

**AUTOMATED RECRUITMENT SYSTEM FOR DEPARTMENT OF
EDUCATION – SCHOOLS DIVISION OF LA UNION**

**GERALDINE A. DADURAL
JASMINE LYN L. GALISTE
LEIZHEL MAY P. GASMEN
JASMIN L. GUBGUBAN
VILLA CARLA B. MARQUEZ
GODWIN R. VILLANUEVA**

**DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY
SOUTH LA UNION CAMPUS
COLLEGE OF COMPUTER SCIENCE
AGOO, LA UNION**

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

MAY 2024

APPROVAL SHEET

This thesis, **Automated Recruitment System for Department of Education – Schools Division of La Union**, prepared and submitted by **Geraldine A. Dadural, Jasmine Lyn L. Galiste, Leizhel May P. Gasmen, Jasmin L. Gubguban, Villa Carla B. Marquez, and Godwin R. Villanueva**, in partial fulfillment of the requirements for the degree Bachelor of Science in Computer Science was examined and passed on May 10, 2024, by the College Thesis Committee composed of:

HAYDEE D. LIMSON, MIS
Chair

ENRIQUE G. ABAD, DIT
Adviser

ENRICO G. DACANAY, MIT
Panel Member

CHARLIE S. MARZAN, PhDCS(c)
Panel Member

AGNES S. SUGUITAN, MIT
Panel Member

Accepted and approved in partial fulfillment of the requirements for the degree, Bachelor of Science in Computer Science.

RAYMUND E. DILAN, DIT
Chairperson, BS Computer Science

Date Signed

ENRICO G. DACANAY, MIT
Dean, College of Computer Science

Date Signed

ACKNOWLEDGMENTS

The researchers would like to convey their gratitude wholeheartedly to the people who shared their wisdom, efforts, and precious time for the success of this endeavour. The researchers acknowledge genuinely their indebtedness to the following individuals:

Special acknowledgment is extended to Dr. Jaime I. Manuel, Jr., President of Don Mariano Marcos Memorial State University – South La Union Campus, and Dr. Joanne C. Rivera, campus Chancellor, for their inspirational leadership, commitment to education, and motivation that propelled the researchers to pursue excellence in this study.

The researchers also recognize the visionary leadership of Prof. Enrico G. Dacanay, Dean of the College of Computer Science, and Prof. Raymund E. Dilan, the former Chairperson of the College of Computer Science. Their dedication to academic excellence, insightful ideas, and unwavering encouragement greatly influenced and guided the completion of this study.

Prof. Haydee D. Limson and Prof. Agnes S. Suguitan, the Thesis College Committee, for their invaluable guidance, insightful feedback, and unwavering support throughout the entire thesis crafting process. Their meticulousness and perspectives significantly enriched the depth and quality of this research study.

Prof. Enrique G. Abad, the Thesis Adviser, for his worthy suggestions, enriching recommendations, and continuous support. His unwavering guidance, and mentorship throughout the entire journey of writing this study.

The researchers wish to extend their appreciation to Prof. Joe Anthony Milan, SAS Facilitator, as well as Prof. Amy Balcita, and Prof. Kristoffer Camille Cacayuran, CCS faculty member, for their invaluable support, endless love, guidance, and unwavering commitment, which greatly contributed to the successful fulfillment of this endeavor.

To the CCS Faculty and Staff, for their endless efforts in providing knowledge, resources, and infrastructure essential for conducting this study.

The researchers deeply acknowledge the invaluable contributions of Prof. Lucito Ferrer, English Critic for the study, whose meticulous feedback and unwavering dedication significantly enhanced the clarity and coherence of this work.

The researchers express their profound gratitude to the esteemed teachers who generously served as the respondents for their study and provided invaluable feedback as validators for the study. Their willingness to contribute their time, expertise, and insights has enriched the research process and enhanced the validity of the findings.

Above all, profound gratitude is offered to Almighty God for His boundless grace, unwavering guidance, and endless blessings. His divine presence has been a constant source of strength, wisdom, and comfort, allowing the researchers to navigate challenges, and embrace opportunities with unwavering faith.

GD
JLG
LMG
JG
VCM
GV

DEDICATION

The researchers wholeheartedly dedicated this study to everyone who mentored them, who shaped their academic future, and serves as a testament to their essential contributions that inspired and motivated them to accomplish their study.

The diligent researchers express their heartfelt gratitude for the unwavering pursuit of knowledge that has propelled pioneering discoveries and innovations, generously sharing their time, efforts, and insights to make this study feasible.

The mentors and professors, with their greatest knowledge and expertise, have challenged and inspired the researchers, providing invaluable guidance, feedback, and encouragement, igniting their own curiosity and desire to make a meaningful impact in this field.

To the loving parents, cherished friends, supportive relatives, and special someone, the enduring support, unwavering encouragement, and boundless compassion have served as the pillars of strength throughout the researchers' academic journey, driving their determination.

GD
JLG
LMG
JG
VCM
GV

TABLE OF CONTENTS

	Page
TITLE PAGE.....	i
APPROVAL SHEET	ii
ACKNOWLEDGMENTS	iii
DEDICATION.....	v
LIST OF FIGURES	ix
LIST OF TABLES	x
LIST OF PLATES	xi
ABSTRACT.....	xiii

CHAPTER

1 INTRODUCTION

Situation Analysis	1
Statement of Objectives	13
Time and Place of the Study	14
Definition of Terms.....	14

2 METHODOLOGY

Research Design.....	16
Materials and Procedures	17
Data Gathered.....	23
Data Analysis	24

Ethical Considerations.....	26
3 RESULTS AND DISCUSSIONS	
The Developed Automated Recruitment System.....	29
Usability Evaluation of the Automated Recruitment System.....	75
4 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	
Summary	86
Conclusions.....	87
Recommendations.....	88
LITERATURE CITED	90
APPENDICES	
A Letter of Request to Thesis Adviser	95
B Letter of Request to the Chair	96
C Letter of Request to the Panel Members	97
D Letter of Request to the Client	100
E USE Questionnaire	101
F Application for Ethics Review Protocol	103
G Informed Consent Form.....	106
H Ethical Clearance	112
I Decision Letter	113
J Proofreading Certification	114
CURRICULUM VITAE	
Geraldine A. Dadural	115
Jasmine Lyn L.Galiste.....	117

Leizhel May P. Gasmen	119
Jasmin L. Gubguban.....	121
Villa Carla B. Marquez	123
Godwin R. Villanueva.....	125

LIST OF FIGURES

Figure No.		Page
1	Stages of the Agile Software Development Lifecycle	18
2	Context Diagram	33
3	Use Case Diagram.....	37
4	Entity Relationship Diagram.....	44

