user interactions, where alumni and administrators provide information through various activities such as filling out e-survey forms, creating yearbook entries, posting community updates, generating analytical reports, and submitting document requests. These inputs serve as the foundation for the system's operations. In the Process stage, the system organizes and processes the collected data to generate meaningful insights and responses. Survey responses are structured and stored for analysis, while alumni receive timely notifications regarding yearbook availability. Community updates, including job postings and news, are published to keep alumni informed. Additionally, the system generates analytical reports to track alumni progress and trends, supporting data-driven decision-making. Document requests are processed efficiently, ensuring that alumni receive necessary documents without long wait times. The Output stage provides actionable results and enhances user engagement. Alumni feedback is displayed in survey records for institutional analysis, while notifications ensure they stay updated on yearbook availability and community announcements. The system also delivers real-time updates on the community dashboard, allowing users to stay connected. Forecasted survey reports help SEAIT administrators identify trends and improve alumni-related services, while document request confirmations ensure a streamlined and transparent process. Overall, the framework enhances alumni relations by automating feedback collection, career updates, reporting, and document processing, ultimately leading to a more efficient and data-driven alumni management system.

System Design



Welcome, Admin!

- Back
- Dashboard
- Students**

Dashboard / Manage Survey / Batch 2020-2021

Batch 2020-2021

10 entries per page

Search...

School ID	Student Name	Course	Department Code	Control Code	Email	Actions
2021-02892	Angelo Salem	BS Business Administration Major in Marketing Management (BSBA)	CBM-607	BSBA-746952	angelosalem173.30@gmail.com	Delete Edit
2021-01959	Faith B. Masagnay	BS Information Technology (BSIT)	CET-717	BSIT-617295	faithmasagnay0214@gmail.com	Delete Edit

Showing 1 to 2 of 2 entries

Add New Student

School ID:

Full Name:


Course:

Department Code:

Control Code:

Email:

Submit



Welcome, Admin!

- Dashboard
- Manage Alumni**
- News Dashboard
- Job Posting
- Manage Documents
- User Account

Manage Alumni

Home / Manage Alumni

List of Alumni

Batch 2020-2021

Year Graduated: 2020

[Archive](#) [Delete](#)

Batch 2021-2022

Year Graduated: 2021

[Archive](#) [Delete](#)

Batch 2022-2023

Year Graduated: 2022

[Archive](#) [Delete](#)

Batch 2023-2024

Year Graduated: 2023

[Archive](#) [Delete](#)

Batch 2025

Year Graduated: 2025

[Archive](#) [Delete](#)

Add New Batch


Batch Name:

Year Graduated:

Add

Fig. 5. Manage Alumni Module

Figure 5 illustrates the Manage Alumni module, which allows administrators to add an alumni record.



Welcome, Admin!

- Dashboard
- Manage Alumni
- Job Posting**
- Manage Documents
- User Account

Manage Job Postings

Home / Manage Job Postings

List of Current Job Postings

10 entries per page

Search...

Company Name	Job Title	Description	Status	Actions
Tech Innovators Inc.	Software Developer	We are seeking a talented and motivated Software Developer to join our dynamic team. The role involves designing, coding, and maintaining software applications, collaborating with cross-functional teams, and contributing to innovative technology projects	Active	Delete View Edit
Green Horizons Environmental Solutions	Environmental Project Manager	Green Horizons is looking for an experienced Environmental Project Manager to lead and execute sustainability projects. The candidate will manage environmental compliance, oversee project timelines and budgets, and collaborate with stakeholders to implement green initiatives.	Active	Delete View Edit
Bright Minds Academy	Elementary School Teacher	Bright Minds Academy is hiring a passionate and dedicated Elementary School Teacher to inspire and educate young learners. The role involves developing lesson plans, fostering a positive classroom environment, and collaborating with parents and staff to support student success.	Active	Delete View Edit

Add New Job Posting

Company Name:

Upload Company Logo:

Job Location:

Job Title:

Job Description:

Qualifications/Requirements:



Fig. 6. Job Posting Module

Figure 6 illustrates the Job Posting Module, which allows the administrator to post job vacancies which also enabling alumni to view job updates posted by the administrator.

