

# Yearbook Plus: Digital Keepsake and Tracer

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**Abstract**— Yearbook Plus: Digital Keepsake and Tracer is a web-based system developed to modernize the yearbook creation and alumni tracking process at Iloilo Science and Technology University Miagao Campus. It aimed to address the limitations of traditional printed yearbooks, such as delayed distribution, portability, and lack of interactivity. The system provides a centralized platform where graduates can access digital yearbook content and update their post-graduation information for tracer studies. It features a dual-interface design for administrators and alumni, secure role-based access, dynamic content management, and categorized report generation. The system was built using the HTML and CSS for front-end development, PHP for server-side scripting, and MySQL for database management, with Bootstrap for responsive UI design. Developed using the Modified Waterfall Method. Evaluated using the ISO/IEC 25010:2023 software quality model, the system received a "very good" rating from IT Experts and "excellent" rating from End Users. The platform successfully integrates institutional memory with real-time alumni data, supporting both historical preservation and strategic planning. Future work should focus on integrating a mobile application to allow alumni easier access to the digital yearbook content and to facilitate more timely updates to their tracer information

**Keywords**— digital yearbook, alumni tracer, web-based system, institutional memory, ISO/IEC 25010:2023

## I. INTRODUCTION

The transition from physical to digital media has transformed how academic institutions preserve memories and track their graduates. In the context of ISAT U Miagao, the reliance on printed yearbooks makes it difficult for alumni to maintain long-term connections. Furthermore, the manual process of "tracing" alumni for institutional reporting is labor-intensive and often yields low response rates.

"Yearbook Plus" addresses these challenges by providing a dual-purpose platform. First, it serves as a Digital Keepsake, allowing graduates to view profiles, galleries, and batch information. Second, it functions as a Tracer System, enabling the university to monitor the professional progress of its graduates through automated surveys and profile updates.

## II. OBJECTIVES OF THE STUDY

The main objective of this study is to develop and implement a digital yearbook system for Iloilo Science and Technology University Miagao Campus.

Specifically, this study aims to:

- design an online platform for digital yearbook and

alumni tracking;

- create an account for alumni and admin;
- create a database to store and manage alumni information;
- view and manage yearbook data and alumni information;
- generate reports by category; and
- evaluate the system based on ISO/IEC 25010:2023 software quality standard.

## III. CONCEPTUAL FRAMEWORK

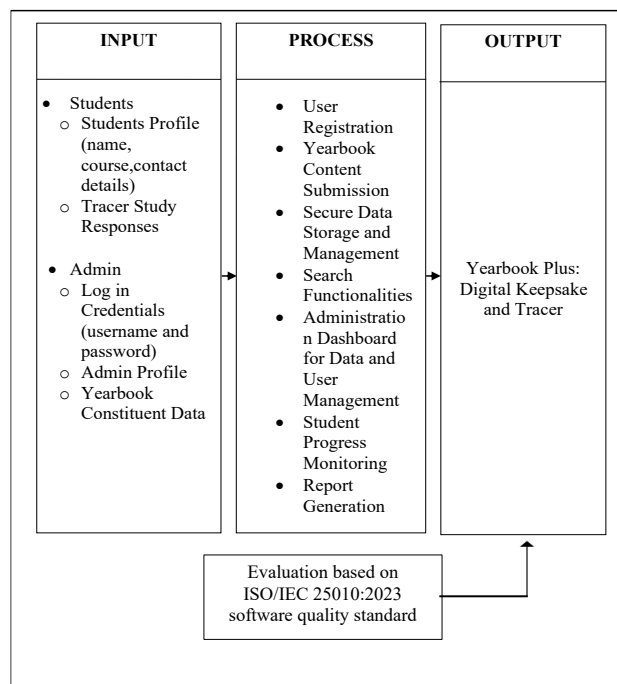


Fig. 1 Conceptual Framework of the Study

The input, process, and output operations of the system's data flow are included in the conceptual framework. In the input, the profile information of alumni is needed, specifically their names, courses, contact details, and tracer study responses. For the administrators, the required inputs are login credentials, admin profiles for roles and permissions, and yearbook constituent data, which is the master institutional information.

The process begins with validating credentials through User Registration and Secure Data Storage. After this, the system performs Yearbook Content Submission where alumni multimedia and messages are integrated into a digital format. For

the tracer component, the process includes Student Progress Monitoring, where the system tracks and analyzes responses to gather employment and education statistics.