LIST OF TABLES

Table No.		Page
1	Results of Usability Evaluation in Terms of Usefulness.....	76
2	Results of Usability Evaluation in Terms of Ease of Use	78
3	Results of Usability Evaluation in Terms of Learning.....	79
4	Results of Usability Evaluation in Terms of Satisfaction	82
5	Overall Summary of the Level of Usability (USE).....	85

LIST OF PLATES

Plate No.		Page
1	Gathering Data and Clarification from Dulao Integrated School.....	47
2	Homepage of Recruitment System	49
3	Administration Login Account.....	50
4	Dashboard of Administrator.....	51
5	Registered Accounts Page with Status	52
6	Results of Passed Applicants.....	53
7	Messages to the Administrator	54
8	Application Forms Sorted by Municipality of La Union	55
9	Manage the Job List	56
10	Administrator Accounts	57
11	Automated Computations for Teachers Page.....	58
12	Sign Up Accounts by Applicants	59
13	Applicants' Login Account	60
14	Password Recovery	61
15	Dashboard of Applicants	62
16	Setting the Due Date for Passing of Applications.....	63
17	Summary of the Computations.....	64
18	Application Forms for Applicants	65
19	Review Applications Before Submitting	66

20	View Submissions	67
21	Conduct System Testing in Agoo West Central School.....	68
22	System Evaluation in Dr. Manuel T. Cases National High School.....	69
23	System Analysis with Teacher in Dulao Integrated School	70
24	Executing User Acceptance Testing in San Julian Integrated School.....	71

ABSTRACT

DADURAL, GERALDINE A., GALISTE, JASMINE LYN L., GASMEN, LEIZHEL MAY P., GUBGUBAN, JASMIN L., MARQUEZ, VILLA CARLA B., and VILLANUEVA, GODWIN R. (2024). **Automated Recruitment System for Department of Education – Schools Division of La Union.** Bachelor of Science in Computer Science. Don Mariano Marcos Memorial State University – South La Union Campus, College of Computer Science, Agoo, La Union.

Adviser: Abad, Enrique G., DIT

This study emphasized on the development of an automated recruitment system for the Department of Education – Schools Division of La Union, with two primary objectives: (1) employing an agile methodology in the system's development and (2) evaluating its usability. Additionally, the system integrated an automated computing criteria registry for qualified applicants, aimed at enhancing the efficiency and effectiveness of the recruitment process.

The researchers utilized descriptive and developmental research design. An agile methodology was selected for its flexibility and capacity for iterative progress, ensuring that the system met the specific needs of the DepEd Schools Division. The system was developed using Visual Studio Code, HTML, Bootstrap CSS, JavaScript, AJAX, PHP, and MySQL, incorporating PHPMailer for email functionality. The primary objective is to create an efficient, user-friendly system that streamlines the recruitment process for educational institutions in the region. Key features of the system include automated computations of the Registry of Qualified Applicants (RQA) criteria, email notifications for successful candidates, an integrated chat system, comprehensive data history view, and user account creation capabilities.

The findings revealed that the system performed well in usefulness, ease of use, ease of learning, and overall satisfaction, with mean scores of 4.73, 4.06, 4.43, and 4.62 respectively. Its average weighted mean of 4.46 indicated strong usability and satisfaction. However, there were still opportunities for improvement.

Keywords: applicants, automated recruitment system, automated computing criteria, DepEd Schools Division, user-friendly

Chapter 1

INTRODUCTION

Situation Analysis

Simion et al. (2021) asserts that the recruitment is one of the main pillars for the proper functioning of a healthy environment which meets its objectives and process coordinated by the human resources department, together with the respective managers for each position. In any kind of organization, recruitment and selection processes are useful operations in human resource management. This is designed to make best use of an employee's strength to meet the strategic goals and objective of the employers and helps in finding the most suitable candidates for the jobs. It is a process of screening, sourcing, shortlisting, and selecting the right candidates for the vacant positions. Employers utilize recruitment strategies and methods that would be the most beneficial to achieve organizational goals and objectives (Gomathy et al., 2022).

The most crucial task for managers and leaders is hiring the right people for the right job, driven by rapid technological advancements and automation in the recruitment industry. This automation, facilitated by artificial intelligence and machine learning, has revolutionized candidate selection methods. Implementing a hiring process that minimizes human intervention, ensures consistent screening, and enhances system flexibility is imperative for operational efficiency. Our proposal introduces an AI-based recruiting system that streamlines preliminary screening rounds, efficiently filtering candidates and reducing human involvement (Uttarwar et al., 1970).

According to Swartz (2023), automation enables users to reduce or eliminate repetitive tasks and streamline operational efficiency using technology. Automation plays a significant role in optimizing processes such as resume screening, candidate sourcing, and data hygiene. By using automation tools and software, staffing firms can save time, minimize errors, and concentrate on valuable tasks like engaging with candidates and building relationships. Integrating these technologies can create a strong synergy, enhancing operations, enhancing candidate experiences, and boosting business growth.

Igwe et al. (2014) stated that people are the most crucial resource, even in automated systems, as they are essential to initiate production. Human resource management, a vital managerial function involves activities like recruitment, training, wage administration, and employee welfare to ensure success. In the dynamic landscape of contemporary workplaces, the integration of Human Resources Management (HRM) and automated systems has emerged as a pivotal force reshaping the way organizations manage their most valuable asset – their human capital. Automation is rapidly shaping labor-force policies for human resources, increasing the scope for human resource research. Advancements in technology are reshaping traditional human resource tasks like hiring, training, and financial oversight. Successfully implementing these changes requires a robust human resource presence. Recruiting can influence establishment efficiency. Finding the best candidate is a combination of worldly activities and strategic decisions. Resuming resources is a process that takes a great deal of time and can be done more effectively with automation. Highly automated HR functions organizations use AI to pick

suitable resumes from online collection. This allows human resources to be reserved for activities involving appeals to judgment (Sajjad & Chandra, 2021).

Historically, the recruitment of teachers was a labor-intensive and time-consuming process. Educational institutions heavily relied on conventional methods such as newspaper advertisements, bulletin boards, and word of mouth. This made it challenging to attract candidates from distant areas. Along with this, the absence of centralized databases made it burdensome for educational institutions to manage the applications efficiently. Manual sorting and screening of resumes consumed a considerable amount of time, leading to delays in the hiring process. The lack of standardized application formats made it challenging to compare candidates objectively. Additionally, interviews were typically conducted in person, necessitating candidates to travel to the school or their district office where they wanted to apply. This not only incurred additional expenses for both parties but also posed operational challenges. Basically, the traditional methods of teacher recruitment were characterized by inefficiency, geographical limitations, and a lack of standardized processes. Shifting from the traditional to technological methods in teacher recruitment has brought about several notable improvements. Firstly, the use of technology has significantly increased the efficiency of the recruitment process. Automated systems can handle large volumes of applications, allowing institutions to facilitate the screening and selection of candidates. Ideally, technology has facilitated a more inclusive and diverse recruitment process. Online platforms enable institutions to attract candidates from various locations. There is no doubt that a tremendous development in technology is being experienced. As a result, humans continue to evolve continuously, and it has influenced

the way they live, relying heavily on it (The Scientific World, 2019).