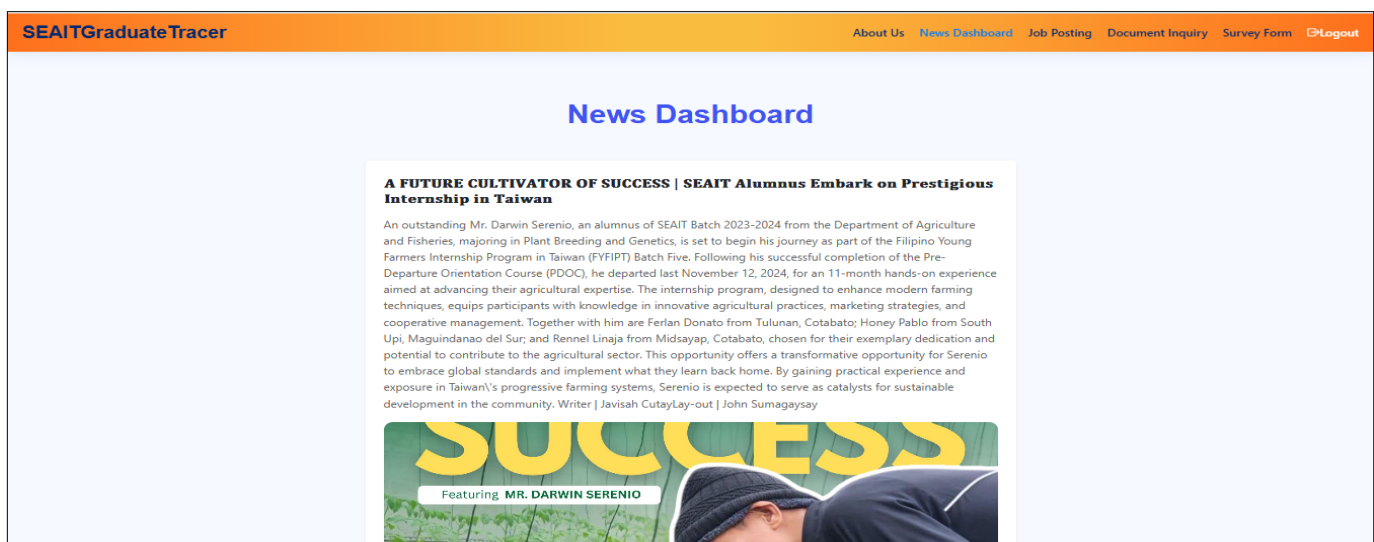
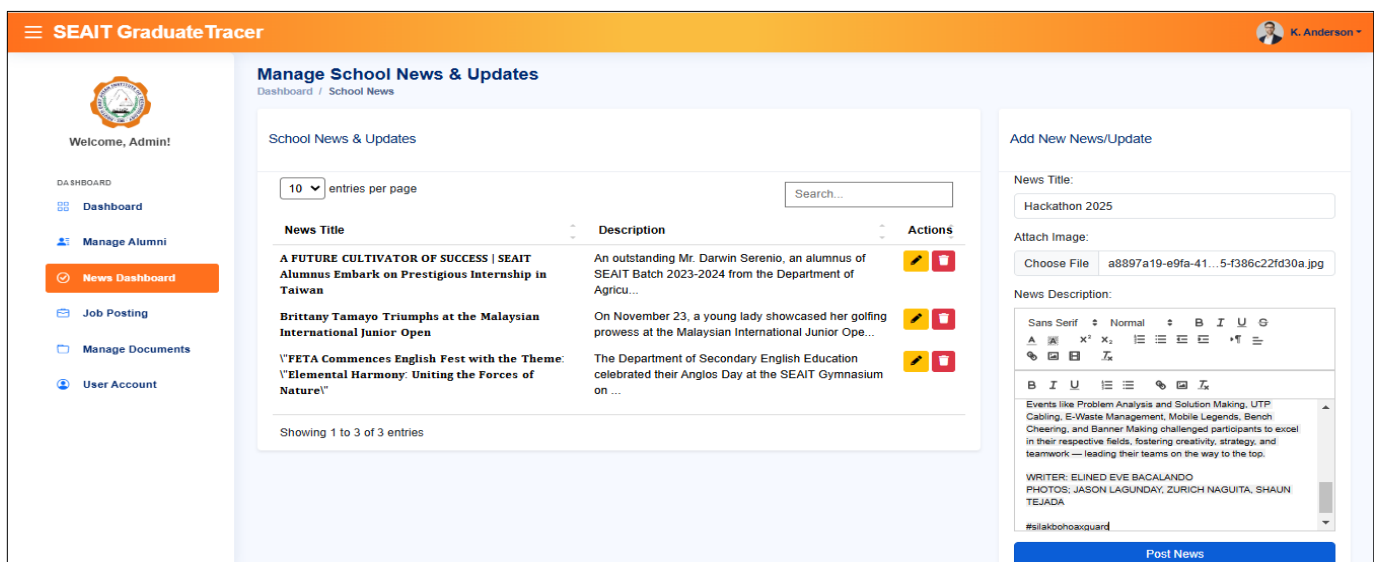
