Redesigning ADNU-HR Information System: Migrating Internal Processes Through a Customized Strategic Web Application.

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Research Method Project submitted to the faculty of the
Department of Computer Science
College of Computer Studies, Ateneo de Naga University
in partial fulfillment of the requirements for their respective
Bachelor of Science degrees

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Declaration of Original Work

We declare that the Senior Project entitled

Redesigning ADNU-HR Information System: Migrating Internal Processes Through a Customized Strategic Web Application.

which we submitted to the faculty of the

Department of Computer Science, Ateneo de Naga University

is our own work. To the best of our knowledge, it does not contain materials published or written by another person, except where due citation and acknowledgement is made in our senior project documentation. The contributions of other people whom we worked with to complete this senior project are explicitly cited and acknowledged in our senior project documentation.

We also declare that the intellectual content of this senior project is the product of our own work. We conceptualized, designed, encoded, and debugged the source code of the core programs in our senior project. The source code of third party APIs and library functions used in our program are explicitly cited and acknowledged in our senior project documentation. Also duly acknowledged are the assistance of others in minor details of editing and reproduction of the documentation.

In our honor, we declare that we did not pass off as our own the work done by another person. We are the only persons who encoded the source code of our software. We understand that we may get a failing mark if the source code of our program is in fact the work of another person.

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by

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ABSTRACT

One of the main challenges of the Ateneo De Naga University is the major limitation of the current Human Resource (HR) legacy system hindering efficient and streamlined HR processes. To resolve this is to propose a new redesign and implementation of a new Human Resources Information System (HRIS) at Ateneo de Naga University to address the limitations of the current legacy system. The study aims to centralize and standardize personal information management across departments, ensuring data integrity and efficiency in HR processes. The project involves a thorough analysis of the current HRIS, identifying unique cases different from other systems, designing a modernized application with standardized data elements, and executing a robust data migration strategy with the University's Integrated Information System (UIIS). The significance of this study lies in improving personnel information management, increasing efficiency in branch administration, and promoting centralized authority and standardized procedures. With this new HRIS, operational workflow is streamlined for HR personnel, employees, and administrators, enhancing transparency, and efficiency with HR records, and maintaining accurate, complete, and reliable data by reducing errors of inconsistencies and data redundancies ensuring integrity.

We dedicate this research work to all of humanity.

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Introduction

Human Resource Management (HRM) plays an important role in the success and efficiency of institutions. HRM is responsible for managing the most valuable asset of any organization—its people. The primary functions of HRM include recruitment, training, development, performance management, and employee relations. These functions are essential for building a productive and thriving workforce, which is crucial for achieving organizational goals and maintaining a competitive edge in the market [16][1].

HR professionals act as strategic partners to the management team, advising on managing human resources effectively to meet the institution's current and future needs. They are involved in developing strategies for talent acquisition, employee retention, and skill development, ensuring the workforce is aligned with the organization's objectives. Additionally, HRM plays a significant role in fostering a positive work environment, enhancing employee engagement, and building loyalty and commitment among employees [3][56].

A Human Resources Information System (HRIS) is a software solution designed to manage and automate core HR processes. HRIS serves as a centralized repository for employee data, facilitating efficient data management, payroll processing, benefits administration, time and attendance tracking, and performance management [22][6]. The implementation of an HRIS transforms HR from an administrative function to a strategic one, enabling HR professionals to focus on more value-added

activities such as strategic planning and decision-making [50].

By automating routine HR tasks, HRIS reduces the administrative burden on HR professionals, allowing them to allocate more time to strategic initiatives. This automation leads to increased efficiency, accuracy, and compliance with labor laws and regulations. Moreover, HRIS provides real-time data access and advanced analytics capabilities, which are essential for informed decision-making and strategic workforce planning [8][4].

HRIS also enhances the employee experience by offering self-service portals where employees can access and update their personal information, request time off, and manage their benefits. This not only improves employee satisfaction but also reduces the workload on HR staff. Furthermore, the integration of HRIS with other business systems ensures seamless data flow and consistency across the organization, contributing to overall operational efficiency [33][5].

1.1 Project Context

The Human Resource and Management Office (HRMO) at Ateneo de Naga University has been utilizing a system that has served the institution well over the years. This system, consisting of disparate databases and applications, has been instrumental in managing HR processes and maintaining employee records. However, as the university has grown, the limitations of this system have become more apparent. The separation of HRMO systems from the University Integrated Information Systems (UIIS) has led to challenges such as data duplication and the need for more streamlined processes. These issues can hinder the effectiveness of HR operations, making it difficult to manage the increasing volume of data and integrate with other university systems.

To address these challenges and support the university's continued growth, there is a need to develop and implement a centralized HRIS. This new system will ensure data consistency, accuracy, and accessibility, thereby streamlining HRMO processes and improving overall data management. The centralized HRIS will also facilitate better integration with other university systems, enhancing the institution's ability to manage HR data comprehensively and efficiently. The new HRIS will be designed to interact seamlessly with various stakeholders within the university. HRMO staff will be responsible for data entry, managing employee records, and processing HR-related tasks. University management will access HR data for decision-making and strategic planning. Other departments

requiring HR data for various administrative and operational purposes will also benefit from the new system.

The study will involve key stakeholders who will provide valuable insights and feedback throughout the project. HRMO staff, with their firsthand experience with the current system, will help identify areas for improvement and define requirements for the new HRIS. MIS office personnel, with their technical expertise, will be crucial in designing and implementing the new system. University management will ensure that the new HRIS aligns with the institution's overall goals and objectives. The new HRIS will handle various types of data to support HR operations. Input data will include employee records, attendance data, leave applications, and other HR-related information. Output data will consist of reports on employee information, attendance, leave status, and other HR metrics. These reports will be essential for decision-making, compliance, and strategic planning.

1.2 Purpose and Description

The main purpose of the project is to redesign, develop and implement a centralized Human Resource Information System (HRIS) to enhance data management, streamline HR processes, and support the university's growth. This initiative aims to address the limitations of the current system by providing a more integrated and efficient solution that meets the evolving needs of the institution.

The project will begin with an information-gathering and system analysis phase. This initial phase will involve collecting detailed feedback from HRMO staff, university management, and other stakeholders to understand the current system's limitations and requirements. Analyzing the existing system will help identify specific areas that need improvement and features that should be incorporated into the new HRIS. Following the analysis, the project will proceed with the design and development of the new HRIS. This includes creating modules for attendance monitoring, leave management, user authentication, and report generation.

The new system will be designed to accommodate the current requirements that the current system was unable to fully support. Additionally, the project will focus on redesigning HR workflows to make them more efficient and user-friendly. Integration with other university systems will be a key component, ensuring seamless data flow and accessibility across different departments. Finally, the project will involve migrating existing employee data to the new HRIS, ensuring that no valuable

information is lost in the transition.

The new HRIS will bring substantial benefits to various stakeholders within the university:

HRMO personnel. The new HRIS will significantly improve data integrity and streamline HR processes, allowing HRMO staff to manage employee information more effectively. This will reduce the time spent on manual data entry and corrections, enabling staff to focus on more strategic HR activities.

University Management. University management will benefit from enhanced reporting and analytics capabilities provided by the new HRIS. This will facilitate better decision-making and strategic planning by providing accurate and up-to-date HR data.

Employees. Employees will experience more efficient HR services, such as faster processing of leave applications and more accurate attendance tracking. The user-friendly interface of the new HRIS will also make it easier for employees to access and update their personal information.

Departments. Other departments that require HR data for various administrative and operational purposes will benefit from the improved data accessibility and integration with other university systems. This will ensure that all departments have access to consistent and accurate HR information.

The University. The university will benefit from a scalable system that supports future growth and integration needs. The new HRIS will facilitate easier access, management, and reporting of employee data, thereby enhancing overall operational effectiveness. By addressing the limitations of the current system, the new HRIS will provide a robust foundation for the university's HR operations, supporting its mission and strategic goals.

1.3 Objectives

The main objective of the study is to redesign and implement the core Human Resource Information System (HRIS) functionalities for the Ateneo de Naga University. In order to achieve the main objective, the following objectives must be accomplished:

1. Collect and document data requirements to ensure they align with stakeholders' needs and project goals.
2. Create design specifications for each system component and module, including data models and interfaces.
3. Review and confirm the proposed system design with stakeholders to ensure it meets project requirements.
4. Develop and implement the functionality of modules based on the defined design and requirements.
5. Gather feedback from stakeholders on the functionality and usability of all modules.
6. Review the completed work from each iteration and demonstrate the new features to stakeholders.
7. Assess the system's functionality, performance, and user experience.
8. Ensure the system meets the needs and expectations of the end-users.
9. Conclude the testing phase and prepare test reports summarizing testing activities and results.
10. Prepare the system and infrastructure for deployment to ensure a smooth transition to production.
11. Deploy the system to the production environment.
12. Develop comprehensive training materials and documentation to support end-user training.
13. Finalize detailed technical specifications documenting the system architecture, design, and implementation details.

1.4 Scope and Limitation

The project is focused on redesigning the Human Resource Information System (HRIS) to address the limitations of the current system and to meet the evolving needs of the university. The project

will primarily concentrate on the core HR processes, ensuring that the new system is robust, user-friendly, and capable of handling the university's current and future requirements. The project will begin with gathering information and analyzing the existing system to identify its limitations and areas for improvement. This analysis will inform the design and development of the new HRIS, which will include several key modules.

The modules to be developed include:

User Authentication and Authorization Module. This module will provide secure access mechanisms to ensure that only authenticated users have appropriate permissions.

User Privileges. This module will offer administrative tools for managing users, base tables, and other system settings.

HRIS Modules. These modules will encompass all the services used by the HRMO to manage HR processes effectively.

TIMESYS: Attendance Monitoring (Staff) Modules. These modules will handle the monitoring and recording of staff attendance.

FACSYS: Attendance Monitoring (Faculty) Modules. These modules will manage the monitoring and recording of faculty attendance.

LEAVESYS: Leave Management. This module will manage employees' leave applications and processing.

Report Generation. This module will allow users to set parameters for reports, generate report outputs in various formats such as CSV, Excel, or PDF, and export reports for further analysis and record-keeping.

Given the wide scope of this project, the focus will be on the core HR processes, with room for scalability to accommodate additional features for the employee view in the future. The project does not include the development of new hardware infrastructure, as it will utilize existing university resources. Additionally, modules unrelated to HR processes, such as financial management or student information systems, are not within the scope of this project.

By concentrating on these core areas, the project aims to create a centralized HRIS that enhances data management, streamlines HR processes, and supports the university's growth. The new system will provide a scalable and integrated solution that addresses the limitations of the current system, ultimately benefiting all stakeholders involved.

Chapter 2

Review of Related Systems and Literature

This chapter provides the relevant literature that is essential for developing a better understanding of the problem of the study and the significance of its resolutions. Additionally, existing features and/or systems that can assist in resolving this issue are identified. Researchers found it beneficial to evaluate the gaps in existing systems as it guides in determining the features that a system should have to successfully solve the problem of the study.

2.1 Review of Related Literature

Human Resource Information Systems (HRIS) has undergone significant transformation, driven by technological advancements and evolving organizational needs. This literature review provides a foundational understanding of HRIS and its historical progression over time from basic HR processes to complex systems that support a wide range of HR-related tasks. It emphasizes how essential HRIS is to improving corporate effectiveness, simplifying HR procedures, and enabling data-driven decision-making. It also includes the current trends as well as how the progression of technology influences the future of HRM systems.

2.1.1 Definition and Scope

Technological developments and the change of requirements of organizations on the effective management of their human resources have a significant impact on the evolution of the Human Resources Information System. The primary functions of the early HRIS are focused on payroll processing and employee record-keeping [30]. As time passes, these systems have grown into complex platforms which now include several HR duties such as hiring, training, performance management, and analytics [31].

The historical development of HRIS appears to date back more than six decades, where the emergence of mainframe systems that support the basic HR functions such as payroll processing and government reporting [30]. Organizations' strategies in managing their human capital have begun to change as these early technologies paved the way for the integration of HR procedures onto digital platforms. As technology advances, the HR departments adopt advanced HRIS, which effectively improves data management, reporting, and decision-making capabilities [31]. The way that HRIS has evolved indicates a change towards the idea of utilizing technology to improve organization efficiency of organizations and streamline HR processes.

The HRIS's main components and functionality include a wide range of functionalities that are designed to support various aspects of HR administration. These often include modules for managing employee information management, payroll processing, benefits administration, recruitment, training, and performance evaluation [41]. The core of an HRIS is a centralized repository, which offers a secure and readily available platform for handling and storing personnel data [2]. Furthermore, analytics tools are frequently integrated into modern HRIS systems, allowing businesses to get knowledge from HR data and decide on workforce planning and development [10].

2.1.2 Importance of HRIS in Organizations

Human Resources Information Systems (HRIS) are valuable in organizations, offering numerous advantages to organizations and improving HR operations. HR operations are made more efficient by the use of HRIS, which play an essential part in simplifying everything from performance management to recruitment. HR departments may function more effectively and efficiently using HRIS by centralizing employee data and automating repetitive processes [47]. Since it enables HR

professionals to concentrate on strategic initiatives rather than administrative responsibilities, the integration of HRIS has become essential to the success of organizations, thereby improving the overall operational efficiency [9].