Bika (2023) affirms that it is indeed that recruiting in this day, and age is a challenge. Evans (2023), getting an effective teacher can be a challenging task. Finding the right candidate for the role really inconsistent, no matter how many people apply it for just in a day (Faculty, 2022). Definitely, recruiting of the best teachers for the institutions will be tough. Faculty (2022), when it comes to recruitment, some obstacles will never be changed. According to UNESCO (2021) claims that the recruiting of effective teaching candidates and deploying quality teachers equitably is vital to improving student. Recruitment is not just a simple task. Taking into consideration that this will entail and undergo on to the recruitment process and to an effective recruitment which means the recruiter hires the right person for the job (Hermelle, 2023).

It is indeed that the recruitment landscape changed in recent years due to rapid development in technology. The recruiters, hiring managers and recruitment teams are still struggling to attract the right candidate and engage with them effectively to hire them for growth. Recruiting is not an easy task, and it takes a lot of effort to hire the right candidate for the job and avoid a bad hire (Ghodasara, 2023).

Technology has revolutionized the hiring process making it more efficient, effective, and convenient for both recruiters and job seekers. Automation systems are reshaping the way organizations attract, screen, and select candidates. It eliminates manual, time-consuming tasks, allowing recruiters to focus on building relationships, and making strategic decisions. Aside from that, it reduces errors and improves consistency in screening and shortlisting candidates (360 Talent Avenue, 2023).

To maintain a skilled workforce in today's global businesses, the organizations in Saudi Arabia face the challenge of efficiently attracting top talents. The current manual process of sifting through numerous job applications is time-consuming and resource-intensive. In response, they developed a new e-recruitment support system using the codeigniter framework serving as the main interface for user-friendly dashboards. The system is experimentally built using MySQL and PHP servers, assessing candidates' experience and qualifications for the specific job roles in companies or government organizations. By analyzing job requirements and matching skills, the system aims to eliminate the human factor in the selection process, making it more efficient (Aljuaid & Abbod, 2020).

Computer systems become the right hand and the first assistant for humans in all different sectors. Nowadays, computer systems carry out all works that previously required time, effort, human resources and expertise with high efficiency and low cost. One of the most notable sectors that relied on computer systems in their development is the human resources management sector. This encompasses a vital role in overseeing everything from hiring and training to motivation and communication. The job search process poses challenges for both job seekers and recruiters, it was an uneasy process starting from the job announcements to the candidate evaluation. The traditional approach to this process is costly for both parties. The proposed system will build an online E-Recruitment system for recruiters and job seekers that will help them to interact with each other and to match their expectations. They developed the system using HyperText Preprocessor (PHP), HyperText Markup Language (HTML), Cascading Style Sheet (CSS), JQuery, MySQL, and XAMPP.

Moreover, the recent Human Computer Interaction (HCI) concepts will apply to provide good user experience through simple, clear, and modern interfaces. The e-recruitment system is directed to all graduated students from university in all programs. The system allows the recruiters to post announcements for job vacancies and to search for job seekers or about another agency and view the applied job. For the job seeker, graduate students search for a job, apply for the available opportunities, upload curriculum vitae, and set-up their own profile (Malki & Atlam, 2021).

Kavade (2019) designed an application Innovative Recruitment Techniques with MERN Stack, as a web-based platform connecting recruiters and job seekers. This online Job Search System simplifies the job-seeking process, allowing employers to create or edit profiles, post job vacancies, and search for suitable candidates. Job seekers can search for preferred jobs, contact employers, and manage their profiles. The application prioritizes a user-friendly interface, utilizing popular technologies to enhance the overall experience. It aims to provide an accessible portal for users to find work conveniently from any device. The main goal is to offer users a maximum set of features for basic tasks like finding and posting jobs, while additional features work behind the scenes to improve performance and reliability, ensuring a seamless experience.

Admission of new employees is undoubtedly one of the programs for business establishments to get human resources who have the potential and qualifications according to the needs. Martini and Merdekawati (2020) designed an employee recruitment system for PT Megah PerkasaTeknologi which still utilizes social and verbal communication from one person to another so that only a few are aware of the recruitment needs. They still

record and select an incoming file both obtained via email and sent through the delivery service. Therefore, the system is essential to offer more comprehensive information to the public, particularly those seeking employment. They designed the system using the Unified Modeling Language (UML), and software developers use the Waterfall model with PHP and MySQL programming languages. With this employee recruitment system, it can make it easier for applicants to be able to directly access the application files on the website, as well as make it easier for human resources departments in process of selecting new employees (Arribathi et al., 2021).

The population of Laguna State Polytechnic University – San Pablo City Campus is growing, the need for additional workforce including new professors, instructors, administrative staff, and utility workers arises. The LSPU-SPCC administration viewed the hiring of possible employees as one of the major problems in the university today because of its old school approach or the lack of technological touches. It could take a weeks or months for HR department to do a manual advertisement of job posting, sourcing candidates, screening applicants, conducting preliminary interviews, and coordinating hiring efforts with directors, deans, and administration heads for making the final selection of candidates. In order to solve this problem, one of their objectives is to implement a web-based decision support personnel recruitment system that can screen qualified applicants, assist the human resource personnel in ranking the applicants and generate reports. They developed the system using PHP, CSS, JavaScript, and XHTML as programming platforms and MySQL as their database engine (Erlano-De Torres, 2021).

Breyer (2021) asserted that it is essential to hire the right people who are great

individuals, aligned with their vision, and support them. Hiring the right employees is crucial for the success of any business, impacting organizational culture, productivity, and overall profitability. Finding individuals who align with the organization's values and mission contributes to a positive work environment and enhances teamwork. Conversely, hiring the wrong employees can lead to a toxic atmosphere, affecting morale and collaboration negatively. Motivated and engaged employees, resulting from effective hiring, drive productivity and contribute to the growth of organization. A healthy organizational culture fosters retention, reducing turnover costs and enabling organizations to invest in talent development. Skilled and dedicated workers enhance efficiency, while hiring the wrong employees can lead to reduced productivity, increased workloads, and potential burnout. The right employees not only boost productivity but also bring fresh perspectives, fostering innovation and growth. Their eagerness to learn and adapt to challenges helps companies stay competitive and continually improve their products, services, and processes. In essence, the hiring process is an investment in the future, and recruiting the right talent is pivotal for long-term success and evolution in today's dynamic establishment landscape (Bottrell, 2023).