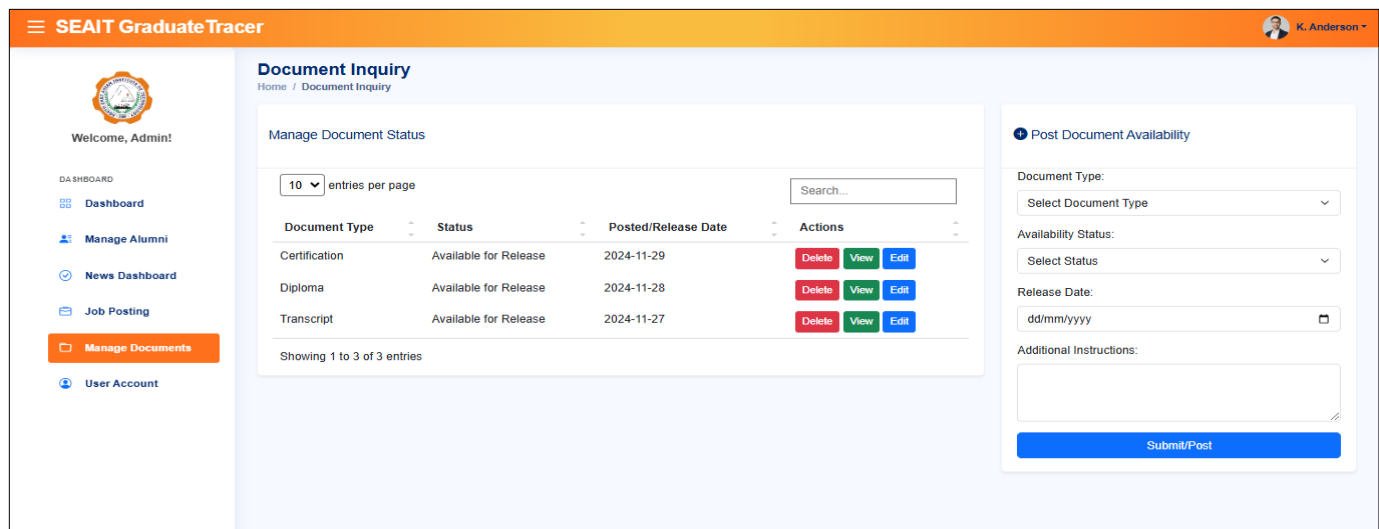