In addition, the advantages of using HR Information Systems for organizations go beyond operational enhancements and extend to strategic advantages. By offering real-time insights into workforce dynamics and performance measures, HRIS enables data-driven decision-making [28]. Organizations can determine skill shortages, streamline their staff management plans, and match HR activities with corporate goals by utilizing HR's information. Furthermore, HRIS improves regulatory compliance and fosters HR process transparency, which in turn cultivates an organizational culture of responsibility and fairness [7].

It has been demonstrated that implementing HR systems can substantially improve an organization's efficiency. HRIS simplifies operations and lessens the administrative burden on HR professionals by centralizing HR data and automating manual procedures [53]. By integrating self-service substitutes for activities like leave management and performance assessments, this transition towards digital HR administration improves not just the accessibility and accuracy of data but also the entire experience of employees [23]. Thus, implementing HRIS is a strategic investment that helps businesses maximize their HRM procedures and achieve superior results in terms of hiring, developing, and managing people [54].

2.1.3 HR in Educational Institutions

The challenges associated with human resources in educational institutions are complex and demand considerable planning in order to guarantee efficient people management. Recruitment, retention, professional development, and performance evaluation of professors and staff are issues that educational institutions frequently face [24]. These challenges may have an influence on the overall quality of education provided and the efficiency of the institution. Resolving these HR issues is essential to creating an effective environment for learning and encouraging continuous growth in educational institutions.

Same as other institutions, HRIS improves the HR operations and decision-making procedures in educational institutions. Educational institutions can improve data accuracy, expedite administrative

procedures, and support strategic workforce planning through the use of HRIS [19]. With the use of HRIS, educational institutions may automate repetitive HR tasks, consolidate employees' data, and provide insightful data that helps with well-informed decision-making. The implementation of HRIS in educational environments enhances organizational performance overall, regulatory compliance, and operational efficiency.

The implementation of HRIS in educational institutions is an important initiative meant to improve organizational performance and modernize HR procedures. Technology is integrated to improve data management, expedite HR procedures, and increase communication within the organization when HRIS is used in educational settings [58]. Educational institutions may analyze employee performance, allocate resources more efficiently, and match HR initiatives with academic objectives by utilizing HRIS. Better teaching and learning results, more staff satisfaction, and increased operational efficiency can all result from the effective adoption of HRIS in educational institutions.

2.1.4 Challenges in HRIS Implementation and Management

Organizations have many challenges in the implementation and management of Human Resources Information Systems (HRIS) when they adopt and maintain these systems. Employee resistance, unreasonable requirements, change management, the requirement for training, and setting up the proper IT infrastructure are common problems encountered during HRIS implementation [27]. These challenges must be carefully planned for and handled with strategic management in order to prevent HRIS from being implemented improperly. Research has indicated that resolving these issues is crucial to guaranteeing that HRIS is used in businesses in an efficient manner [53].

For businesses looking to streamline their HR procedures, maintenance and upgrade challenges in HRIS implementation and management present further challenges. Maintaining the operation and relevance of HRIS systems requires regular maintenance and timely upgrades [55]. Organizations frequently struggle with issues like user training, technical support, data quality maintenance, and system upgrades. To optimize the advantages of HRIS and guarantee its continuous efficacy in assisting HR activities, it is important to overcome this maintenance and upgrade barriers [43].

2.1.5 Trends in Human Resources Information Systems

Technological advancements have had an enormous impact on HR information systems, affecting how businesses manage their human resources and streamline HR procedures. HRIS is evolving into a more complex system with the integration of Artificial Intelligence, Machine Learning, and Deep Analytics, allowing predictive analytics for workforce planning, personalized learning and development plans, and improved recruitment tactics [46]. These developments in technology are triggering a change in HR practices toward ones that are more data-driven and flexible, enabling firms to quickly respond to changing business requirements and make well-informed decisions.

Enhancing user experience, using data analytics for decision-making, and integrating AI-driven solutions for automation and efficiency are the three main objectives of recent advances in Human Resources Information Systems (HRIS) [17]. Cloud-based HRIS systems are becoming more and more popular among organizations because they provide real-time access to HR data, scalability, and flexibility. Furthermore, the incorporation of mobile HRIS applications facilitates employees' access to HR services at any time and location, hence fostering increased productivity and engagement. These patterns show a move toward more adaptable, user-focused HR procedures that make use of technology to boost business performance.

2.1.6 Redesign Considerations

One of the organizations that need to consider redesigning HRIS is to guarantee a smooth transition. The common reason for redesigning HRIS is because of the need for better operational efficiency, improved data accuracy, and to accommodate business requirements [34]. By HRIS redesign, organizations can improve employee experiences, streamline workforce management procedures, and match HR operations with strategic goals. By identifying the reasons behind the redesign, organizations can establish clear goals and objectives for the HRIS transformation.

The important aspects of HRIS redesign include assessing the limitations of the current system, determining the redesign's objectives, including major stakeholders, guaranteeing data security and compliance, and organizing change management [45]. Important factors to take into account include comprehending the organization's particular HR requirements, assessing the new system's scalability and adaptability, and coordinating the HRIS redesign with organizational objectives. Furthermore,

a successful redesign of HRIS involves carefully choosing the technology, guaranteeing seamless integration with existing systems, and offering users appropriate training and support [26].

Legacy HRIS has to be redesigned in order to take advantage of new features and capabilities according to the influence of the advancement of technology. Organizations are modernizing their HRIS to provide predictive analytics, customized HR services, and task automation via the amalgamation of Artificial Intelligence, Machine Learning, and data analytics [11]. The demand for a complete revamp of HRIS is being driven by technological improvements, which aim to increase operational efficiency, streamline labor management, and facilitate better decision-making. Organizations may foster innovation in HR processes, remain competitive, and adjust to shifting business environments by adopting new technology.

2.1.7 Migration Initiatives

According to Bakar, H. et.al., migration in the context of an information system is defined as the systematic transfer of data, applications, and processes from old systems to new platforms in order to improve operational effectiveness and meet changing business requirements [15]. By reducing the risks connected with outdated technology, enhancing system performance, and guaranteeing compatibility with existing IT infrastructure, migration enables businesses to take advantage of cutting-edge innovations and maintain their edge in today's digital economy.

Re-engineering, re-platforming, and re-hosting are a few common migration techniques that are tailored to the particular requirements of the company and the legacy system being migrated. [13]. Re-platforming is the process of moving programs to a new platform without changing their essential functionality, whereas re-engineering is rewriting the system architecture to adjust to current requirements. Re-hosting, on the other hand, entails transferring the system to a different setting while preserving its present state. With the use of these techniques, companies may select the best course of action depending on variables like system complexity, financial resources, and time frame.

In this migration process, it is important to consider having a meticulously planned migration strategy. In this way, it guarantees a seamless and effective migration from outdated systems to modern ones. Detailed planning of migration operations, determination of migration goals and objectives, risk assessment, stakeholder participation, and a complete assessment and analysis of

the current system are all components of a well-planned migration strategy [14]. Organizations may minimize operational disturbances, manage possible risks, and guarantee the smooth integration of new technologies into the current IT infrastructure by creating a comprehensive migration strategy. An organized method for planning migrations also makes it easier to manage schedules, allocate resources efficiently, and assess the process after migration to make sure everything goes as planned.

2.2 Review of Related Systems

Within this chapter, the researchers will explore different pre-existing HRIS systems, their features, similarities, and relevance to addressing the identified problem. By examining pre-existing HRIS systems, researchers can identify unique advantages that can be leveraged to develop a more effective HR system solution. Furthermore, the chapter will explore the importance of Human Resource Information Systems (HRIS) in enhancing HR planning, job roles, performance reviews, and training initiatives that cover the multifaceted roles of HRIS in optimizing various HR procedures and sub-processes within organizations.

2.2.1 Overview of Popular HRIS Solutions

Throughout the years of HR systems, many different HRIS solutions have emerged, each offering unique features and capabilities tailored to organizational needs. Some allow services for generic HR web systems that are offering cloud-based services providing enhanced flexibility and accessibility compared to traditional data storage methods.

Modern popular HRIS solutions offer a wide range of functionalities most often including the core common services such as:

1. **Human Resources Management:** This includes all employee/personnel-related management. Ranging from job management, performance evaluation, scheduling/time-related services e.g., attendance, leave, work schedule, etc.

2. **Cloud-based Flexibility:** This allows for data storage or management through the use of cloud-based services. This allows for more scalable, reliable, and accessible data access due to its remoteness capability.

3. **Time/Scheduling Services (e.g., Attendance, Leave, Calendar):** This process is used for employee attendance management and other scheduling processes e.g., work schedule management, faculty attendance, absent without official leave (AWOL), etc.

4. **Payroll System:** This includes to timely compensation for employees with sub-processes including modules like automated payroll processing, tax compliance, benefits, reporting, wage management, employee self-service, etc.

2.2.2 Comparison of Features and Functionalities

In order to strengthen the proposed web application, a comparative analysis of different HRIS solutions needs to be gathered. This involves focusing on their strengths, weaknesses, and suitability for the University's requirements and use cases through different kinds of modules. For this, a comparison matrix of features and functionalities is established to visualize and clearly overview each system's strengths and the edge of the new proposed HR system over other pre-existing popular global systems.

	Modules	ADNU HRIS	OMNI HR	DEEL HR	PAYCOR HCM
GENERIC	Contacts	✓	✓	✓	✓
	Data Extraction	✓	✓	✓	✓
	Personal Info	✓	✓	✓	✓
	General Employee Status Tracker	✓	✓	✓	✓
	Employee Profile	✓	✓	✓	✓
	Assignment Designation	✓	✓	✓	✓
	Assignment Archive	✓	✓	✓	✓
	Faculty Rank	✓	✗	✗	✗
	Academic Record	✓	✓	✓	✓
	Academic Awards	✓	✓	✓	✓
	Professional License Record	✓	✓	✓	✓
	Training Attended Module	✓	✓	✓	✓
	Performance Evaluation	✓	✓	✓	✓
	COE	✓	✗	✗	✗
	COE Reports	✓	✗	✗	✗
	Contracts/Appointment Generation Reports	✓	✓	✓	✓
	Health Record	✓	✓	✓	✓
	Cloud-based	✗	✓	✓	✓
	Learning Management	✗	✗	✗	✓
	DTR Scanner	✓	✗	✗	✗
TIMESYS	Attendance Module	✓	✓	✓	✓
	Attendance Archive	✓	✗	✗	✗
	Flexible Time Office	✓	✓	✓	✓
	Staff Attendance Report	✓	✓	✓	✓
	Calendar Management	✓	✗	✗	✓
	Holiday Calendar Creation	✓	✗	✗	✗
	Work Schedule Scheme	✓	✓	✓	✓
	Assign Work Schedule Scheme	✓	✓	✓	✓
	Work Schedule Scheme Checker	✓	✓	✓	✓
	Tardines Module	✓	✓	✓	✓
	Remarks Module	✓	✓	✓	✓
	AWOL Module	✓	✓	✓	✓
	Overtime Module	✓	✓	✓	✓
	Staff Monthly/Annual Attendance Report	✓	✗	✗	✗
LEAVESYS	Leave Application	✓	✓	✓	✓
	Leave Reason	✓	✓	✓	✓
	Leave Credits	✓	✓	✓	✓
	Leave Credits Scheme	✓	✓	✓	✓
	Assign Leave Credit Scheme	✓	✓	✓	✓
	Process Leave Application with Leave Credits Report	✓	✓	✓	✓
FACSYS	Faculty Attendance	✓	✗	✗	✗
	Faculty Schedule	✓	✗	✗	✗
	Pending Faculty Schedule	✓	✗	✗	✗
	Required Class Hours	✓	✗	✗	✗
	Process Faculty Attendance Report	✓	✗	✗	✗

Table 2.1: ADNU HRIS in comparison with other HRM/HCM systems.

2.2.3 Evaluation of HRIS Solutions for Redesign

When organizations decide to redesign or migrate to a new HRIS system, it is crucial to critically evaluate the strengths and weaknesses of their current solution. This evaluation and analysis will help identify the areas that require improvement and set criteria for selecting the appropriate redesign approach. This section shall examine the evaluation process, highlighting the strengths and weaknesses of the current HRIS solution at the organization, and outlining the key criteria to consider when selecting a redesign strategy.

Strengths and Weaknesses of the current HRIS Solution

According to the study, the current system struggles with maintaining a scalable system preventing other processes from progressing e.g., the payroll system. Not only that, the system lacks better efficiency in operations i.e., being able to instantly receive up-to-date information from other branches. Due to the system's age in the technology stack, the ability for further updates and technological advancement to the application is hindered and is stuck to not break the operation e.g., the DTR scanner in HR uses an old version and limited compatibility with other software only accessible to Internet Explorer (IE).

Despite its issues, the system still performs as functional and operational as the current application for handling the HRIS and has well-established processes that define most of the core modules of the University's requirements.