Recently, Information and Communication Technologies have introduced new practices in Human Resource Management functions such as online recruitment or electronic recruitment (e-recruitment). Online recruitment platforms are websites or applications that allow employers and job seekers to connect, communicate, and apply for a certain job. It helps employers to define the job specifications, criteria, and performance standards for hiring, training, and evaluating employees. Recruitment is the process of

attracting, screening, selecting, and hiring qualified candidates for a job (Parkin & S, 2023). Recruitment is the process of attracting qualified candidates for a job role and selection is the process of identifying and selecting the right candidates for that job. The contributions of each candidate play a crucial role in the sustenance and growth of the organization. Hence, it is extremely important to select the right person for the job. The same way as a square peg does not fit in a round hole, bad hiring can affect the overall business outcomes. The implication of an establishment when they hire the wrong candidate is often much more significant than not hiring a person at all. Recognizing that recruitment is not only an operational activity but a key strategic activity (Empxtrack | Technology, People, Growth, 2024).

Nowadays, HR departments are becoming more digital, especially for recruitment, aligning with the way people are searching for jobs. Whether one is recruiting for a whole new team or just individuals to fill specific roles, online recruitment tools can save time and money while meeting the needs of today's recruitment market. Online recruitment or e-recruitment is the process of filling job positions using web-based resources and software to find, attract, interview, and hire new employees into an organization to make recruiting processes more efficient and less expensive (Singh, 2022).

The evolution of recruitment processes has transitioned from manual resume reviews to automated systems. These systems employ algorithms to analyze keywords, experience, and qualifications, accelerating the screening process and improving the identification of suitable candidates. This not only saves time but also enhances the likelihood of securing the right talent. Automation extends to interview scheduling and

communication, streamlining the process for recruiters and candidates alike. Automated systems facilitate seamless interview invitations, appointment scheduling, and timely reminders, reducing communication complexities. The use of Applicant Tracking System (ATS) software further enhances efficiency by processing large volumes of applications swiftly, utilizing algorithms to assist hiring managers in identifying the most qualified candidates for vacant positions, ultimately saving time and resources in the recruitment process (360 Talent Avenue, 2023).

When it comes to recruiting teachers, embracing digital transformation can lead to increased efficiency and improved outcomes. This can revolutionize the way educational institutions find and hire new candidates. By embracing online recruitment platforms and digital tools, institutions can streamline their recruitment process, attract a diverse pool of talent, and make informed hiring decisions. As technology continues to advance, it is crucial for educational institutions to stay current with the latest digital recruitment strategies to remain competitive in the ever-evolving landscape of teacher recruitment in relevance with UNESCO's International Institute for Educational Planning (2021).

Apart from that, to guarantee that the recruitment of teaching staff is conducted with utmost fairness, transparency, and efficiency, the Department of Education (DepEd) implements comprehensive hiring guidelines and a pointing system criterion which will serve as the basis for scoring as stated to Teach Pinas (2023). By providing a standardized set of criteria against which candidates are assessed, DepEd ensures that every individual has an equitable opportunity to showcase their qualifications and competencies. This commitment to fairness not only upholds the principles of justice but also contributes to

building a diverse and inclusive workforce, reflecting the rich tapestry of the community served by the education system. (Transformation affects teacher recruitment, n.d). The pointing system criteria, a specific aspect of these guidelines, introduces a merit-based dimension to the recruitment process. This systematic approach allows for the objective evaluation of candidates, prioritizing those with the most relevant qualifications, experience, and skills (Rivera, 2023).

In the ever-evolving landscape of education, the Department of Education (DepEd) plays a crucial role in ensuring the quality of education in the Philippines. One significant aspect that contributes to the success of any educational institution is the recruitment of dedicated, competent, and qualified teaching personnel. To streamline and enhance the efficiency of this crucial process, researchers have proposed a Web-Based Automated Recruitment System with Registry of Qualified Aspirants criteria (RQA criteria) and ranking for the DepEd School Division of La Union. This innovative system offers a comprehensive solution to the challenges of traditional recruitment processes. By utilizing the power of web-based technology, it revolutionizes the way candidate evaluations are conducted. Traditional recruitment processes can be time-consuming and labor-intensive, involving manual sorting of applications, scheduling interviews, and managing candidate data. By automating these tasks, the system can significantly reduce the time and effort required for recruitment. Moreover, automation can help improve the accuracy and consistency of the recruitment process by minimizing human errors biases, and inconsistencies in evaluating candidates through standardized automated procedures. The recruiters can easily monitor the progress of vacancies, view applicant data, and generate

reports to assess the effectiveness of their recruitment efforts in real-time. One of its core functionalities is the Automated Computation of the RQA criteria, which includes their qualifications, educational backgrounds, experiences, and specific job requirements. This automation significantly reduces the time and effort spent on the initial screening of applicants, enabling recruitment teams to focus on thorough assessments. Along with this, the system introduces an advanced ranking mechanism. This feature goes beyond the traditional checklist approach and considers a wide range of candidate attributes. Factors such as academic achievements, relevant teaching experiences, specialized skills, and personal qualities are considered, allowing for a more subtle and informed ranking process. As a result, the system ensures that the most suitable candidates rise to the top of the list. This ensures that all applicants are treated fairly and evaluated based on predefined criteria, leading to more informed hiring decisions and ultimately better outcomes for the division. The Web-Based nature of this system enhances accessibility and collaboration among recruitment team members. It allows for seamless communication and data sharing, making it easier to reach an agreement on the most promising applicants. Furthermore, the system can be tailored to meet the specific needs of the DepEd School Division of La Union, ensuring that it aligns with the division's unique requirements and objectives.

In essence, the digital transformation has had a profound impact on teacher recruitment in the education sector. By embracing online recruitment platforms and digital resources, educational institutions can streamline the recruitment process, gain access to a wide range of applicants, and ultimately improve the quality of teaching and learning experiences. However, it is essential to address technological barriers and ensure that

recruitment teams are equipped with the necessary digital literacy skills to navigate the digitally transformed landscape successfully. By preparing for a digitally transformed recruitment process, educational institutions can stay ahead in the ever-evolving world of education. As education remains a cornerstone of societal progress, this system empowers educational institutions to make well-informed recruitment decisions, ultimately supporting the students and the community.

Statement of Objectives

The Department of Education (DepEd) School Division of La Union recognized the critical significance of choosing the most suitable individuals to shape the future of its educational system. However, the traditional recruitment process frequently suffered from inefficiencies, administrative complexities, and inconsistencies in evaluation.