Fig. 7. News Portal Module

Figure 7 illustrates the academe news management page under the Manage School News and Updates page, where the admin can post announcements to inform alumni of updates and news.



SEAIT Graduate Tracer

Welcome, Admin!

DA SHBOARD

- Dashboard
- Manage Alumni
- News Dashboard
- Job Posting
- Manage Documents**
- User Account

Document Inquiry
Home / Document Inquiry

Manage Document Status

10 entries per page

Search...

Document Type	Status	Posted/Release Date	Actions
Certification	Available for Release	2024-11-29	Delete View Edit
Diploma	Available for Release	2024-11-28	Delete View Edit
Transcript	Available for Release	2024-11-27	Delete View Edit

Showing 1 to 3 of 3 entries

Post Document Availability

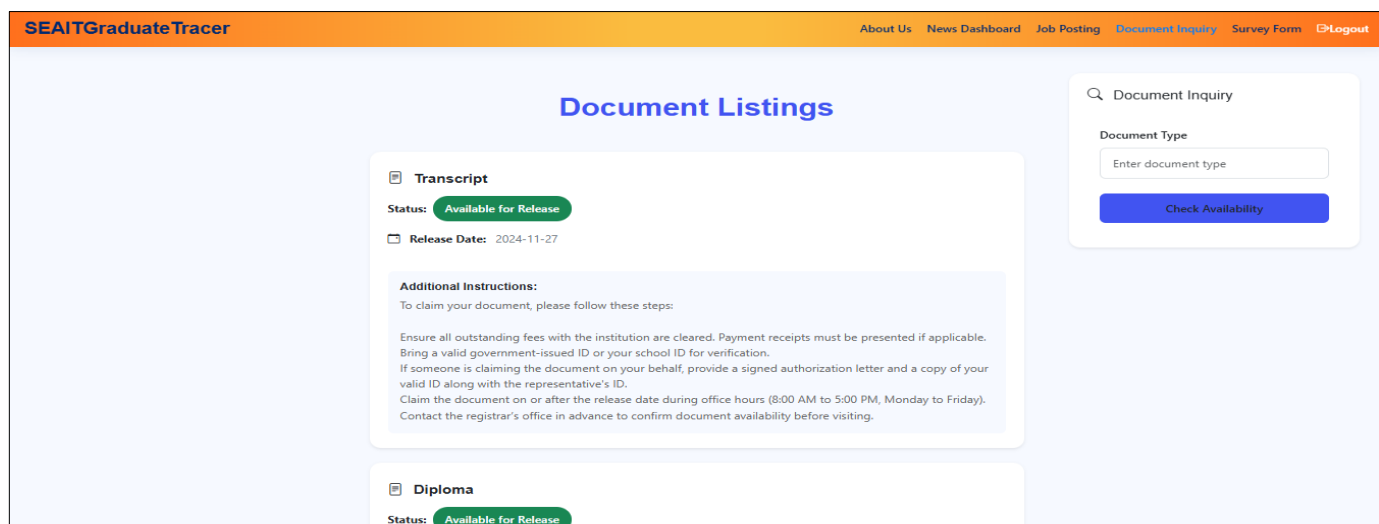
Document Type:
Select Document Type

Availability Status:
Select Status

Release Date:
dd/mm/yyyy

Additional Instructions:

Submit/Post



SEAIT Graduate Tracer

About Us News Dashboard Job Posting **Document Inquiry** Survey Form Logout

Document Listings

Transcript

Status: Available for Release

Release Date: 2024-11-27

Additional Instructions:
To claim your document, please follow these steps:

Ensure all outstanding fees with the institution are cleared. Payment receipts must be presented if applicable. Bring a valid government-issued ID or your school ID for verification. If someone is claiming the document on your behalf, provide a signed authorization letter and a copy of your valid ID along with the representative's ID. Claim the document on or after the release date during office hours (8:00 AM to 5:00 PM, Monday to Friday). Contact the registrar's office in advance to confirm document availability before visiting.