Criteria for Selecting an HRIS Redesign

To solve the HRIS's issues, criteria for redesigning the HRIS have to be set, and must consider various factors before creating an application redesign. These factors must be included:

Scalability: By allowing the system to be as scalable as possible, organizations can effectively manage growth and adapt to changing business needs. This involves creating a database design that can adapt to various use cases and is generic.

Ease-of-Use: This involves developing and improving user experience (UX) by creating a responsive and modernized user interface (UI) for employees and admins to use. Doing this will improve not only the ease of access but will ensure better communication and exchange

of information from other departments.

Modernized Frameworks and Technology Stack: This involves replacing the existing technology stack with modern frameworks and tools to develop an up-to-date HRIS system. With this, the developers can use vast web technologies for better compatibility, and various design possibilities to create a better system accessible not only within University grounds but through internal networks.

Integration with UIIS: This involves centralizing the database through integration with the UIIS. This allows for improved efficiency due to its integration not only to the UIIS but to the MIS; aligning with the goals of the MIS office which is to create unified and interconnected systems within the University to streamline operations and workflows. This way data redundancy and inconsistencies eliminated.

2.2.4 Case Study Analysis of HRIS Redesign and Migration

To further prove the study, deeper analysis and examination of other works in HRIS redesign has to be considered in support of claiming the need for an HRIS redesign in the first place; why and how implementing HRIS equates to effectiveness in an organization's operations.

Case Studies of Successful HRIS Migration

Among millions of organizations across the world, research would show that at least 55% of organizations are only using Applicant Tracking System (ATS) or HRIS, and 45% of organizations currently do not use ATS or HRIS [51]. This meant that at least a large number of organizations have personal information management as decentralized; leading to issues like data inconsistency, redundancy, and inaccuracy.

In a recent study PT Pertamina based in India, conducted research regarding the effectiveness of their system — Information About Me Human Resource Information System (I-AM HRIS). According to the article, PT Pertamina developed the I-AM HRIS application in 2016 to facilitate HR administration processes and bring "One Pertamina" uniformity. The study used the DeLone and McLean IS Success model along with Quality Function Deployment (QFD) analysis to evaluate I-AM HRIS implementation effectiveness. However, the system became ineffective, with a survey

found that 67.8% of employees were unaware of the service facilities provided by I-AM HRIS, 52.4% did not frequently use the application, and employee satisfaction was not achieved [32].

With this analysis, the study recommended redesigning I-AM HRIS to improve quality and achieve better employee service satisfaction, especially focusing on increasing process speed and ease of use.

Challenges and Solutions

The problem with redesigning and migrating to a new system despite being just the same existing system but redesigned, is that it raises potential obstacles and challenges for developers to make. One of the common issues that organizations will likely resist in this proposal is the idea of change from employees to use the newer processes. More often than not, some organizations and people are used to legacy processes and will resist any changes. With this, comes considerations for the company to conduct training and knowledge transfer gaps. In addition, budgetary and resource constraints for the redesign and migration project may become a problem for some organizations.

Another critical issue is the data migration and integration across multiple systems, migrating to a newer system meant a probable change in the database schema. This major change will likely break the records and hinder the migration process. Hence, the emphasis on creating scalable and dynamic schemas is to be practiced as they serve as the foundation at the start of the design.

Despite these challenges, potential solutions for handling them can be through effective change management and communication strategies as well as conducting a comprehensive training program tailored to different user types. The team can also establish a project management strategy through iterative prototyping and user feedback loops to achieve user requirements. Moreover, create robust data migration planning and quality assurance before implementation.

Outcomes and Benefits Achieved Post-Migration

While the paper did not actually achieve post-migration and focused more on the evaluation of the existing state of the I-AM HRIS implementation using gap analysis and QFD, they still provided recommendations for redesigning I-AM HRIS to improve quality and achieve better employee service satisfaction, especially focusing on increasing process speed and ease-of-use. With this, we can infer potential outcomes and benefits earned if the migration were successful.

One would be the improved operational efficiencies in HR processes like employee data management, payroll, recruitment, etc. through automation and integration. Better scalable systems come with better data quality, consistency, and accuracy by redesigning the system to meet employee expectations allowing an increase in employee satisfaction and productivity by addressing gaps like slow processes mentioned in the case study and the lack of user-friendliness identified within the analysis.

Another benefit can be cost savings by reducing manual efforts and errors through the redesigned HRIS capabilities and overall better decision-making through access to comprehensive, real-time workforce analytics and reporting from the HRIS.

With this case study, the researchers can draw out similarities within the ADNU HRIS' current system being in the similar state with it being limited, lacking in accessibility, user-friendliness, and compatibility; that are in need of a new redesign and migration. Doing so will achieve the proposed objectives of this study and enhance the HR operations within the University.

Chapter 3

Technical Framework

One of the critical components in understanding and developing any system is establishing a firm theoretical framework. This chapter will delve into the foundational concepts and technologies that form the infrastructure of the HRMO system. By outlining the project code infrastructure, front-end and back-end technologies, and the database environment, the researchers aim to provide a comprehensive overview of the system's architecture and the rationale behind the technological choices.

3.1 Project Code Infrastructure

The web application utilizes Laravel by Taylor Otwell as the main full-stack web application framework. Laravel, by default, follows a Model-View-Controller (MVC) architectural pattern [18]. A common project structure when creating complex and dynamic web systems.

Figure 3.1: How the MVC architecture Works.

With this architecture, the process is streamlined and optimized by following the Single-Responsibility Principle (SRP) rule in programming. Wherein, the *View* contains the web front-end web design/-experience and logic for sending client requests to the server. For every request the client makes, is handled within the *Controller*. Within this layer, it handles the logic for communicating within client-to-server requests and responses. Within this layer, will handle exceptions, validations, Data Access Objects (DAO), APIs, and many more [35].

For every *Controller* request to the Database, the *Model* layer is responsible for interacting with the database. The *Model* encapsulates the data and logic necessary for business operations, ensuring a clean separation of concerns. This architecture allows each component to focus on its specific responsibility, leading to a more maintainable and scalable system [35] [57].

3.2 Development Tools and Technologies

To effectively build and maintain the project, different development tools and technologies are to be utilized. Among the key tools and technologies employed in the project's development lifecycle are the following:

Figma: The developers utilized Figma as their main design tool to create high-fidelity wire-frames, prototypes, and UI/UX designs. Figma offers a collaborative platform that enables seamless teamwork, version control, and real-time feedback among designers and stakeholders.

Version Control Tools (Gitlab/Git): The developers utilized version control tools such as Gitlab and Git to maintain version history and facilitate collaboration among team members. Git provides a distributed version control system that enables developers to track changes, manage code branches, and coordinate work effectively. Gitlab, as a web-based Git repository manager, offers additional features such as issue tracking, continuous integration (CI), and code review, enhancing the overall development workflow.

SQL Developer: On the back-end side, SQL Developer is utilized within the application for developers to manage the database schema, execute queries, write procedures, and business logic to the application. This data accessibility is possible through the use of a Virtual Private Network (VPN) application approved by the University's Database Administrator (DBA) and

Management Information Systems (MIS). With this, developers can establish a secure connection to the network, ensuring the confidentiality and integrity of data transmission between the application and the University's internal database.

3.2.1 Front-end Technologies and Languages

The system shall utilize different front-end technologies and languages to create a dynamic and responsive user interface. This will allow for a more streamlined development building complex features and modules. These technologies and languages will include:

NodeJS: The application utilized NodeJS as its main runtime for running the front-end libraries. This decision allowed the developers to utilize and integrate the vast JavaScript ecosystem in the application e.g., Jquery, Bootstrap, Xtreme, etc.

Vite: The application utilized Vite in partnership with NodeJS. This allowed the developers to efficiently increase productivity in development as Vite allows for fast Hot Module Reload (HRM). In addition, Vite is lightweight, fast, and efficient in alignment with the system's needs as it will be a high-traffic website.

Laravel Blade: The application will utilize Laravel's built-in templating engine. Laravel's Blade supports writing dynamic HyperText Markup Language (HTML) with added Hypertext Preprocessor (PHP) accessibility and the capability to use static web languages such as HTML, Cascading Style Sheets (CSS), and JavaScript.

Laravel Livewire: The application will utilize a front-end framework called Livewire. Livewire uses PHP as its main language and allows great compatibility with Laravel's default supported language. Livewire allows for building dynamic interfaces easily, without leaving the comfort of Laravel. By utilizing Livewire, the developers can write interactive components using simple PHP instead of relying heavily on JavaScript frameworks.

TailwindCSS: The application utilized TailwindCSS as its main CSS Framework. TailwindCSS allows for efficient and ready-made utility classes in order to eliminate the use of writing CSS in the application. TailwindCSS allows for efficient space in the application as it purges unused styling upon production. Furthermore, it will allow the application to be designed

uniquely modern.

3.2.2 Back-end Technologies and Languages

The system will utilize back-end technologies in compatibility with Laravel's back-end framework support. These technologies and languages will include:

Laravel Livewire: The application will utilize Livewire not only as a front-end framework but also as a tool to aid the controller in providing dynamic state changes in data requests. This allows for cleaner and shorter code for developers to write.

PHP: The application shall utilize PHP as the main server scripting language for writing business logic throughout the entire system. PHP allows for robust server-side scripting, supported integration with Oracle Databases, and a wide range of frameworks and libraries that enhance development speed and efficiency.

Composer: The application will utilize Composer as its dependency manager for PHP. Composer allows for managing and installing libraries and packages efficiently, ensuring that all dependencies are up-to-date and compatible. With this, the developers can integrate third-party packages and tools to streamline the project setup.

3.2.3 Database Environment and Language

Oracle Database: The application will utilize Oracle Database as its main Database Management System (DBMS). Oracle Database provides a robust, scalable, and secure environment for managing data [40]. By leveraging the Oracle Database, the application can handle large volumes of data efficiently and ensure high availability and reliability suitable for the project's complexity and objective capabilities.

PL/SQL: The use of Oracle as a DBMS comes with built-in supported database languages such as the Structured Query Language (SQL) and Procedural Language extension to SQL (PL/SQL). With PL/SQL, developers can write powerful stored procedures and packages directly within the database. This enables efficient data processing and manipulation, as well as the implementation of business logic directly at the database level allowing for a more secure

business logic processing and scalability [39].

Chapter 4

Methodology

4.1 Development Model

In the development process of the system, the developers will utilize the Rapid Application Development (RAD) model as a project management strategy. This methodology is characterized by an iterative approach in the software development process, which begins with the specification of requirements from the users and proceeds through rapid prototyping iterative delivery, and continual maintenance for the currently completed software. This methodology is well-suited for the study as it provides researchers a clear overview to follow from the beginning to the end, making it easier to track each step's progress as well as make sure everything went according to the plan. Moreover, the RAD model is perfect to use for projects with expedited schedules and evolving requirements as it lays a strong emphasis on speed, adaptability, and user-centric design.

The implementation of RAD provides a substantial advantage in developing the HRIS application. In terms of speed in development, RAD makes it possible to develop and release new features, which makes it ideal for projects with tight deadlines. And because of its adaptability, it can accommodate changes in requirements even at the end of the development cycle, guaranteeing that the result fulfills the requirements of the users. With the user-centric nature of RAD, it includes user feedback in every iteration, which could increase user satisfaction with the finished product.

Furthermore, this methodology includes a risk reduction aspect which implies that early prototypes can help in recognizing any potential issues and reducing risks associated with functionality and usability. Due to RAD's iteration methodology, the HRIS system may be continuously improved in response to user feedback and changing educational requirements, keeping it updated and efficient in providing the desired outcomes.

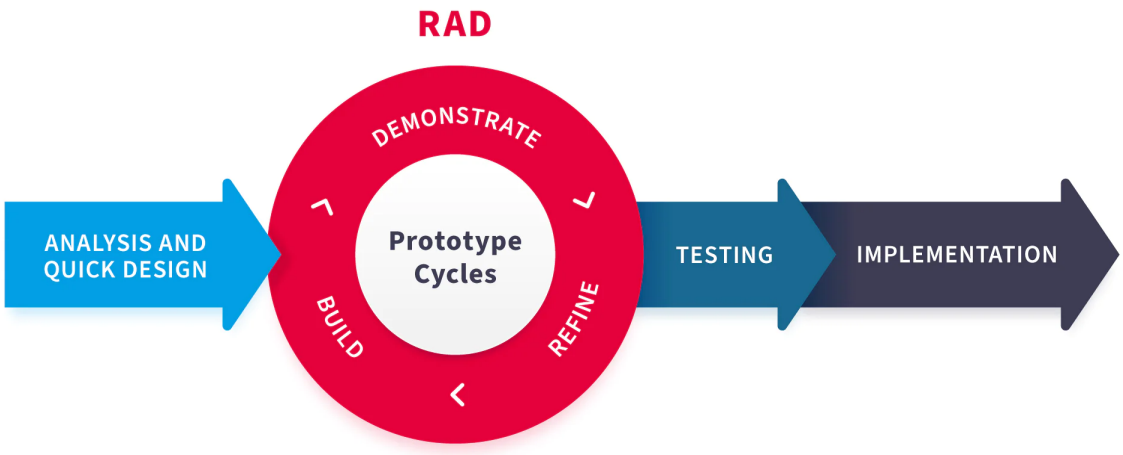

Figure 4.1: Rapid Application Development (RAD) Model.