To address these challenges and introduce a modern era of recruitment excellence, the researchers proposed the development of an Automated Recruitment System for the Department of Education - Schools Division of La Union. This system was designed to streamline and modernize the recruitment process, enhancing its efficiency, transparency, and inclusivity for a broad range of applicants. With this system, here are the outline of the specific objectives that were attained included:

1. To develop an Automated Recruitment System; and
2. To evaluate the level of usability of the proposed system.

Time and Place of the Study

The research was conducted within the dynamic and academically charged environment of the School Division of La Union, covering the entirety of La Union during the academic year 2023-2024. This timeframe was carefully chosen to ensure a seamless integration of the Automated Recruitment System with the upcoming recruitment cycle, allowing researchers to address potential challenges and optimize the system's performance in real-time. The decision to focus on La Union for the research locale was purposeful, guided by a thorough examination of the unique contextual factors influencing the recruitment landscape such as the regional demographic trends, specific needs of the schools, and the administrative structure of the division.

Definition of Terms

In this academic exploration, prioritizing clear language is crucial; defining key terms and concepts establishes a foundational understanding, ensuring mutual comprehension and laying the groundwork for subsequent chapters.

Agile Methodology is a flexible approach to software development emphasizing iterative delivery, collaboration, and adaptability.

Applicants are the individuals who submit their qualifications and express interest in a job opportunity within an organization.

Automated computing criteria registry for qualified applicants is a system that uses predefined algorithms to assess and catalog the qualifications of job applicants.

Automated Recruitment System refers to a system which was designed by the

proponents to streamline and modernize the recruitment process, enhancing its efficiency, transparency, and inclusivity for a broad range of applicants.

Department of Education - School Division of La Union serves as the client of the researchers covering the entirety of La Union in conducting their research study upon developing an Automated Recruitment System.

Efficiency is the ability to accomplish a task with the least amount of time and effort; effectiveness.

Level of usability is the scale of how functional or usable of the system. It determines the usability of the system to the applicants and the personnel.

Online refers to the connection of the web application to the web server.

Recruiting teachers refers to the problem encountered by the Department of Education - School Division of La Union, which is intricate, time-consuming, and complex.

Recruiters are the professionals tasked with sourcing, evaluating, and hiring candidates to fill job vacancies within an organization.

System is a collection of elements or components that are organized for common purposes.

Chapter 2

METHODOLOGY

Research Design

According to Bhat (2024), the research design process was a systematic and structured approach to conducting research. It was essential to ensure that the study was valid, reliable, and produced meaningful results. It played a critical role in the development and implementation of the system that was integral to the functioning of the organization.

In the context of the Automated Recruitment System for the DepEd School Division of La Union, researchers employed descriptive and developmental research designs to guide the improvement and development of these automated recruitment systems. They engaged in iterative cycles of evaluation and modification, continually assessing the system's effectiveness and applying modifications based on the findings. This approach ensured a dynamic and responsive evolution of the automated recruitment system, meeting the evolving needs and challenges of the educational landscape in La Union.

McCombes (2023) aimed that the Descriptive Research, accurately and systematically described the population, situation, or phenomenon. This served as a fundamental tool for researchers aiming to understand and characterize the existing conditions within a given environment. Employing a descriptive research design enabled researchers to systematically observe, record, and analyze the various components and processes associated with the recruitment of educational professionals. Researchers

systematically documented, collected, and analyzed data related to the number of vacancies, application procedures, qualification requirements, and the overall efficiency of the recruitment process. Here, this information was invaluable for identifying areas that required improvement or enhancement.

On the other hand, Richey (1994) defined developmental research design as the systematic study of designing, developing, and evaluating instructional programs, processes, and products that must meet criteria of internal consistency and effectiveness. In the context of Automated Recruitment System, researchers utilized developmental research design to propose and can be an instrumental in implementing innovative strategies for streamlining application processes, enhancing candidate evaluations, and improving the overall efficiency of the recruitment system. This facilitated continuous assessment, refinement, and optimization, aligning the system with emerging needs and goals.

Materials and Procedures

In the dynamic landscape of education, the efficient management of human resources was paramount to the success of educational institutions. The Department of Education (DepEd) School Division of La Union recognized the need for a streamlined and technologically advanced approach to recruitment, aiming to enhance the effectiveness of its processes. To address this, the implementation of an Automated Recruitment System was proposed. Here were the outlines of the materials and procedures essential for achieving the objectives of such a system.

The need for an efficient and effective recruitment system was paramount for the Department of Education - School Division of La Union. This aimed to streamline the recruitment process for teaching positions through the development of an Automated Recruitment System envisioned to be user-friendly, efficient, and effective online platform, ensuring a seamless experience for both applicants and administrators. The advent of technology led to innovative solutions, and automated recruitment system serves as the beacon of efficiency for the Department of Education - School Division of La Union. To ensure the success of such a transition and transformative project, the researchers employed the Agile Methodology, a dynamic and iterative approach to software development that prioritized adaptability, collaboration, and responsiveness to change.

Agile methodology, as emphasized by Nehra (2022), facilitated the creation of an Automated Recruitment System, praised for its efficiency and adaptability to evolving workplace demands. This approach supported by Hoek (2023), emphasized a systematic and straightforward software development process, ensuring timely delivery of high quality systems within budget, as illustrated in Figure 1.

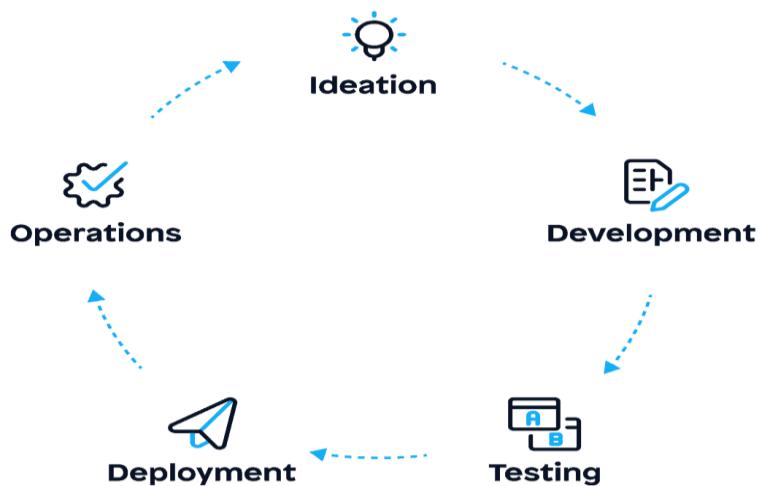


Fig.1. Stages of the Agile Software Development Lifecycle (Hoek, 2023)

The development life cycle of agile methodology is an organized series of phases that a project goes through from start to end. These stages are ideation, development, testing, deployment, and operations.