Diploma

Status: Available for Release

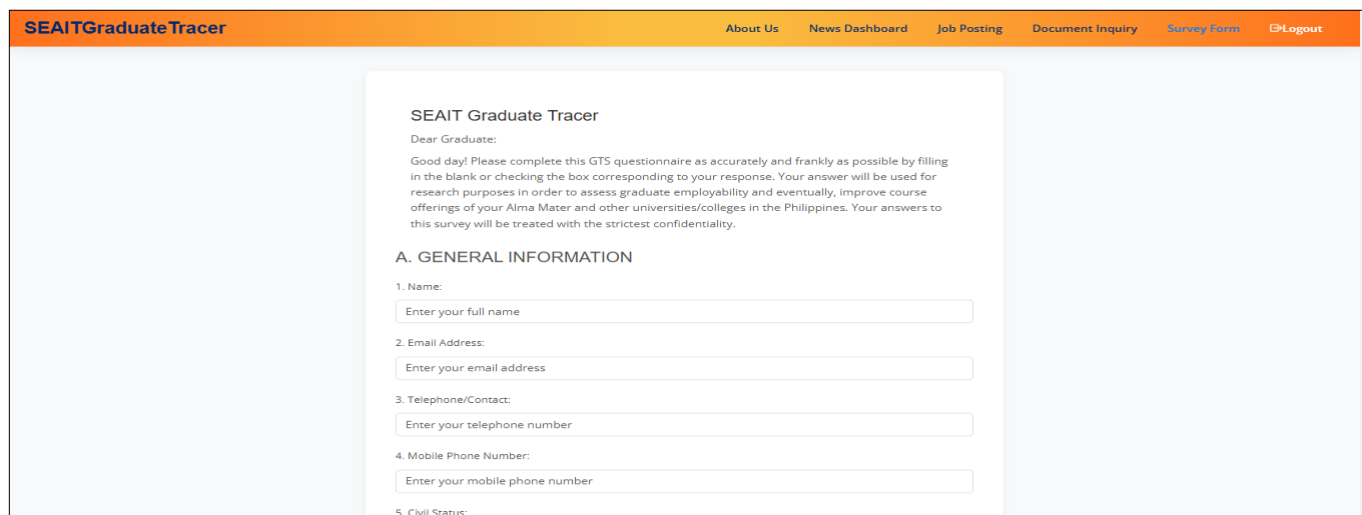
Document Inquiry

Document Type
Enter document type

Check Availability

Fig. 8. Document Inquiry Module

Figure 8 displays the Document Inquiry Transaction on the Document Inquiry page, where the admin can acknowledge alumni document requests and update the availability of the document requested.



SEAIT Graduate Tracer

About Us News Dashboard Job Posting Document Inquiry Survey Form Logout

SEAIT Graduate Tracer

Dear Graduate:

Good day! Please complete this GTS questionnaire as accurately and frankly as possible by filling in the blank or checking the box corresponding to your response. Your answer will be used for research purposes in order to assess graduate employability and eventually, improve course offerings of your Alma Mater and other universities/colleges in the Philippines. Your answers to this survey will be treated with the strictest confidentiality.

A. GENERAL INFORMATION

1. Name:
Enter your full name

2. Email Address:
Enter your email address

3. Telephone/Contact:
Enter your telephone number

4. Mobile Phone Number:
Enter your mobile phone number

5. Civil Status:

Fig. 9. Alumni Survey Module

Figure 9 shows the Alumni Survey page, which allows the alumni to take a survey. All survey data were collected as a form of alumni tracing.

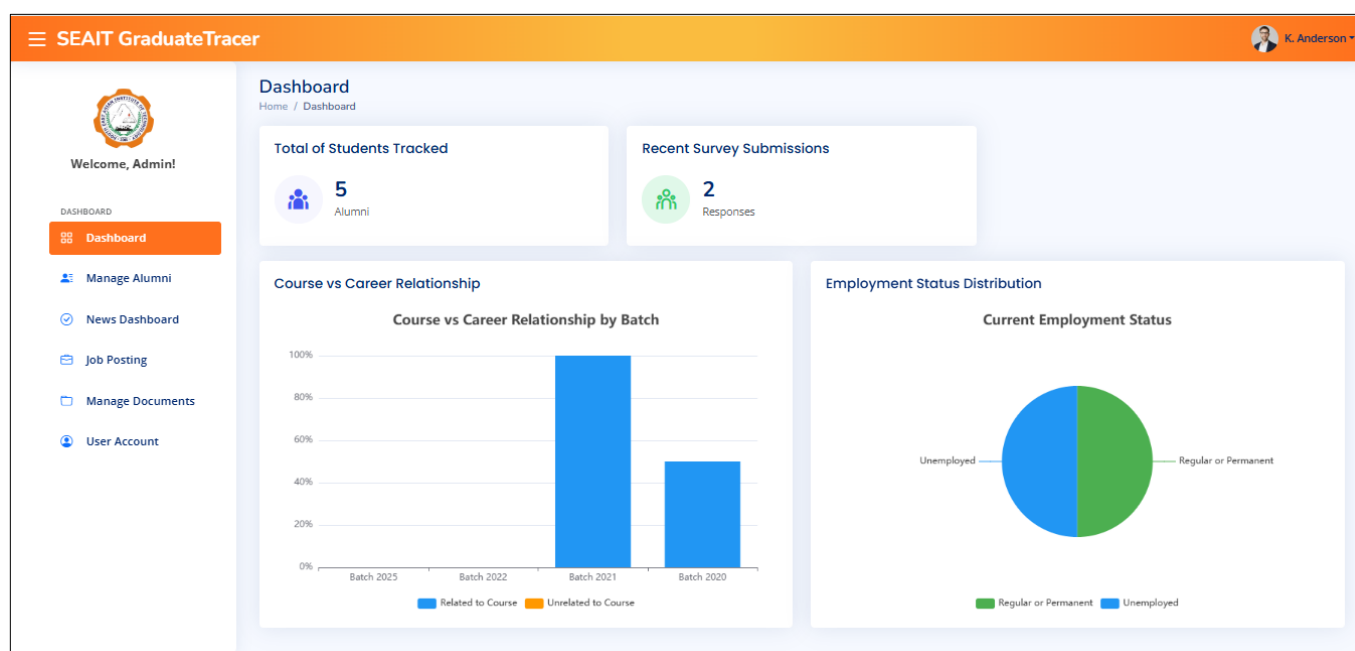


Fig. 10. Analytical Dashboard

Figure 10 shows the analytical dashboard of the system, which shows the statistical data collected from the alumni surveys.