Finally, the process involves Search Functionalities and Administration Dashboard for data management, allowing users to retrieve specific information, and concludes with Report Generation. With all this, the output is the Yearbook Plus: Digital Keepsake and Tracer, an accessible online platform designed for the Iloilo Science and Technology University Miagao Campus. Finally, the system was evaluated using ISO/IEC 25010:2023 software quality standard, to assess its effectiveness and ensure it met the standards.

### III. LITERATURE REVIEW

In the study of digital yearbooks, research by Anderson-Zorn and Long (2021) examined the transition from physical to digital formats, specifically focusing on the challenges of creating digital access while maintaining compliance with student privacy laws like FERPA [1]. This is relevant to the proposed system as it underscores the importance of secure data handling and privacy in a web-based repository. In the study of interactive digital platforms, Cobar et al. (2024) developed "Pages to Screen," which integrated chatboxes and galleries to improve alumni engagement [2]. This aligns with the "Yearbook Plus" objective of providing a dynamic, multimedia-rich alternative to static printed records to foster institutional belonging.

In the study of modern archival approaches, Manvar et al. (2025) explored a digital yearbook system using mobile applications to enhance accessibility and preservation [3]. Similar to the proposed system, this research highlights how digital media expand the capabilities of static formats through interactive elements. In the study of alumni tracing, Babaran (2025) focused on web-based platforms that enhance employability tracking and provide administrators with actionable insights for institutional development [4], directly supports the proposed system's integration of a tracer study module to monitor graduate pathways and career progression. Lastly, in the study of institutional engagement, Rubejes-Silva (2024) evaluated a digital alumni hub using the ISO/IEC 25010:2023 software quality model, finding that such systems significantly strengthen the bond between universities and their past students [5]. While the proposed system shares this evaluative framework and engagement goal, it specifically focuses on the graduates of ISAT U Miagao Campus to modernize their unique yearbook production and archival process. Integrating features from these studies, the "Yearbook Plus: Digital Keepsake and Tracer" uniquely enables digital collaboration and long-term data tracking, ensuring that the yearbook evolves from a static keepsake into a dynamic institutional resource.

### IV. METHODOLOGY

The Yearbook Plus: Digital Keepsake and Tracer project aimed to build an online platform for alumni, giving them a place to engage with digital yearbook content and offering tools for alumni to stay connected. This platform included a database that collected information on alumni, making it simple for users to

locate and look through yearbook entries. It also allowed users to submit responses to tracer initiatives. Based on the data collected, the system generated reports detailing alumni achievements and their level of engagement. It provided crucial information to users and kept track of how people interacted with the yearbook and tracer features. Furthermore, it ensured accurate storage and retrieval of data related to alumni. Essentially, the system served as a digital archive, managing a large dataset while ensuring the security of all records.

The Yearbook Plus: Digital Keepsake and Tracer system allowed alumni and school staff to easily add, view, edit, and search records. It made it easier and faster for administrators to handle yearbook information and conduct tracer studies. Only users with the correct username and password were able to access the Yearbook Plus: Digital Keepsake and Tracer system [6].

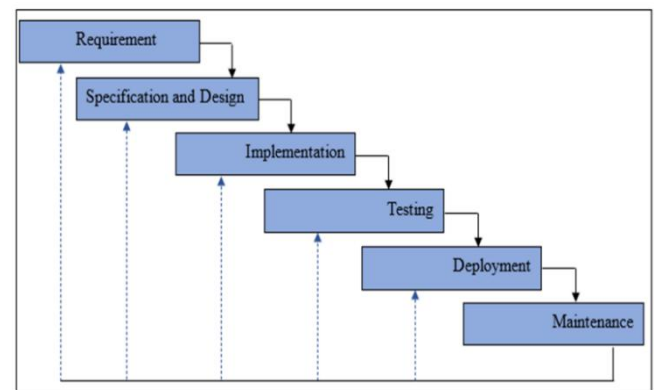


Fig. 2 Modified Waterfall Model

#### Requirement phase

the researchers conducted virtual interviews and surveys with alumni and administrators to gather system requirements. Insights from related literature were also considered, particularly those addressing digital preservation, alumni engagement, data privacy, and tracer systems. The requirements identified included secure user authentication, alumni profile management, tracer questionnaire submission, categorized report generation, searchable graduate records, and compliance with data privacy standards. All functional and non-functional requirements were documented to guide the next stage of development.