4.2 System Analysis

The system analysis phase of the HRIS application development involves utilizing various methods to understand and define the system's functional and data requirements. These include information gathering, analytical methods, personnel consultation assessments, and content analysis. These methods aid in identifying user needs, defining system functionalities, and establishing the database schema. Through the use of visual tools like use Swim-lane Diagram, Use case Diagrams, Entity Relational Diagrams, and Gantt charts, the system analysis phase enables a comprehensive understanding of the HRIS application's scope and requirements. By employing a systematic approach to system analysis, the development team can ensure that the HRIS application is designed and implemented in alignment with the project objectives and user expectations.

4.2.1 Swim-lane Diagram

The Swim-lane diagram illustrates the process flow of the HRIS. The process begins when the user enters their login credentials. These credentials are unique to each University faculty employee, distinguishing them from other users in the system. Each user has different privileges and assignments set initially to access the system. After entering the credentials, the system validates them, granting the user access to the system. Once the user successfully logs in, they are directed to the dashboard where they can perform different actions depending on their privileges e.g., perform employee actions or tasks and HR overall general management.

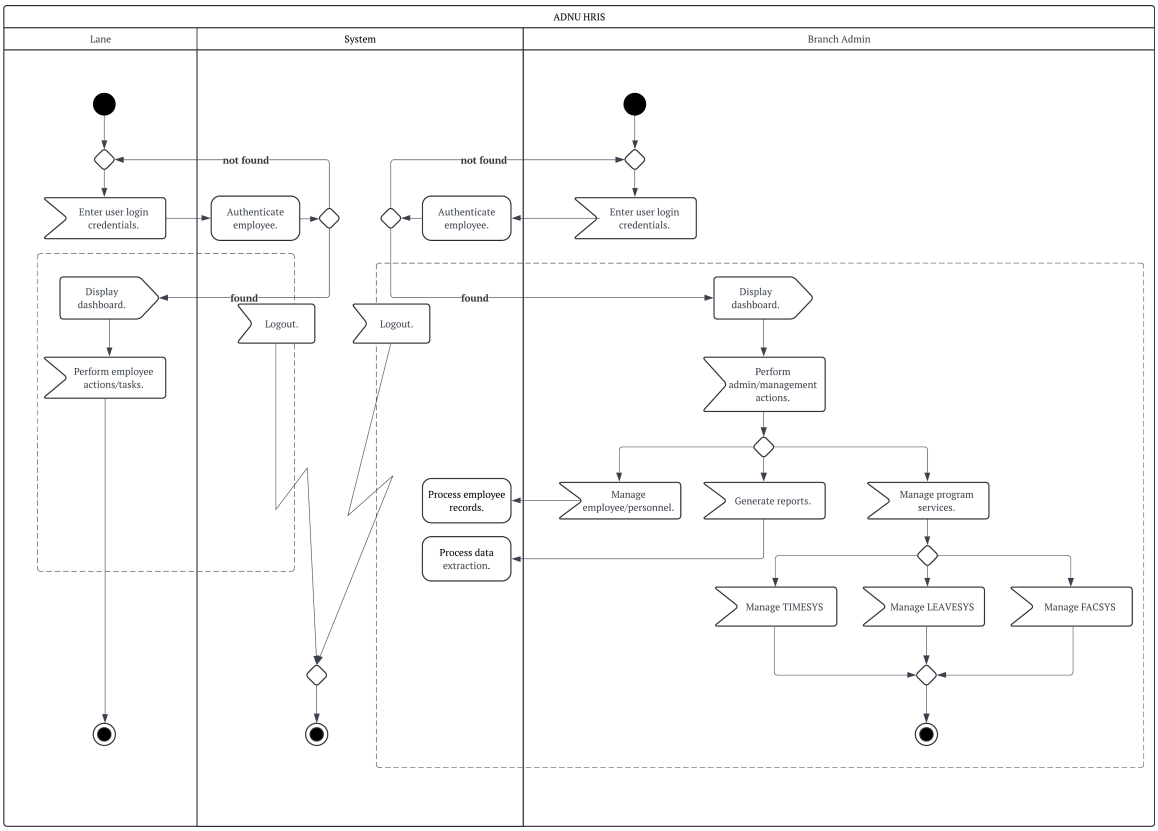

Figure 4.2: HRIS Swim-lane Diagram Model.

Each branch admin area can perform admin privileges and manage different modules within the system. For these actions, they are processed and managed under the system to provide a streamlined

operation for any users in the system. For every branch admins will have access to core modules e.g., Manage employee/personnel containing the employee contacts, personal information, profiles, assignments, assignment archive, faculty rank, academic, academic awards, professional license, training attendance, Certificate of Employment (COE), and health record.

Besides this, an admin can also generate different kinds of reports within the system e.g., performing data extraction, queries, employee performance evaluation, COE reports, contracts/appointment generation, etc.

4.2.2 Use Case Diagram

The use case diagram serves as a visual representation of the functional requirements of the system from an external user's perspective. It illustrates the interactions between users and the system, showcasing the various use cases and how they relate to each other. In the context of the HRIS application, the use case diagram will outline the different functionalities that users can perform within the system, such as employee management, payroll processing, and performance evaluation. By mapping out these interactions, the use case diagram helps in identifying the system's behavior and the roles of different users in the HRIS application.

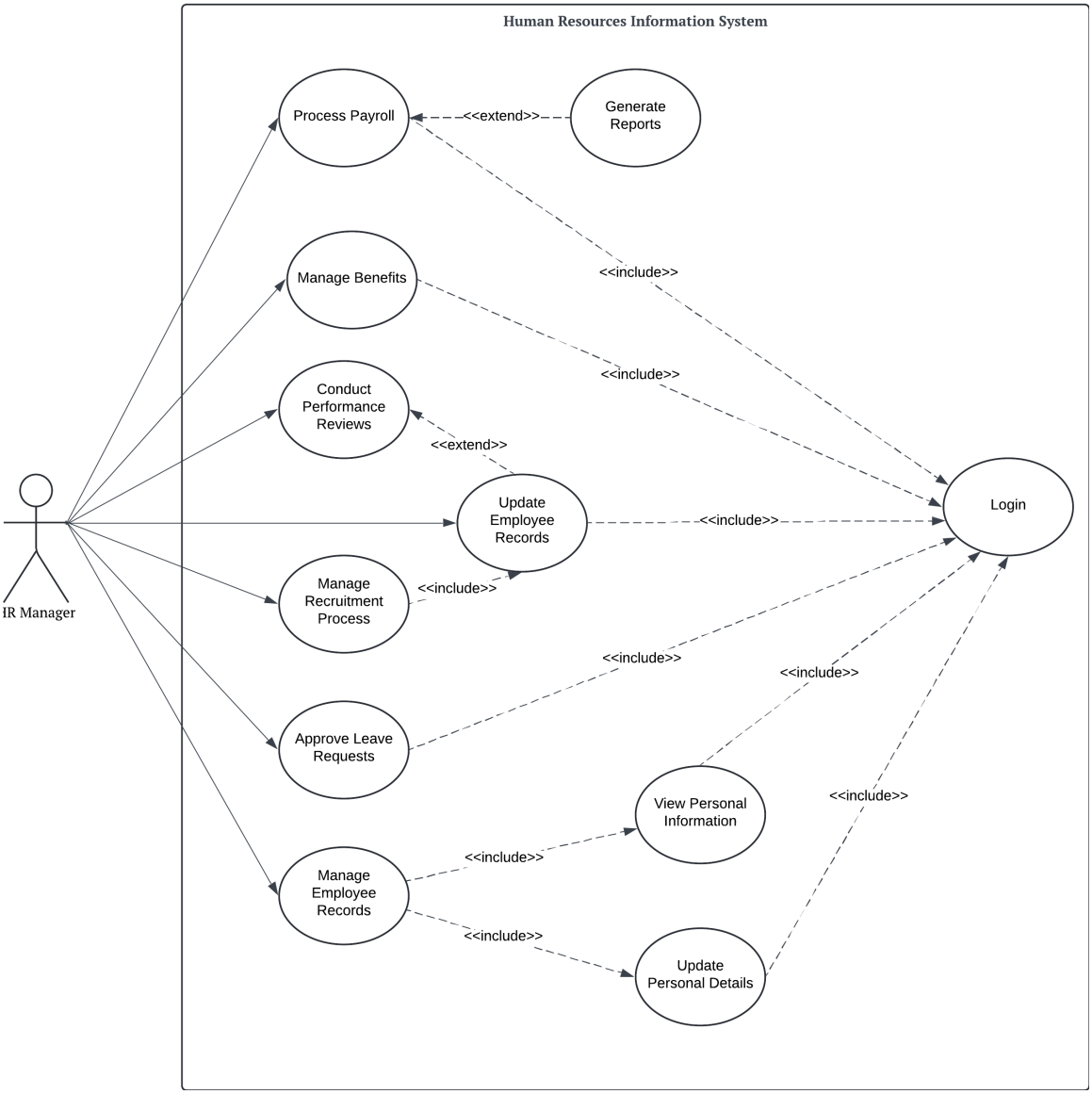

Figure 4.3: HRIS Use Case Diagram Model.

4.2.3 Entity Relational Diagram

The Entity Relational Diagram (ERD) will be used to visually represent the database structure that defines the relationships between different entities in the system and how they are related to

one another through cardinalities and relationships. In the case of the HRIS application, MIS has provided ready access to the database scheme in preparation for the migration process. This ERD represents the various entities such as employees, departments, positions, and their relationships with each other.

Creating an ERD will allow the developers to design a database schema that accurately represents the data requirements of the HRIS system. This diagram is not only crucial for ensuring data integrity, normalization, and efficient data retrieval, but will also standardize and comply with the DBA requirements of the MIS for merge request and reviewing processes.

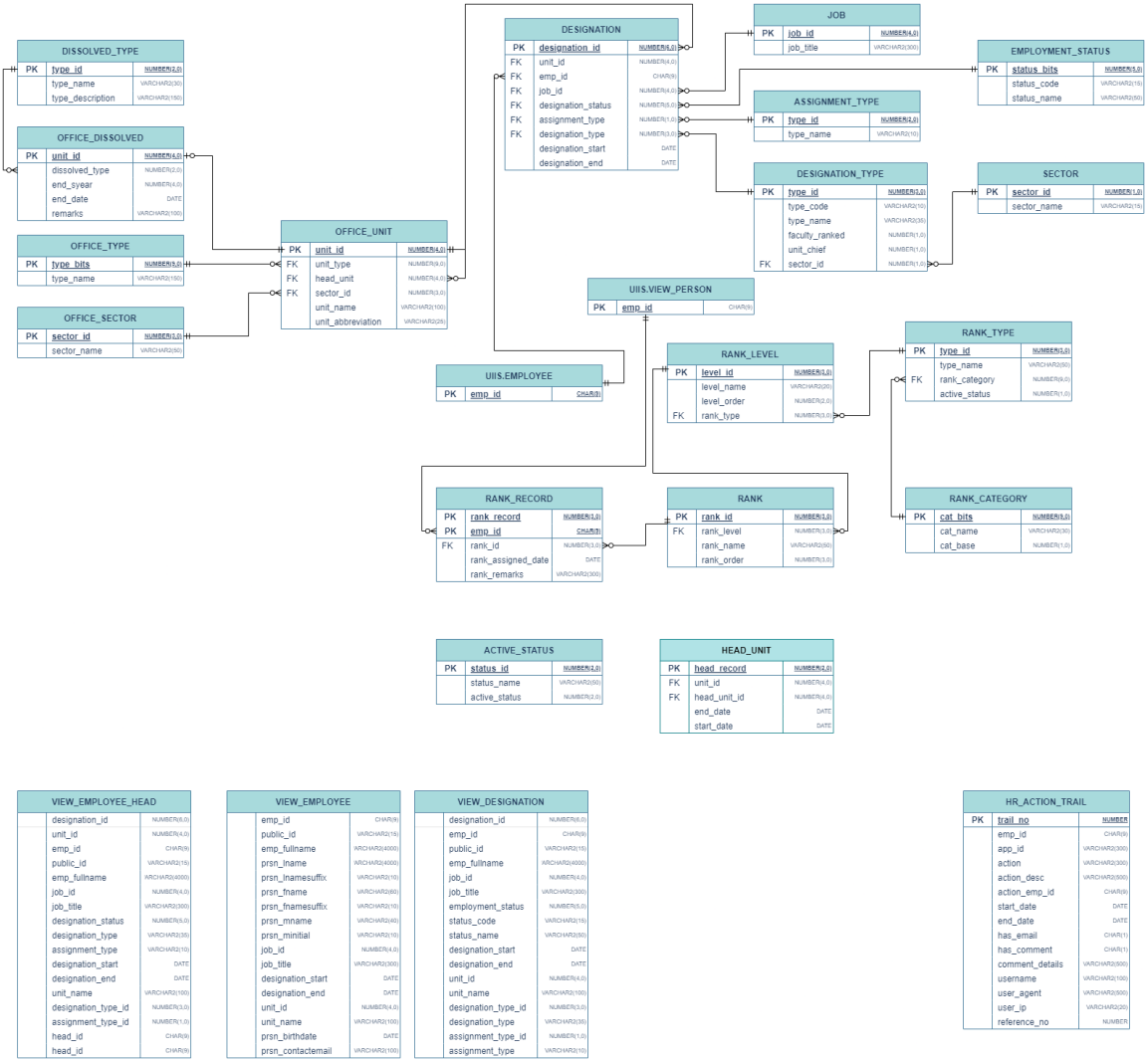

Figure 4.4: HRIS Core ERD Model.