RESULTS AND DISCUSSIONS

Development and Testing

The SEAIT Alumni Tracer and Management System with Data Analytics was developed to enhance alumni engagement and streamline key institutional processes at the South East Asian Institute of Technology, Inc. The system's core features included automated alumni feedback collection, real-time notifications for yearbook availability and events, job posting and career networking, data analytics for alumni tracking, and an efficient document request system. These functionalities were designed to strengthen SEAIT's connection with its alumni while providing valuable insights for institutional decision-making.

To evaluate the system's usability and efficiency, 15 college alumni who had already graduated participated in testing. The participants were selected from three graduating batches: 2022, 2023, and 2024, with five (5) alumni from each batch. Since the system was built in 2025, all participants had completed their degrees before its implementation, ensuring that their feedback reflected the real needs of SEAIT graduates.

The alumni evaluated various system modules, including feedback submission, job postings, document requests, and engagement features. To measure the system's usability, efficiency, and overall effectiveness in addressing alumni-related concerns, a 5-point Likert scale evaluation tool based on the System Usability Scale (SUS) was used.

System Evaluation

Fifteen alumni participants evaluated the SEAIT Alumni Tracer and Management System with Data Analytics using the System Usability Scale (SUS) to assess its usability, effectiveness, and efficiency. The final SUS scores were as follows: the 2022 batch achieved an average score of 94.00, the 2023 batch received 95.5, and the 2024 batch obtained 70.5.

The overall mean SUS score of 86.67 indicated that the SEAIT Alumni Tracer and Management System was an effective and well-accepted platform, providing essential services to graduates and supporting SEAIT's alumni engagement efforts.

Table 1. Raw Results of Respondents' Answers In 5-Point Likert Scale

A1 – Alumni 1 (5) **A2** – Alumni 2 (5) **A3** – Alumni 3(5)

Respondent No.	R1	R2	R3	R4	R5	R6
Respondents						
Question	A1.1	A1.2	A1.3	A1.4	A1.5	A2.1
1	5	5	5	5	5	5
2	1	1	1	1	1	1
3	5	5	5	5	5	5
4	1	2	4	1	1	1
5	3	5	5	5	5	5
6	1	1	2	1	1	1
7	4	5	5	5	5	5
8	1	1	1	1	1	1
9	4	5	5	5	5	5
10	2	1	3	1	1	1

Respondent No.	R13	R14	R15
Respondents			
Question	A3.3	A3.4	A3.5
1	5	3	4
2	4	5	3
3	5	4	4
4	4	3	4
5	5	5	5
6	1	4	2
7	3	5	5
8	2	1	2
9	3	3	4
10	3	3	3

Respondent No.	R7	R8	R9	R10	R11	R12
Respondents						
Question	A2.2	A2.3	A2.4	A2.5	A3.1	A3.2
1	5	5	4	5	3	4
2	1	1	1	1	1	3
3	5	5	5	5	5	5
4	1	1	2	1	3	2
5	5	5	4	5	5	5
6	1	1	2	1	1	2
7	5	5	4	5	5	4
8	1	1	1	1	1	1
9	5	5	4	5	3	4
10	1	1	4	1	5	2

Table 1 presents all the calculated odd and even scores, which were derived from the raw scores. The SUS equation used was as follows: Calculated Odd Score = $((q1 + q3 + q5 + q7 + q9) - 5)$ and Calculated Even Score = $(25 - (q2 + q4 + q6 + q8 + q10))$.