#### Specification and Design phase

the researchers translated the gathered requirements into system architecture and technical design. This phase involved the creation of activity diagrams, use case diagrams, and an entity relationship diagram to structure the database. The system architecture was designed to include two primary interfaces: the Alumni Portal and the Admin Dashboard. The researchers selected HTML and CSS for front-end development, PHP for server-side scripting, and MySQL for database management. The design phase also incorporated the Input-Process-Output framework, where alumni and admin data served as inputs, system processes included secure storage and report generation, and the output was a fully functional web-based digital yearbook



Coordinator, Tracer Officer). This process is important for security and accountability, only allowing authorized individuals to access sensitive data.

### C. Create a Database to Store and Manage Alumni Information.

The system's third goal is to establish a robust relational database (using MySQL) to securely store and manage alumni information.

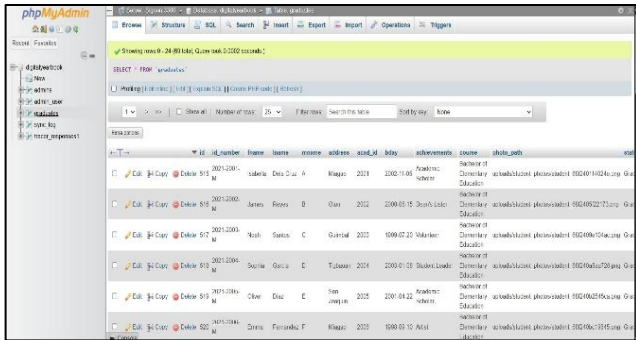


Figure 6. Database Structure for Graduates

The database is structured with precision into tables to organize two types of data: static yearbook content (photos, messages, class pages) and dynamic tracer data (employment status, contact information, professional accomplishments). This structuring allows for efficient storage and expedient access, and also preserves

institutional memory while providing current actionable alumni data for tracer studies.

### D. View and Manage Yearbook Data and Alumni Information

Administrator can manage alumni profiles, such as viewing and managing yearbook and alumni information.

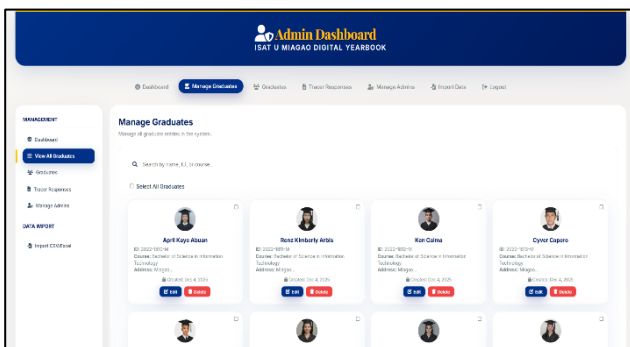


Figure 7. Manage Graduates Interface

To view and manage graduates, the administrator can use the Admin Dashboard to access digital yearbook entries, add to alumni profiles, and sort through uploaded photos and messages per batch. This management aspect makes sure that all content is current, correct, and well-classified. The system is also a secure environment that enhances accountability and data integrity.

### E. Generate Reports by Category.

The system's fourth goal is to generate reports by Category.

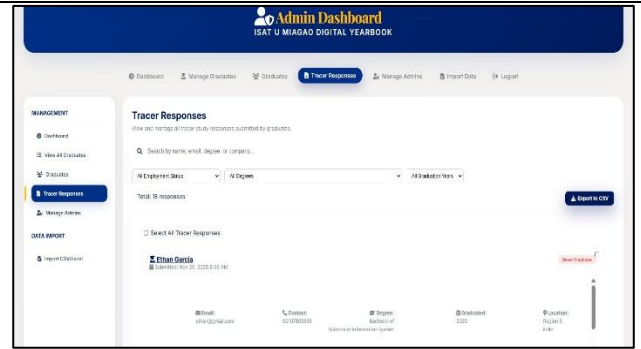


Figure 8. Data Import for Reporting

To generate reports, the administrator uses the reporting and analytics module, which meets the target of producing category-based reports. This allows administrators to generate systematic reports that generalize alumni statistics according to variables like employment, wage bracket, or the year of commencement. The reporting instrument provides convenient access to real-time information that aids the university in tracer study and institutional planning.

### F. Evaluate the System Using ISO/IEC 25010:2023 software quality standard.

The system is evaluated based on the ISO/IEC 25010:2023 software quality model. A total of five (5) IT Experts and ten (10) End Users were identified to evaluate the system. The results indicate high-quality acceptance across all evaluated attributes.