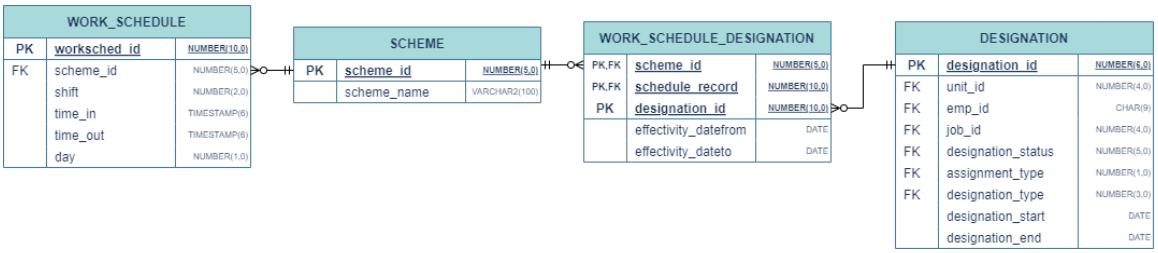

Figure 4.5: HRIS TIMESYS ERD Model.

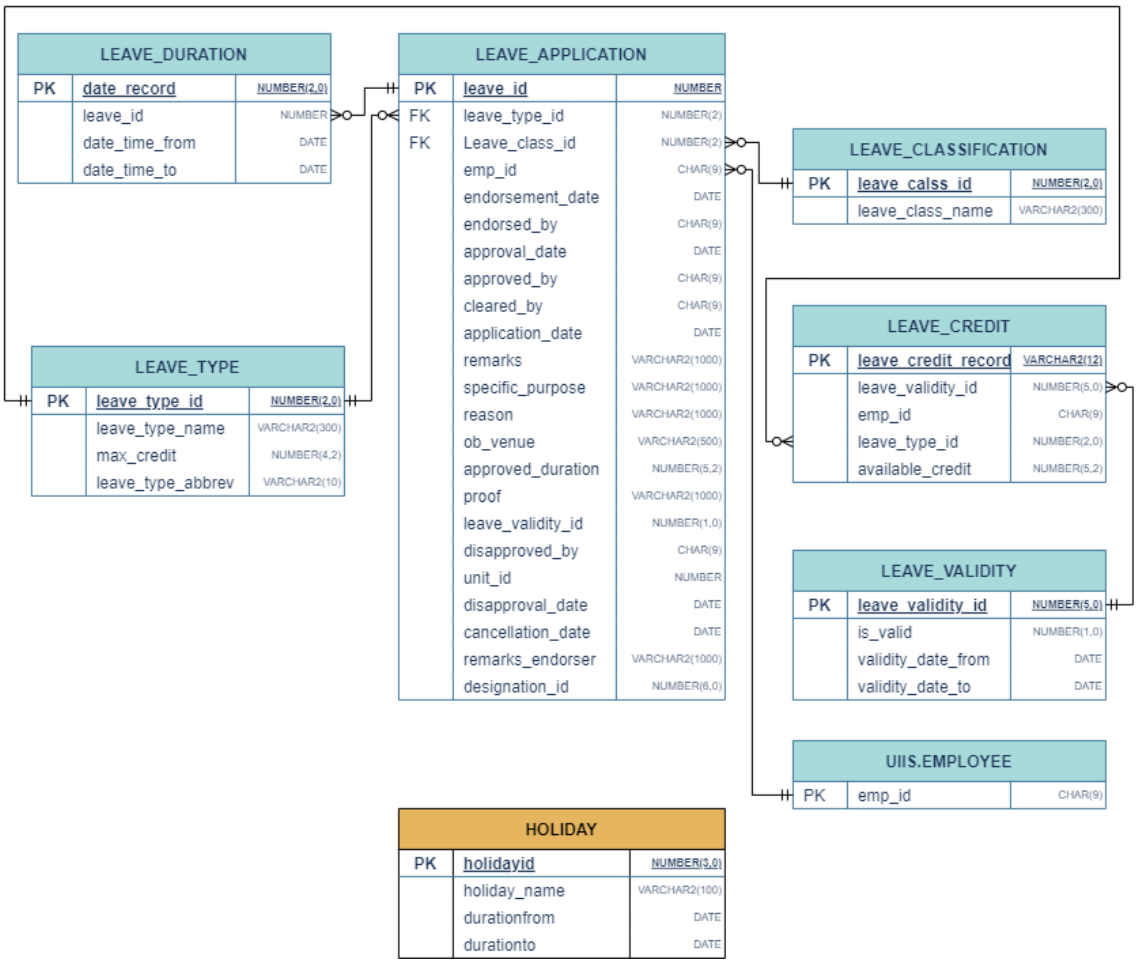

Figure 4.6: HRIS LEAVESYS ERD Model.

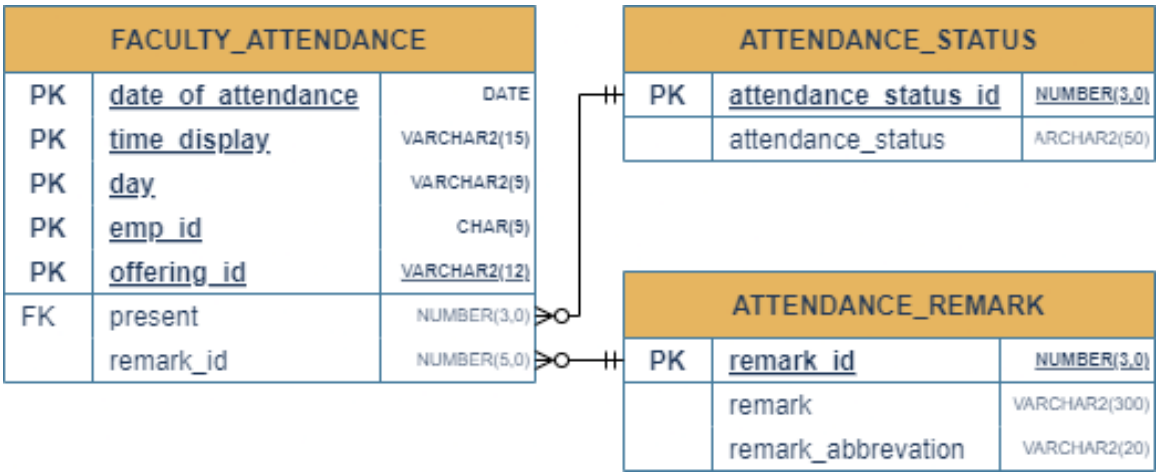

Figure 4.7: HRIS FACSYS ERD Model.

4.2.4 Gantt Chart

Gantt chart allows for a visual representation of the project schedule that outlines the tasks, milestones, and dependencies throughout the development time. In connection with the development of project management strategy through RAD, the HRIS application's use of a Gantt chart will help in planning and tracking the project's progress. It will break down the development process into specific tasks, assign responsibilities, and establish timelines for each phase of the project.

With this, the development team can effectively manage resources, monitor progress, and ensure that the project stays on track to meet the specified deadlines.

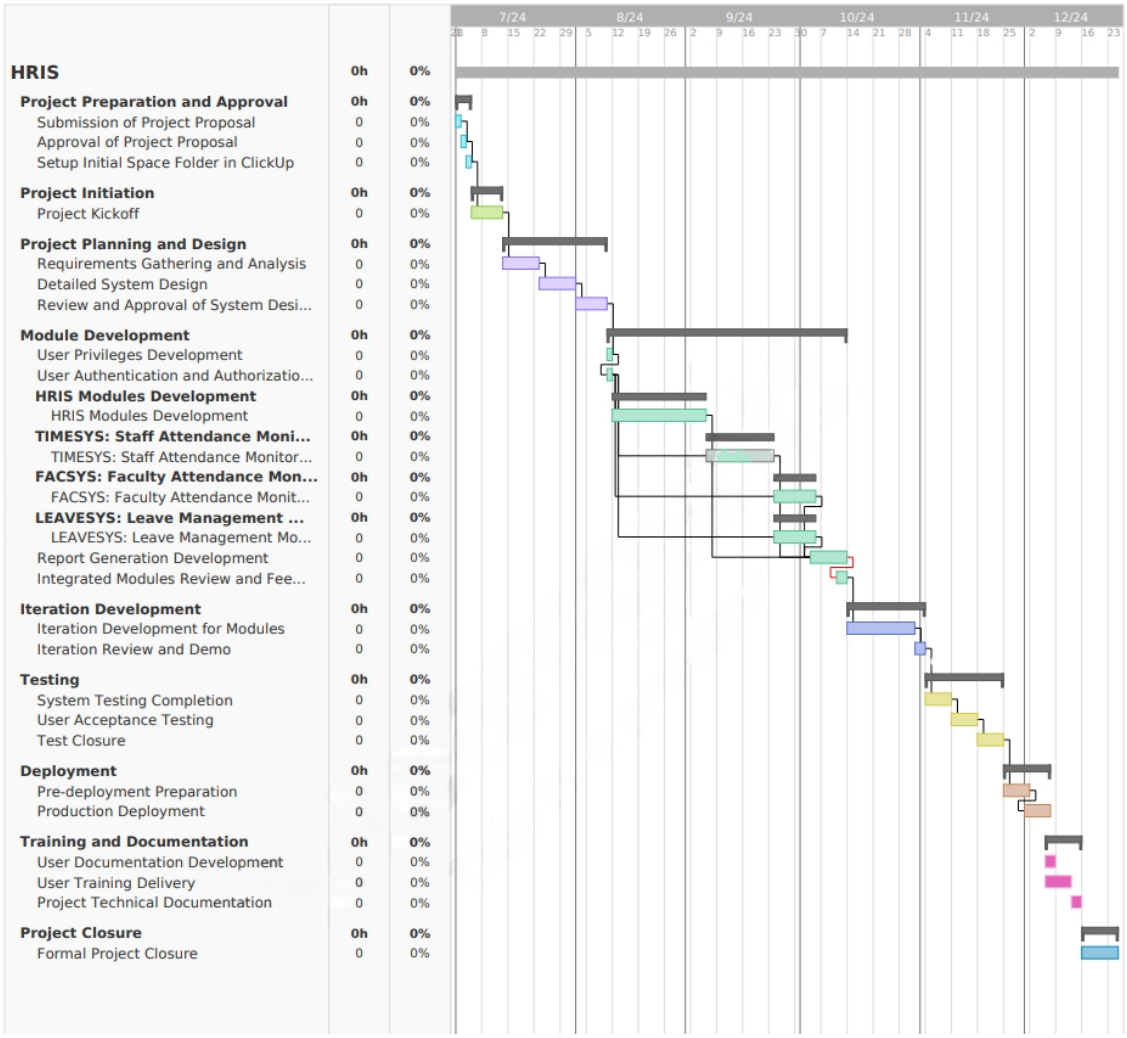

Figure 4.8: HRIS Gantt Chart Timeline.

4.3 Data Migration Plan

4.4 System Testing Plan

4.4.1 Objectives

The system testing phase aims to comprehensively evaluate the functionality, performance, and reliability of the application. To ensure a thorough assessment, we have established the following key objectives within the system testing plan:

1. Verify the functionality of all system features and modules.
2. Ensure the system meets all specified requirements.
3. Identify and document any bugs or issues.
4. Validate the system's performance and response times.
5. Test the user interface for usability and intuitiveness.
6. Confirm data integrity and security measures.
7. Assess the system's compatibility with different browsers and devices.

4.4.2 Participants

Throughout the testing phase, the participants will include the HR managers as well as the Information System Administrator, and the DBA Administrators.

4.4.3 Equipment and Hardware Requirements

The requirements for using the application is minimal due to its chosen deployed platform – web. The application will only require any modern device that can access the internet through modern up-to-date browsers; specifically Google Chrome version 96 and above.

The testing phase will be conducted within University grounds as it will require the University's internal network for it to be accessed.

4.5 System Deployment Plan

This section contains some of the high-level tasks and considerations that will be addressed during the deployment phase of the newly developed and migrated ADNU HRIS.

4.5.1 Deployment Planning

The deployment plan identifies the requirements and responsibilities of both the client and the development team in preparation for deployment. This includes accomplishing HR requirements – HR core modules, TIMESYS, LEAVESYS, and FACSYS after reaching satisfaction within the testing plan.

4.5.2 Resources

Facilities

The facilities required for testing and deployment to the new HRIS will be conducted within the HR office grounds equipped with modern computers as well a reliable and high-speed internet connection.