Table Ii. Calculated Results of Respondents

QUESTION	A1.1	A1.2	A1.3	A1.4	A1.5	A2.1
Odd Score	16	20	20	20	20	20
Even Score	19	19	14	20	20	20

QUESTION	A2.2	A2.3	A2.4	A2.5	A3.1	A3.2
Odd Score	20	20	16	20	16	17
Even Score	20	20	15	20	14	15

QUESTION	A3.3	A3.4	A3.5
Odd Score	16	15	17
Even Score	11	9	11

Table 2 presents each respondent's calculated score using the SUS equation for the total SUS score. The equation applied was: **SUS Score = (Calculated Odd Score + Calculated Even Score) \times 2.5** [14].

Respondents	SUS Score
A1.1	87.5
A1.2	97.5
A1.3	85
A1.4	100
A1.5	100
A2.1	100
A2.2	100
A2.3	100
A2.4	75.5
A2.5	100
A3.1	75
A3.2	80
A3.3	67.5
A3.4	60
A3.5	70
Average:	86.67

Table Iii. System Usability Scale Calculated Score And Acceptability Score

Table 3 shows the overall mean SUS score across all participants, reflecting that SEAIT Alumni Tracer with Data Analytics is an acceptable system with high usability. With an “Excellent” average of 86.67, the system is a valuable tool for the South East Asian Institute of Technology, Inc., supporting improved tracing of SEAIT graduates.

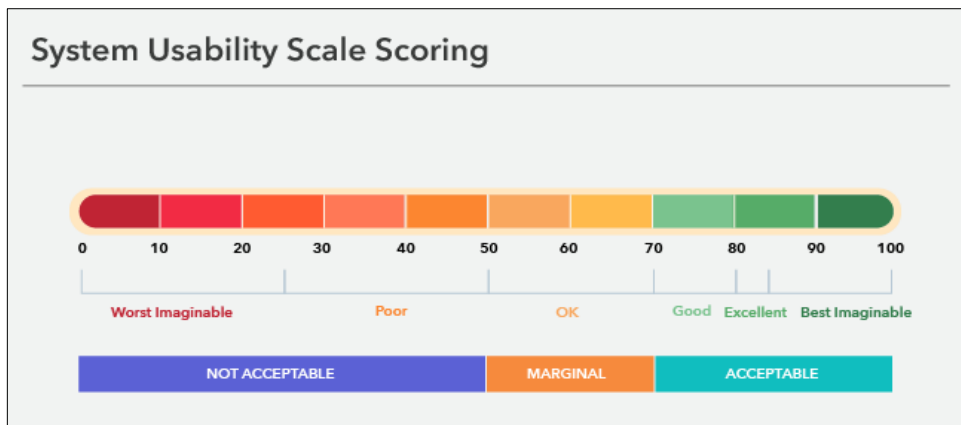


Fig. 11. System Usability Scale

Figure 11 presents the system's usability assessment based on the System Usability Scale (SUS). A SUS score above 68 is considered average, while scores below this threshold are classified as marginal or unacceptable. Scores ranging from 51 to 70 fall into the marginal category, whereas scores below 50 are deemed "Not Acceptable." In contrast, scores above 71 are categorized as "Acceptable," indicating a satisfactory user experience.

CONCLUSIONS

The SEAIT Alumni Tracer and Management System with Data Analytics received an overall mean SUS score of 86.67, indicating a high level of usability and acceptability among alumni users. The system effectively streamlined key alumni-related processes, including feedback collection, job postings, document requests, and data analytics, making it a valuable tool for enhancing alumni engagement and institutional decision-making. All system features were tested and confirmed to be fully functional, working seamlessly across survey management, career networking, notification services, and administrative reporting. Alumni participants found the system highly beneficial in simplifying processes, improving accessibility, and maintaining strong connections with SEAIT after graduation. Overall, the system successfully provided a user-friendly and efficient platform that met the needs of SEAIT graduates.

RECOMMENDATIONS

Enhancements to the SEAIT Alumni Tracer and Management System with Data Analytics are suggested to improve accessibility, security, and data accuracy. Developing a mobile application version would enable alumni to conveniently access the system via their mobile devices, enhancing usability and engagement. To strengthen account security and protect user data, the implementation of a two-factor authentication mechanism is advised. Additionally, integrating data analytics for survey responses, including data cleansing of alumni career paths, professions, and work alignment, is recommended to support SEAIT's academic performance evaluation and decision-making.

These enhancements are designed to strengthen the system's existing functionalities, ensuring it remains secure, efficient, and accessible to all SEAIT alumni while further improving alumni engagement and institutional services.

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