The **ideation phase** was a crucial stage that marked the beginning of the project and was initiated by establishing its foundational elements. During this phase, the focus was on defining the project's vision, objectives, scope, features, and overall requirements. This was critical for the development team, especially when they were tasked with creating an automated recruitment system for the Department of Education – Schools Division of La Union with a focus on an intuitive user interface. It was imperative to articulate a compelling vision for the automated recruitment system. The project defined comprehensive objectives such as streamlining the hiring process, enhancing efficiency, and ensuring a user-friendly experience for both administrators and applicants. Specific goals such as enhancing the efficiency of the hiring process, improving user experience, and ensuring seamless interaction with the user interface were defined. Aside from that, communication channels were established with school administrators, HR professionals, and other relevant stakeholders within the Department of Education – Schools Division of La Union ensuring that the system aligned with their needs.

To analyze these needs effectively, the researchers utilized Context Diagram, Use Case Diagram, and Entity Relationship Diagram. This process included considerations for designing a user-friendly interface, facilitating easy navigation, and incorporating features that enhanced the overall user experience. Gathering these requirements was essential to create a system that not only met the technical specifications but also addressed the

practical needs and preferences of the end-users, ultimately leading to a more effective and user-centric approach to automated recruitment.

The **development phase** was a dynamic and iterative process where the researchers actively translated the conceptualized ideas into tangible components for the automated recruitment system, emphasizing the creation of an intuitive user interface. This phase was characterized by flexibility, collaboration, and continuous feedback, allowing for incremental progress and adaptation to evolving requirements. During this phase, the research team leveraged a set of web development tools, including Visual Studio Code as their text editor, to craft an intuitive user interface, ensuring a seamless and effective experience for end-users. The team focused a significant emphasis on front-end development to create a visually appealing and user-friendly interface. They utilized HTML, CSS, Bootstrap, and JavaScript to shape the structure, style, and interactivity of the user interface. HTML provided the markup, CSS enhanced visual aesthetics, Bootstrap ensured responsiveness, and JavaScript added dynamic elements, collectively contributing to an engaging user experience. The researchers prioritized an interface that was not only visually pleasing but also intuitive and easy to navigate. Responsive design and interactive features were integrated to enhance the overall user experience, ensuring accessibility and usability. Simultaneously, the team engaged in back-end development to implement the functional aspects supporting the user interface. PHP was employed for server-side scripting, handling dynamic content and server operations. MySQL served as the database management system, facilitating efficient data storage and retrieval. Additionally, AJAX was utilized to enable asynchronous data exchange between the front end and the back end,

enhancing the system's responsiveness. The database architecture was carefully designed to maintain data integrity, security, and optimal performance. The integration of MySQL and AJAX facilitated real-time updates and interactive data handling, enhancing the overall efficiency of the system.

The researchers utilized the XAMPP Server localhost for the **testing phase**, focusing on ensuring the quality and functionality for the automated recruitment system being developed for the Department of Education – Schools Division of La Union. After completing the development, the project team validated the application's functionality and addressed any arising issues. Thorough code examination ensured cleanliness and adherence to standards, maintaining application integrity for future modifications. Comprehensive testing identified and addressed bugs or errors, testing various functionalities like user authentication and data entry. The administrators and applicants provided their feedback and validated functionality against established requirements, ensuring the application was of high quality and ready for deployment and release.

The **deployment phase** signified a significant milestone where the culmination of efforts and iterations materialized into a usable product, starting with configuring the infrastructure and meticulously planning to minimize disruption. Leveraging Continuous Integration/Continuous Deployment (CI/CD) practices automated tasks like testing and deployment for faster, higher-quality releases. Testing in production was crucial for real-world performance monitoring and adjustments. Rollout strategies ensured stability, and once deployed on 00webhost, the platform selected by the researchers, monitoring tools and support ensured optimal performance and user experience.

The **operation phase** entailed a dynamic and ongoing process, with the software fully deployed and accessible to the clients. Researchers addressed bugs, ensured security, optimized performance, adapted to changing requirements, provided user support, and maintained comprehensive documentation to sustain the longevity and effectiveness of the system. This phase embodied the Agile principle of continuous improvement, ensuring that the automated recruitment system for the Department of Education - Schools Division of La Union remained a reliable and responsive solution over time.

The researchers undertook a comprehensive USE Questionnaire (Usefulness, Satisfaction, and Ease of Use Questionnaire) to ascertain the level of usability of the proposed Automated Recruitment System (ARS) from the perspective of Teachers 1. The goal was to contribute to the overall improvement of the educational system in La Union by assisting the DepEd School Division in attracting and selecting the most qualified individuals for various positions. Usefulness assessed the effectiveness of the system in meeting user needs, Satisfaction gauged user contentment, and Ease of Use measured the intuitiveness of the system.

By employing the USE Questionnaire, researchers systematically refined and optimized the automated recruitment system, fostering continuous improvement in usability and overall system performance. This provided a positive experience for potential candidates, making the educational system in La Union more attractive to qualified individuals seeking career opportunities in education. This, in turn, contributed to the overall enhancement of the talent pool within the region.

In the realm of educational research, the researchers strategically employed

purposive sampling techniques to evaluate the usability of the proposed Automated Recruitment System through the USE Questionnaire. The researchers' respondents were 30 individuals. There was no specific calculation for purposive sampling, as it is a qualitative, judgment-based approach or selective sampling, often used when the population being studied is too small (Hassan, 2023).

Purposive sampling involved selecting participants based on specific criteria aligned with the study objectives. In this study, the researchers targeted Teachers 1, a vital and distinct subset of the teaching community. The rationale behind this intentional selection was grounded in the understanding that Teachers 1 play a critical role in the educational landscape, and their experiences and perspectives are uniquely relevant to the usability assessment of the proposed system. They were at the forefront of delivering education to students and were likely to interact extensively with the recruitment system. By focusing on this specific group, the researchers aimed to gather insights that were not only representative of the end-users but also deeply rooted in the daily experiences, challenges, and expectations of those who would directly engage with the system. This targeted approach enhanced the validity and specificity of the research findings, ensuring that the usability assessment was closely aligned with the needs and preferences of Teachers 1.

Data Gathered

To develop an Automated Recruitment System, a user-friendly, efficient, and effective online recruitment platform that streamlines the recruitment process for teaching

positions within the Department of Education - School Division of La Union, the researchers undertook the design and construction of a sophisticated system recognizing the need for a dynamic and adaptive approach. In this endeavor, they adopted Agile Methodology, a framework prominent for its flexibility, collaboration, and iterative progress.

For ascertaining the level of usability of the proposed Automated Recruitment System from the perspective of Teachers 1, and how they contributed to the overall improvement of the educational system in La Union by helping the Department of Education School Division attract and select the most qualified individuals for various positions, the survey USE questionnaire served as a valuable tool in gauging the perceived usefulness of the system in facilitating academic recruitment processes, the level of satisfaction it brought to the end-users, and the ease with which teachers could navigate and utilize the system. In the pursuit of ensuring the effectiveness and user-friendliness of the proposed ARS, they aimed to gather comprehensive insights that would guide them in refining and enhancing the system to meet the unique needs and preferences of the teaching community.