Hardware

The hardware required for running the application shall include:

1. Desktop Computers/Laptops

    (1) **Processor:** Minimum Intel Core i3 or AMD equivalent

    (2) **RAM:** Minimum of 4GB (recommended 8GB or higher)

    (3) **Storage:** Minimum of 128GB (recommended 256GB or higher)

2. Backup and Recovery Hardware

    (1) **Backup Power supply:** This is to avoid downtime during any power outages to ensure uninterrupted workflow. Ensure that there is a Uninterruptible Power Supply (UPS) systems for critical hardware.

(2) **Electric Generators:** This is to for any extend outages that can occur within operations time. This ensures that the University can still cater and be operational despite the outages.

3. Peripheral Devices

(1) **DTR Scanner:** The HR module TIMESYS will utilize the DTR Scanner for employee attendance purposes.

(2) **RFID Scanner:** The RFID scanner will be utilized in support for the DTR within HR.

Support Software

As the project will utilize Oracle for the data migration, the supported software shall be to use Oracle 12c with instantclient12 installed and sqldeveloper for the database management solution.

Being a web-based application, the project requires to run on modern browsers with version 96 and above for Google Chrome. This ensures better up-to-date features and better security patches for each devices.

Support Documentation

The documentation required to support the application shall include:

User Manuals: Detailed guides for end-users to navigate and utilize the HRIS effectively.

Technical Documentation: In-depth documentation for developers detailing the system architecture, database schema, and configuration settings.

Training Materials: Resources for training sessions, including slides, and user manuals.

FAQs and Troubleshooting Guides: Common issues and their resolutions to assist users and support staff under user manual.

System Requirements: Specifications for hardware, software, and network configurations needed to run the new HRIS.

4.5.3 Deployment Strategies

The project will be deployed through a series of code review, database review, iteration, and installation of the developed app to the server after a series of testing and acceptance to the application. This process involves multiple personnel including the DB Administrator, Senior Application Developer, and Information System Administrator.

4.5.4 Contingencies

Contingency plans are ensured to mitigate any potential issues that may arise during and after deployment, the following contingency plans will be put in place:

Rollback Plan: A rollback strategy will be developed and practiced for each implementation to revert to the previous system in case of any critical failures during deployment. This includes utilizing version controls and maintaining a full backup of the old system.

Performance Monitoring: Includes continuous monitor of system performance post-deployment through feedback and user reports from the HR for any performance degrade.

4.5.5 Compatibility Strategies

To ensure smooth deployment and integration of the new ADNU HRIS, the following compatibility strategies will be implemented:

System Compatibility Testing: Rigorous testing will be conducted to ensure the new HRIS is compatible with existing hardware, software, and network infrastructure at ADNU.

Browser Compatibility: The web-based application will be tested across multiple browsers and versions to ensure consistent functionality and appearance.

Integration Testing: Comprehensive testing will be performed to verify seamless integration with other existing systems and databases at ADNU.

Legacy System Compatibility: Where necessary, interfaces or middleware will be developed to ensure compatibility with any legacy systems that need to interact with the new HRIS.

Scalability Testing: The system will be tested to ensure it can handle increased load and user numbers as the university grows. This includes data optimization during any reports or querying.

4.6 System Snapshots

In this section, contains some of the few initial screen mock-ups for redesigning among the major services of the previous HR system. This includes samples high-fidelity wire frame made in Figma. This allows for better visualization to the expected output for the new ADNU HRIS.

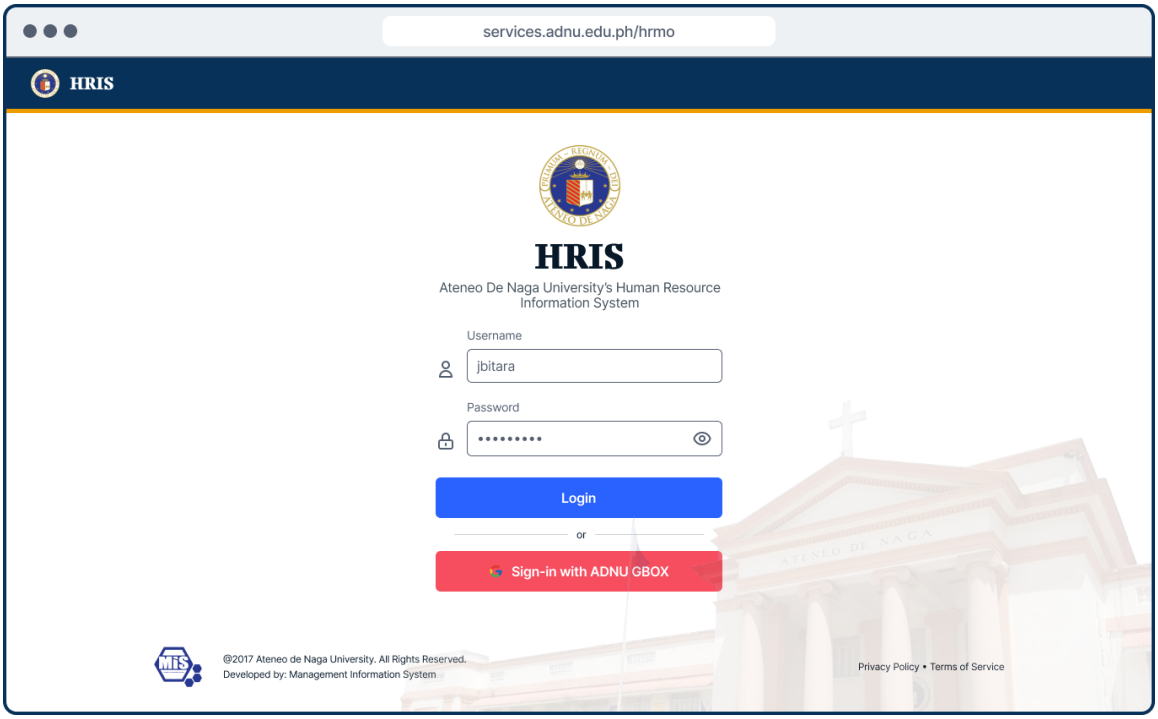

Figure 4.9: New HRIS Login Page.

The new design displays the redesigned login page. It features a clean, modern interface with input fields for username and password, as well as a prominent login button. The design emphasizes user-friendliness and security for accessing the HRIS platform.

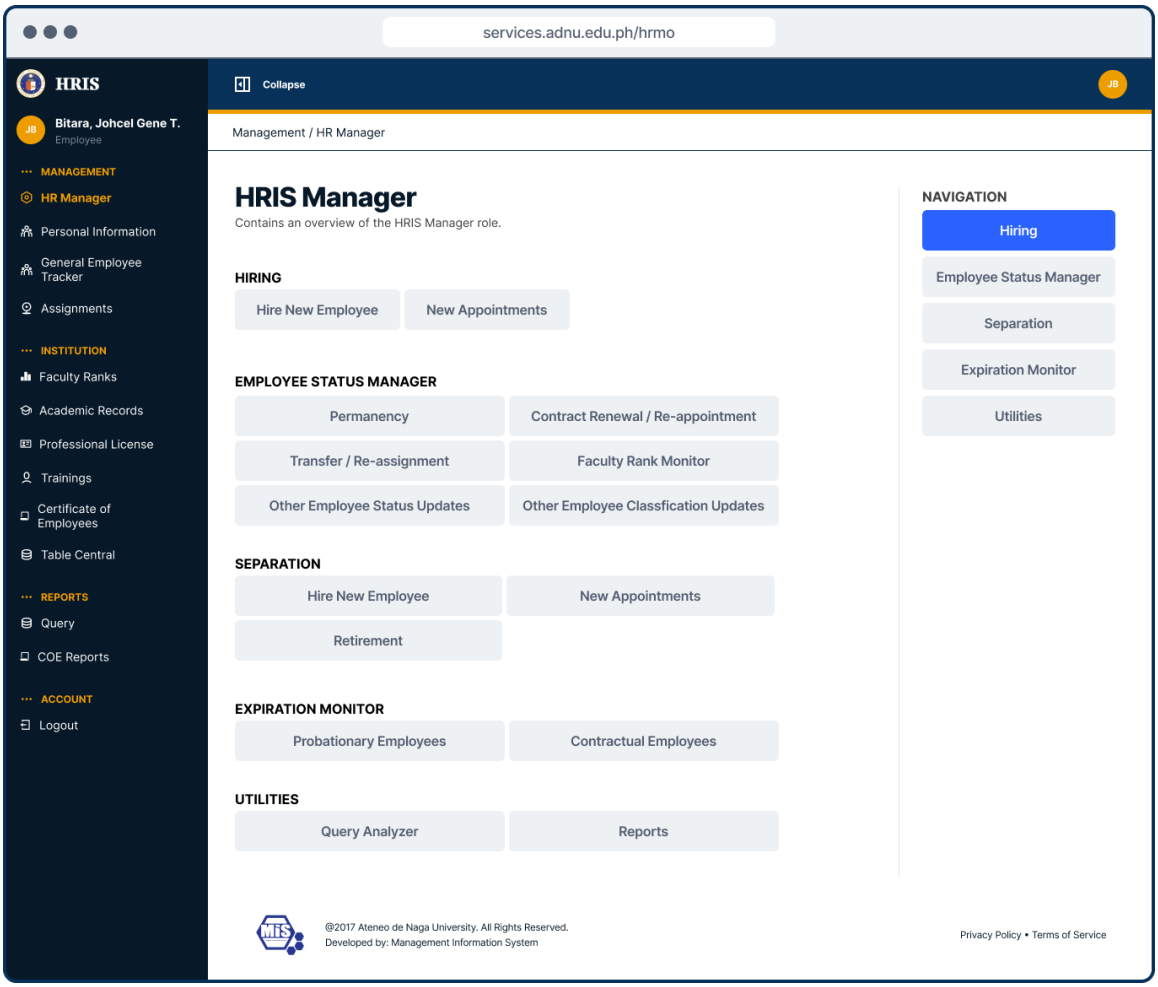

Figure 4.10: New HRIS Manager Page.

The figure presents the newly designed HRIS Manager page. This includes mainly making use of better user experience with enlarged buttons and easier navigation with the use of better UI layout.

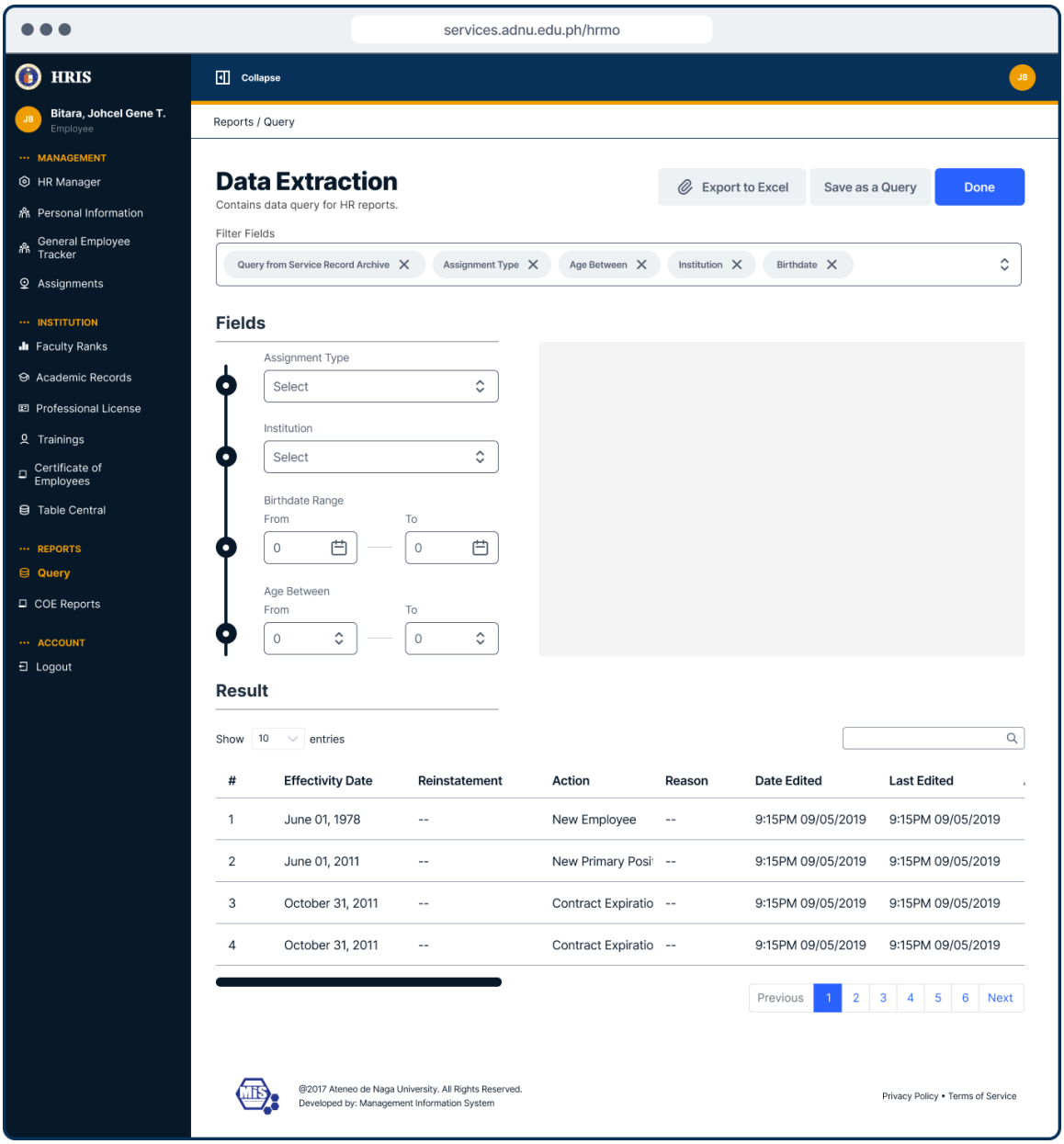

Figure 4.11: New HRIS Data Extraction Page.