Table I  
Result for Evaluation of IT Experts based on ISO/IEC 25010:2023

| Characteristic            | Mean Score | Description |
|---------------------------|------------|-------------|
| Functional Sustainability | 4.40       | Very Good   |
| Performance Efficiency    | 4.47       | Very Good   |
| Compatibility             | 4.50       | Excellent   |
| Interaction Capability    | 4.43       | Very Good   |
| Reliability               | 4.43       | Very Good   |
| Security                  | 4.35       | Very Good   |
| Maintainability           | 4.40       | Very Good   |
| Flexibility               | 4.52       | Excellent   |
| Overall Results           | 4.44       | Very Good   |

**Note:**  $N = 5$  4.50 – 5.00 Excellent; 3.50 – 4.49 Very Good; 2.50 – 3.49 Good; 1.50 – 2.49 Fair; 1.00 – 1.49 Poor

Table I presents the evaluation results of the system, assessed by five (5) IT Experts using eight criteria: functional suitability, performance efficiency, compatibility, interaction capability, reliability, security, maintainability, and flexibility. The system received the following mean scores: functional suitability (M=4.40.), performance efficiency (M=4.47), compatibility (M=4.50), interaction capability (M=4.43), reliability (M=4.43), security (M=4.35), maintainability (M=4.40), and flexibility (M=4.52). Based on these results, the system was rated as “Very Good” with the overall result of 4.44. The findings indicate that

the system was acceptable based on the ISO/IEC 25010:2023 standards and was deemed high-quality and highly effective in fulfilling user objectives.

Table II  
Result for Evaluation of End Users based on ISO/IEC 25010:2023

| Characteristic                   | Mean | Description      |
|----------------------------------|------|------------------|
| <b>Functional Sustainability</b> | 4.97 | <b>Excellent</b> |
| <b>Compatibility</b>             | 4.90 | <b>Excellent</b> |
| <b>Interaction Capability</b>    | 4.88 | <b>Excellent</b> |
| <b>Reliability</b>               | 4.75 | <b>Excellent</b> |
| <b>Security</b>                  | 4.90 | <b>Excellent</b> |
| <b>Maintainability</b>           | 4.90 | <b>Excellent</b> |
| <b>Flexibility</b>               | 4.85 | <b>Excellent</b> |
| <b>Overall Result</b>            | 4.88 | <b>Excellent</b> |

**Note: N = 10** 4.50 – 5.00 Excellent; 3.50 – 4.49 Very Good; 2.50 – 3.49 Good; 1.50 – 2.49 Fair; 1.00 – 1.49 Poor

Table II presents the evaluation results of the system, assessed by ten (10) End Users using seven criteria: functional suitability, compatibility, interaction capability, reliability, security, maintainability, and flexibility. The system received the following mean scores: functional suitability (M=4.97), compatibility (M=4.90), interaction capability (M=4.88), reliability (M=4.75), security (M=4.90), maintainability (M=4.90), and flexibility (M=4.85). Based on these results, the system was rated as “Excellent” with the overall result of 4.88. The findings indicate that the system was acceptable based on the ISO/IEC 25010:2023 standards and was deemed high-quality and highly effective in fulfilling user objectives.

## VI. CONCLUSION

The 'Yearbook Plus: Digital Keepsake and Tracer' system proved to be a high-quality, reliable, and effective software solution. This was affirmed by its successful evaluation against the ISO/IEC 25010:2023 software quality standard. The system achieved an overall Grand Mean of 4.66, representing an 'Excellent' rating. This result is derived from the 'Very Good' technical assessment of IT Experts (4.44) and the 'Excellent' feedback from End Users (4.88), validating its technical soundness and practical usability in an institutional setting.

A deeper analysis of these scores reveals a distinct perception gap regarding system security; while End Users perceived the platform as highly secure (4.90), IT Experts provided a more critical rating (4.35). This suggests that while the user-facing security features are intuitive and effective, the technical infrastructure requires the ongoing maintenance and rigorous updates expected by IT professionals.

Functionally, the system met all specified requirements, offering a unified interface for administrators and alumni, ensuring secure, role-based access, and utilizing a stable and reliable database structure for effective data management. Crucially, the integrated Tracer Report Generation module was deemed a valuable component, providing the university with

"valuable data for planning and decision-making purposes" by converting raw alumni data into actionable reports. Overall, the system's performance and evaluation results confirm that it is fully prepared and recommended for institutional use.

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