Data Analysis

Choosing the right statistical tool was crucial for research quality, influencing the reliability of the findings. The researchers analyzed data from the thirty (30) respondents utilizing USE Questionnaires, employing a 5-point Likert Scale, weighted mean, and frequency count for its interpretation.

The 5-point Likert Scale was widely used in research for opinions on a scale from strongly disagree to strongly agree. The researchers used the weighted mean to calculate average scores, assigning weights for relative importance. This was helpful when certain aspects influenced the user's experience more. Frequency count was vital for analyzing response distribution, identifying key areas in the data. Together, these tools helped to quantify and interpret respondent perceptions, drawing meaningful conclusions about the system's usefulness, satisfaction, and ease of use.

Utilizing this scale, the responses with the measurements of numbers ranging from 2.60 to 5.00 were considered usable, indicating varying degrees of satisfaction and effectiveness in interacting with the system. This suggested that the users generally found the system functional, efficient, and satisfactory for their needs. Conversely with the responses with the measurements of 2.59 and below indicated that the users perceived the system as less usable or even unusable. This range suggested dissatisfaction, frustration, or challenges in navigating the system effectively, indicating severe deficiencies or limitations in functionality, user interface design, and barriers which hindered the ability to interact seamlessly or affects the overall user experience.

Scale	Statistical Range	Descriptive Equivalent Rating (DER)	Descriptive Interpretation
5	4.20-5.00	Strongly Agree	Very High Usability
4	3.40-4.19	Agree	High Usability
3	2.60-3.39	Moderately Agree	Moderate Usability

2	1.80-2.59	Disagree	Low Usability
1	1.00-1.79	Strongly Disagree	Very Low Usability

Ethical Considerations

The researchers undertook the study on the Automated Recruitment System for the Department of Education – Schools Division of La Union, meticulously adhering to the ethical considerations outlined by Bell and Bryman (2006) to ensure the integrity and fairness of their research.

The investigators took measures to minimize any potential harm or discomfort to their participants. They carefully designed their study protocols to mitigate risks, implemented appropriate safeguards, and monitored the well-being of participants throughout the duration of the study. If any adverse effects or unforeseen issues arose, procedures were in place to address them promptly and effectively.

Prior to the study, full approval was obtained from the teachers of the Department of Education – Schools Division of La Union. This indicated that the research study had undergone a thorough review process by relevant authorities to ensure it met ethical standards and was conducted in accordance with guidelines and regulations.

Voluntary participation of respondents in the study was given utmost consideration by clearly informing potential participants about the nature, purpose, and risks of the study. Individuals were given the opportunity to decide whether to take part in the research without any coercion or undue influence, respecting participants' autonomy and allowing them to make informed decisions about their involvement. Alongside this, the right to

withdraw or refuse participation at any stage of the study was also emphasized. Participants were informed of their freedom to discontinue their involvement without facing any negative consequences.

Furthermore, the researchers prioritized confidentiality measures to safeguard the privacy of the participants. Given the sensitive nature of recruitment processes, particularly in educational institutions, protecting the personal data of job applicants was paramount. Stringent protocols were in place to securely store and handle any identifiable information collected during the study, adhering to data protection regulations and ethical guidelines. Any personal information collected was kept secure, confidential, and only accessible to authorized personnel involved in the study.

Implementing any research study necessitates meticulous attention to ethical considerations, with obtaining ethical clearance being paramount to ensure the protection of human subjects, uphold the credibility and integrity of research findings, comply with regulatory requirements, and promote social justice. In this study, the automated recruitment system for the Department of Education – Schools Division of La Union underwent approval by the Research Ethics Committee (REC), and ethical clearance was obtained prior to commencing the research.

Prior to initiating the study, the researchers obtained formal approval from the Research Ethics Committee, ensuring that all procedures aligned with established ethical standards and guidelines. Throughout the research process, strict confidentiality protocols were upheld to safeguard the privacy and anonymity of participants. Informed consent was diligently obtained from all individuals involved, outlining the purpose, procedures, and

potential risks and benefits of the study. Additionally, measures were implemented to mitigate any potential biases and conflicts of interest, fostering transparency and integrity in the research outcomes.

The ethical clearance process involved a thorough review of the study protocol, including the informed consent process, risk assessment, confidentiality protections, and plans for data management and dissemination. Furthermore, ethical research practices emphasized the equitable treatment of all participants, irrespective of demographic characteristics, and compliance with relevant regulations and guidelines to uphold the integrity of the research process. Ultimately, adherence to ethical principles not only fostered trust between researchers and participants but also ensured that the research contributed positively to knowledge advancement while prioritizing the welfare of individuals and communities involved in the study.

Chapter 3

RESULTS AND DISCUSSIONS

The Developed Automated Recruitment System

The development of an automated recruitment system for the Department of Education – Schools Division of La Union aimed to streamline and enhance the hiring process for teachers and staff, like addressing various challenges and inefficiencies within their existing recruitment procedures. Traditional recruitment methods often involved the manual handling of applications, which could be time-consuming and prone to errors. By automating these processes, the division streamlined recruitment procedures, reducing the time and effort required to manage candidates' applications and assessments. Additionally, automation can help standardize the evaluation criteria, ensuring a fair and consistent screening process for all applicants. Furthermore, an automated system enhanced the overall candidate experience by providing timely updates and feedback throughout the recruitment process, as well as offering a user-friendly interface for submitting applications and tracking their progress. The applicants could easily monitor the status of their application and receive updates on the recruitment process, contributing to a positive perception of the division and its practices. Lastly, the scalability of the system was invaluable for accommodating fluctuating hiring demands. The system could flexibly adapt to meet changing needs, ensuring a seamless and efficient hiring process.

The users of the system encompassed a diverse range of stakeholders, each contributing to various aspects of the recruitment process. Administrators and Human

Resources personnel serve as the backbone of the system, managing job postings, applicant data, and overall recruitment progress. Recruiters and hiring managers leverage the system to screen candidates and make informed hiring decisions efficiently. The applicants seeking positions within the division utilize the system to browse job openings, submit applications, and monitor the status of the candidacy.

The automated recruitment system streamlined the hiring process, enhancing efficiency and transparency. To begin with the features of the system, it enabled seamless registration for new applicants, providing a user-friendly interface accessible to candidates. The applicants could easily input relevant information and submit their applications online. However, all fields were required to complete with validation and review session before they submit it. In connection with this, if the applicants desired to reapply for the following academic year, there was no need for them to register again; they could effortlessly log in using the same account utilized in the preceding academic year, streamlining the process for added convenience and efficiency.