This figure showcases the new Data Extraction Page. The interface is designed to facilitate efficient retrieval of HR data, likely offering options for customizable reports, data filtering, and export

functionalities.

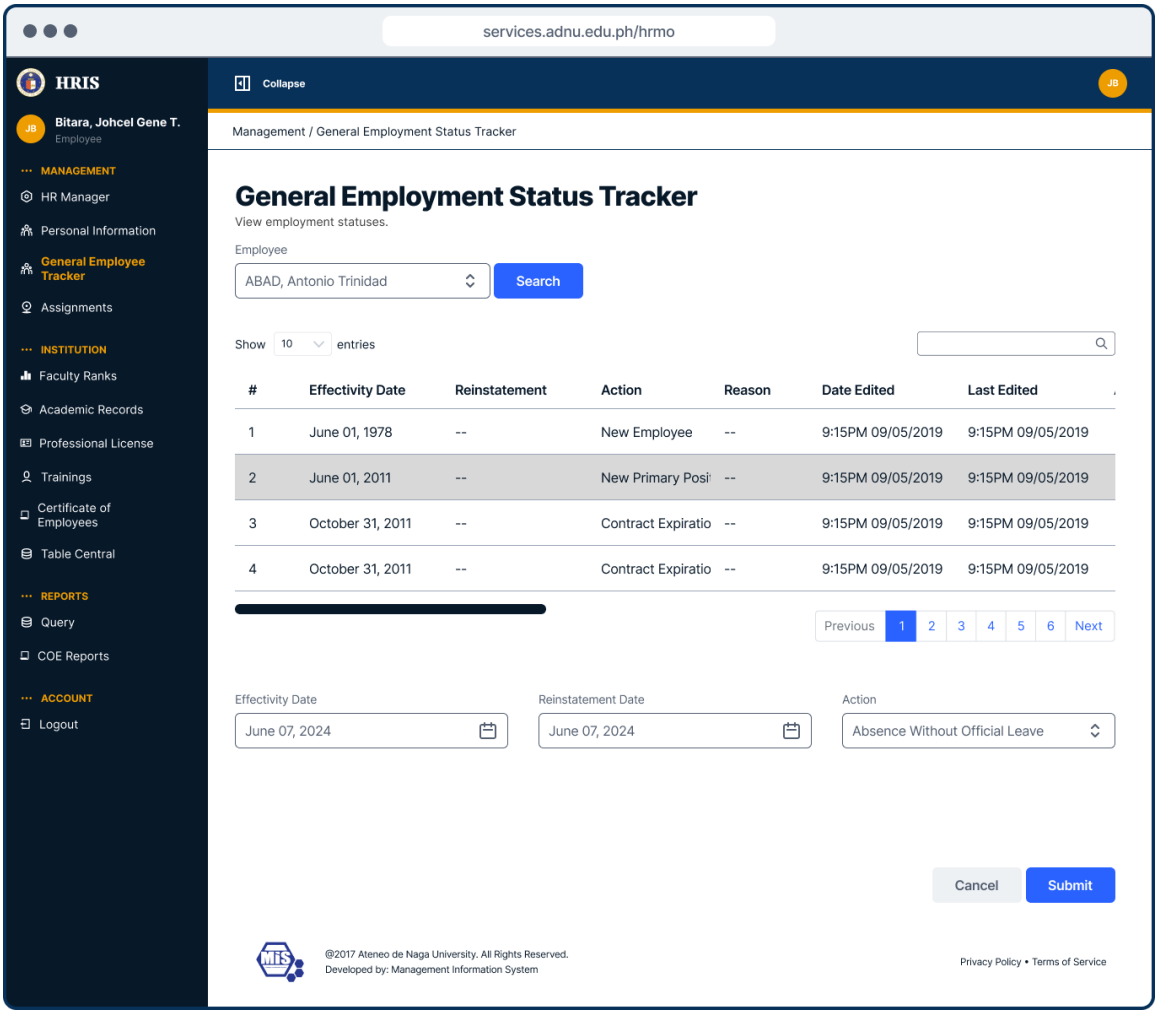

Figure 4.12: New General Employment Status Tracker Page.

This figure illustrates the new General Employment Status Tracker (GEST) page. The GEST interface likely provides a comprehensive view of employee statuses across the organization. It includes employment types, contract durations, leave statuses, and other key indicators of workforce composition.

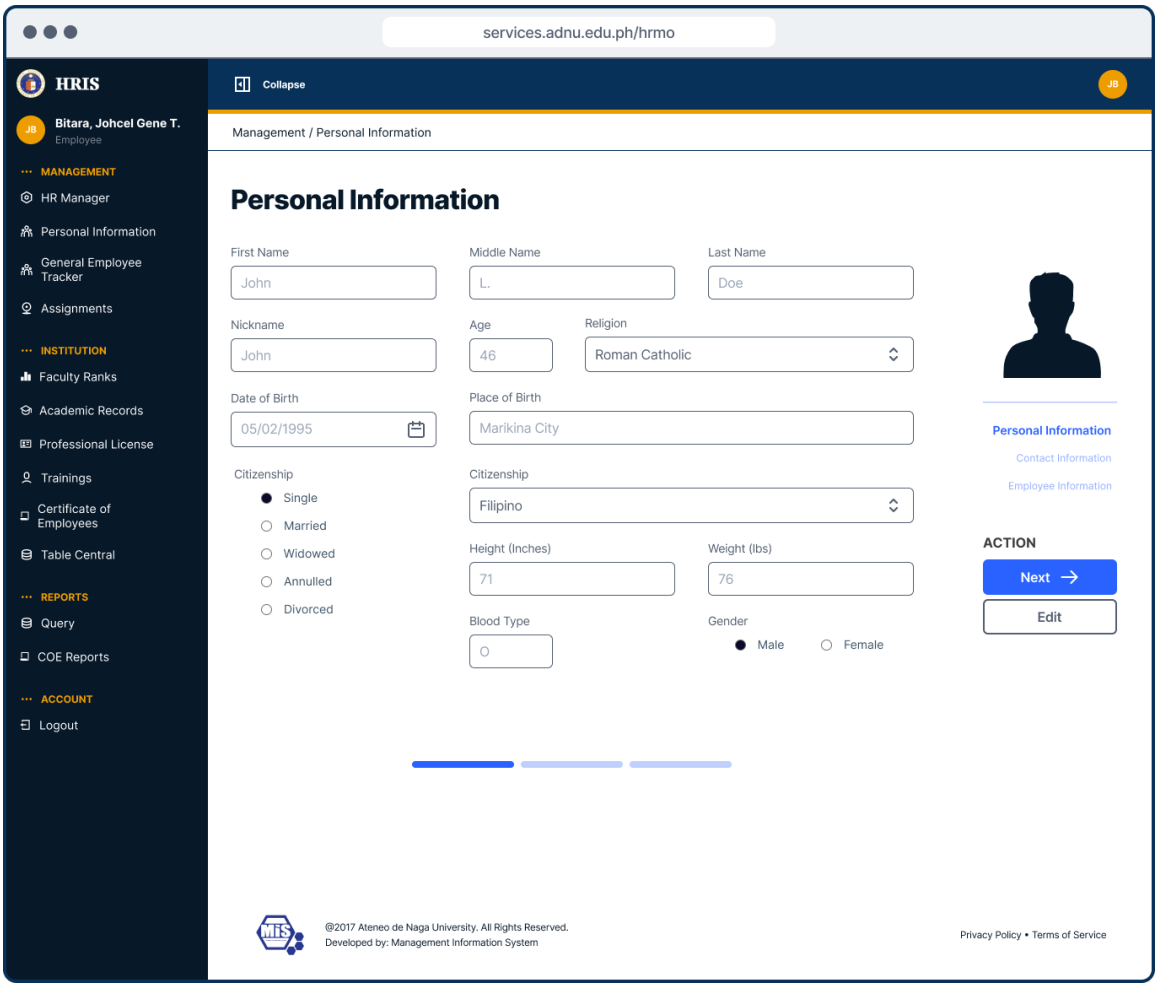

Figure 4.13: New Personal Information Page Tab 1.

This figure displays the first tab of the new Personal Information Page. This interface is designed to segment and categories each forms to not overload the user with multiple fields. In this section contains their personal information.

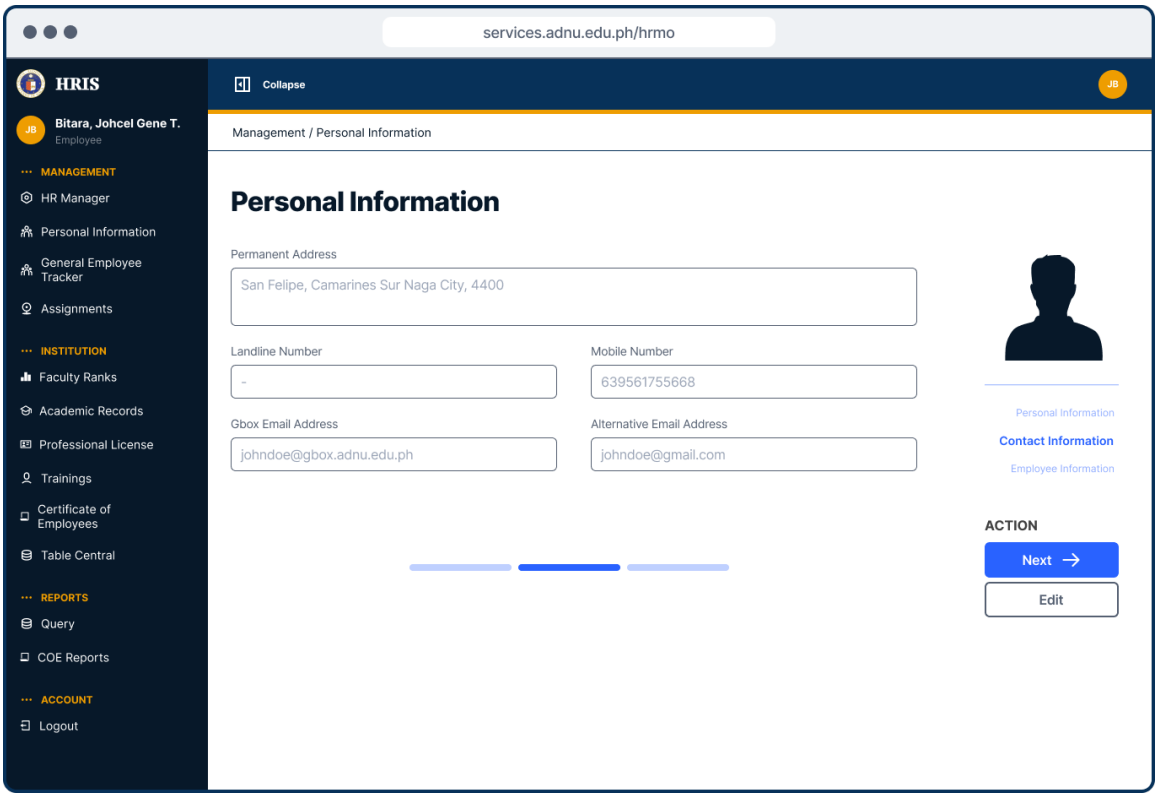

Figure 4.14: New Personal Information Page Tab 2.

This figure displays the second tab of the new Personal Information Page. In this section contains their contact information.

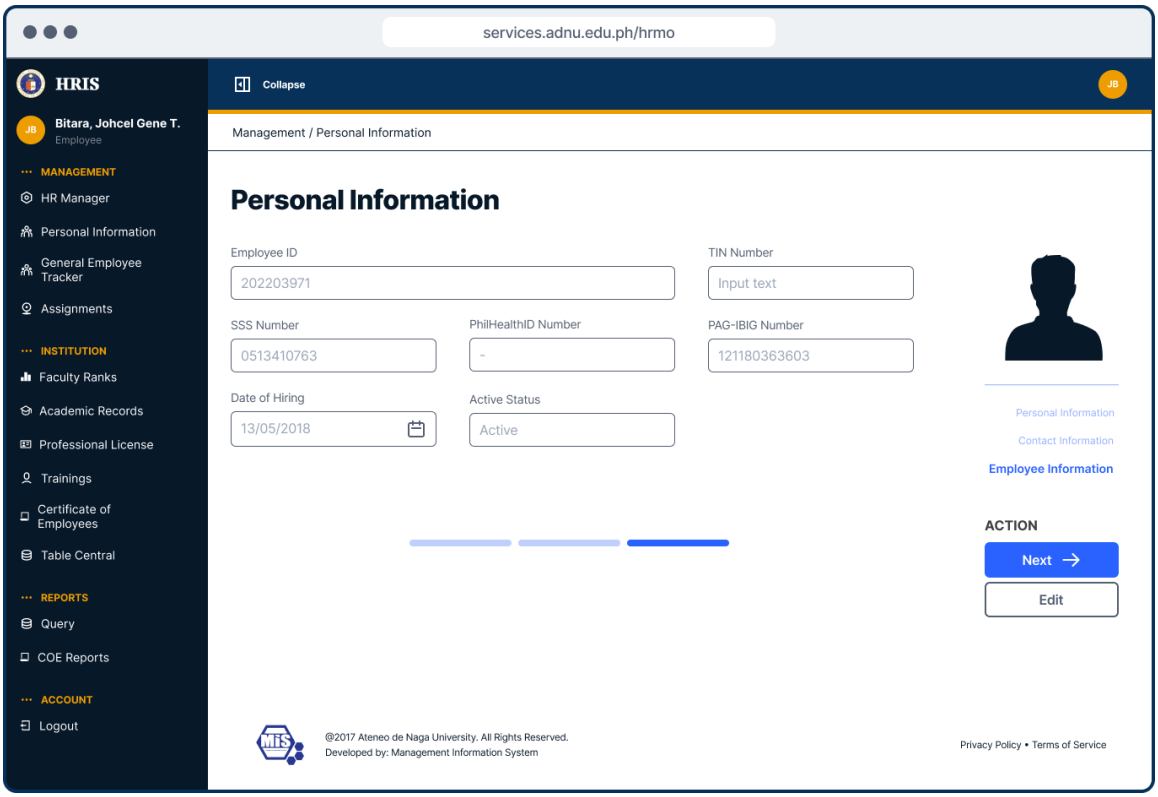

Figure 4.15: New Personal Information Page Tab 3.

This figure displays the last tab of the new Personal Information Page. In this section contains their employee information.

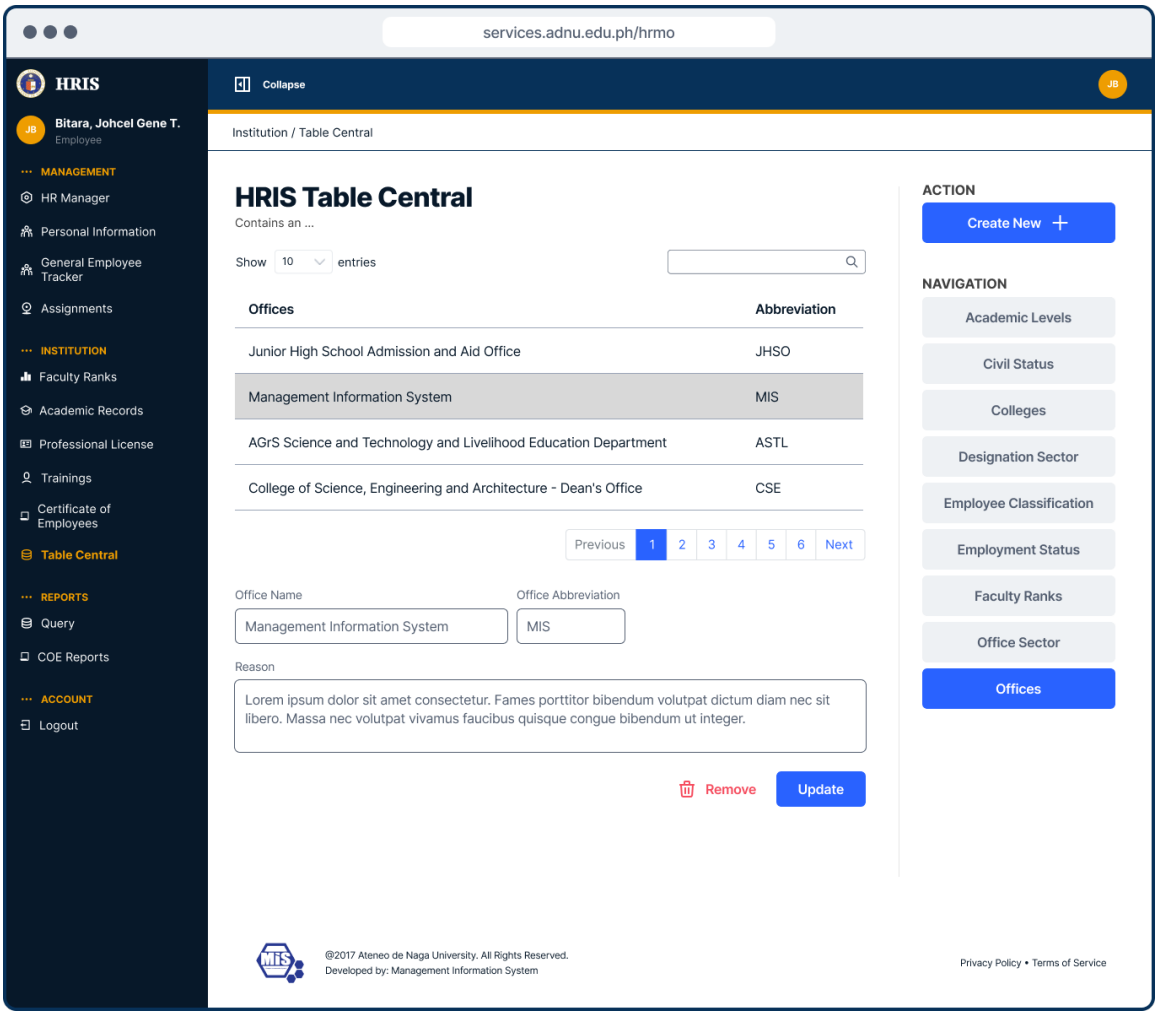

Figure 4.16: New HRIS Table Central Page.

This figure displays the HRIS Table Central module wherein, managers can manage certain sectors and department information and make updates within the University.

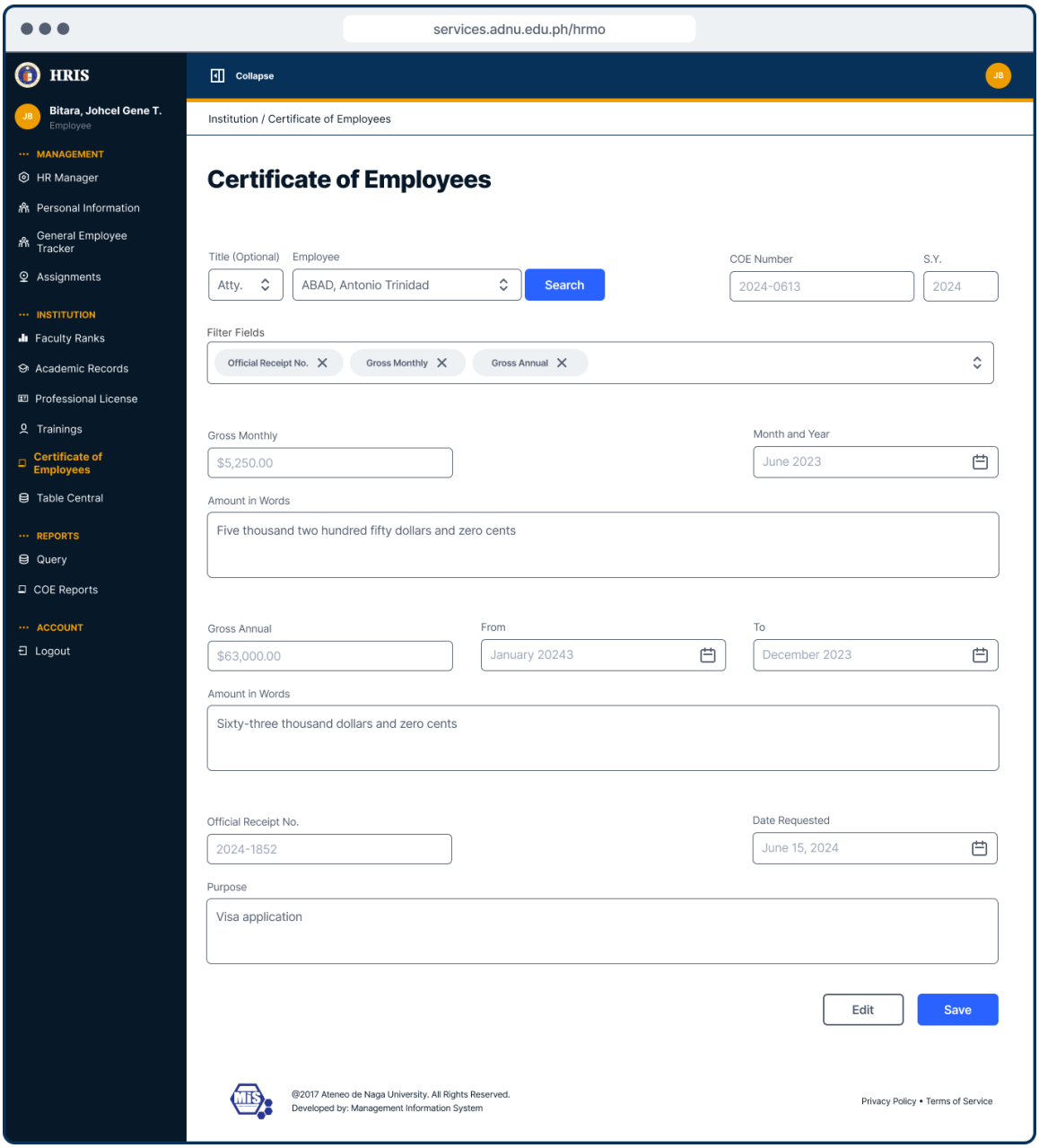

Figure 4.17: New HRIS Certificate of Employment Processing Page.

This interface is designed to streamline the creation and issuance of employment certificates. Man-

agers can select employees and generate COE for each University personnel.

Appendix A

Interview Transcript

To further understand the processes of the current HRIS along with specific details, the researchers sent a formal interview request letter on July 1, 2024. The document has undergo-ed reviews, approval, and endorsement of the SP Adviser/Dean/CITO/CSIO, as well as the CCS Chairperson, and given that the project is an MIS initiative, the approval of the MIS Director is requested.

On July 5, 2024, the researchers conducted a formal interview along with the System Administrator Specialist, HRMO – Ms. Leanne Gemelly B. Briones. The interview lasted from 3:00PM to 4:00PM.

The interview covered various aspects of the current HRMO system and processes, starting from a general overview regarding HRIS to user experience, system limitations, data management, current requirements, and diagrams and documents. This allowed the researchers to better gain understanding of the processes and identify priorities within modules to create and disregard.

July 1, 2024

MS. MYLLAN B. TOLEDANA
Director, Human Resource Management Office

Through: **MS. LEANNE GEMELLY B. BRIONES**
System Administrator Specialist, HRMO

Dear Ms. Toledana,

Greetings!

We are 4th year students at Ateneo de Naga University taking Bachelor of Science in Information Technology. As part of our curriculum, we are conducting a capstone project research for the University's Human Resources Information System (HRIS). Given the approval of our topic defense, we are writing to request an opportunity to conduct a formal interview with the personnel involved in the management of the HRIS.

The interview aims to cover the following areas:

1. Thoroughly understand the current HRIS, including architecture, functionalities, and limitations.
2. Identify the main issues and challenges the HR department faces with the current system.
3. Expectations for the redesign and migration initiative for the HRIS.
4. Understand the data migration requirements and integration needs with other systems.

This capstone project has been recommended, endorsed, and will be monitored by the MIS Office.

We are available for the interview at your earliest convenience and hope to conduct the interview before July 5, 2024. We request that the interview be conducted in person for better communication and understanding.

Yours sincerely,

Johcel Gene T. Bitara
4 – Bachelor of Science in Information Technology

Miguel Damien L. Garcera
4 – Bachelor of Science in Information Technology

Endorsed by:

Joshua C. Martinez
SP Adviser/ Dean / CITO, CCS/ CSIO

For:
Lowie Vincent S. Bisana
Chairperson, Department of Computer Science

Estrella H. Montealegre
Director, Management Information System

Figure A.1: Formal Interview Request.

	Modules	**Brief Description**
HRIS MODULE	Contacts	Module use to save contact numbers within an
	Data Extraction	Module that handles query to retrieve processe
	Personal Info	Module to store personal information of emplo
	General Employee Status Tracker	Module use to track down status movements o
	Employee Profile	Contains other information of the employees
	Assignments	This module contains the active designation of
	Assignment Archive	Contains the archived/history designation of t
	Faculty Rank	Modules that handles academic rank of the fac
	Academic Profile	Academic records of all employees
	Academic Awards	Module that handles the awards receive by the
	Professional License Record	Professional license record of employees
	Training Attended Module	Contains record of training attended of employ
	Performance Evaluation	Contains the average performance evaluation o
	COE	Inputs the necessary data to produce the certi
	COE Reports	View of the newly requested COE
	Contracts/Appointment Generation Reports	Generates contracts/appointment of employees
	Health Record	Contains health info of the employee

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