Besides, if the applicants wished to discontinue submitting their application, they could select the discard option, and they could simply log out of the system without completing any process. Associated with the submission, if multiple submissions were made by a particular candidate, the system detected these submissions within the same academic year. This meant that if a candidate attempted to submit more than one application for the same academic year, the system identified and handled these multiple submissions accordingly. Therefore, it was important to note that re-submission of applications was no longer permitted once the initial application had been processed.

Along with this, the system efficiently sorted and organized applications by municipality. This automated sorting mechanism saved valuable time for administrators, allowing them to focus on evaluating candidates rather than managing paperwork. By categorizing applications according to the municipalities, the system ensured a more localized and relevant selection process, making it easier to identify and address specific staffing needs in different areas. This targeted approach not only enhanced the efficiency of the recruitment process but also helped in placing teachers where they were most needed, thereby improving the overall quality of education across the La Union.

Furthermore, the system allowed applicants to view the list of qualified applicants and search for them based on the municipality they specified. The system had the capacity to generate a list of qualified applicants but only on the recruiter side, streamlining the selection process and ensuring that only the most suitable candidates progressed to the next stage. This functionality not only expedited decision-making but also enhanced transparency by providing clear visibility into the selection criteria.

Moreover, the system facilitated seamless interaction between applicants and administrators through messaging features, whereas the developers leveraged PHPMailer to enable efficient and seamless communication between both parties. PHPMailer, a popular library for sending emails in PHP, provided the backbone for the system's messaging functionalities. This integration allowed the system to automate email notifications and confirmations, ensuring that messages were promptly delivered to the intended recipients. By using PHPMailer, the developers were able to implement robust and reliable email features, facilitating smooth interactions and enhancing user experience.

Applicants could easily receive updates and correspond with administrators, while administrators could manage and respond to queries efficiently. Aside from that, the system allowed administrators to post job vacancies and opportunities, reaching a wider pool of potential candidates and fostering a more inclusive recruitment process.

Ultimately, the system incorporated automated computation of criteria such as scoring applicants based on predetermined qualifications, training, skills, and level of education. This feature eliminated manual calculation errors, ensured consistency in evaluation, and expedited the assessment process.

The implementation of an automated recruitment system within the Department of Education - Schools Division of La Union presented numerous benefits that significantly enhanced efficiency, fairness, and overall effectiveness in the hiring process.

Initially, automation streamlined administrative tasks such as job postings, application tracking, and candidate communication, reducing the time and effort required by HR personnel and administrators. This efficiency enabled them to focus on higher-value tasks such as talent development and strategic workforce planning. Secondly, automation ensured consistency and standardization in the screening and evaluation of candidates, minimizing biases, and promoting fairness throughout the recruitment process. By establishing predefined criteria and automated assessments, the system helped to identify the most qualified candidates objectively. Furthermore, the system improved the candidate experience by providing prompt updates on application status and facilitating seamless communication between applicants and recruiters. This transparency fostered a positive perception of the organization and enhanced its reputation as an employer of choice.

Moreover, automation enabled data-driven decision-making by capturing and analyzing recruitment metrics, such as time-to-hire and applicant demographics. These insights empowered the division to refine its recruitment strategies, optimize resource allocation, and continuously improve its hiring practices.

Ideation phase marked the beginning of the project, in which the researchers focused on defining its vision, objectives, features and requirements of the system. They were assigned with the task of creating a system for the Department of Education – Schools Division of La Union emphasized an intuitive user interface. Through conducting personal interviews, clear communication channels were established with stakeholders to ensure alignment with their needs. The researchers invest their time in creating various plans for the features, requirements, and diagrams such as Use Case Diagrams and Context Diagrams, to meticulously model the system's requirements. These diagrams serve as invaluable tools for visualizing complex information, aiding in the comprehension of user interactions, system functionalities, and inclusive context in which the system operates, thereby ensuring that all stakeholders have a shared understanding of the project's objectives and scope through clear and structured representations.

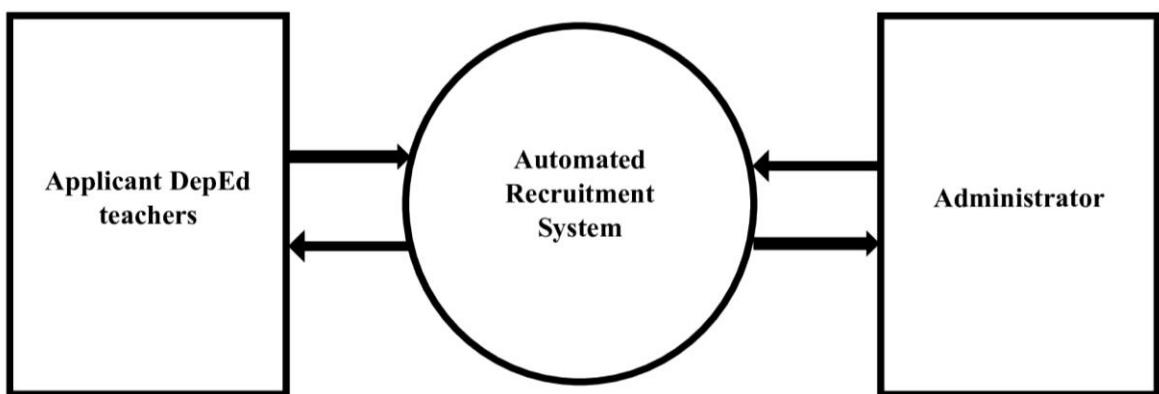


Fig.2. Context diagram of Automated Recruitment System

Employing a context diagram visually illustrated the interactions between the system and its external entities, facilitating comprehension of the system's scope and boundaries. The context diagrams were indispensable tools in the development of automated recruitment systems for DepEd schools in La Union. By providing a visual representation of system context, identifying inputs and outputs, defining system boundaries, facilitating communication among stakeholders, and serving as a foundation for detailed system modeling, context diagrams helped ensure that the resulting system met the unique needs and requirements of the educational institution.

Figure 2 presents the context diagram of the automated recruitment system, whereby it illustrated the relationships and interactions between various entities within the system. It involved three main components: the applicant teachers, the automated recruitment system for the Department of Education – Schools Division of La Union, and the administrator.

At the center of this diagram was the automated recruitment system for the Department of Education – Schools Division of La Union, which served as the central point for the entire process. This system acted as the intermediary between the applicant teachers and the administrator, facilitating the recruitment process efficiently and effectively. On one side of the diagram, there were applicant teachers who were seeking employment opportunities within the Department of Education – Schools Division of La Union. These teachers interacted with the automated recruitment system by submitting their applications, credentials, entering relevant information, and other necessary documents through the designated channels provided by the system.

On the opposite side, there was an administrator who oversaw the recruitment process within the DepEd Schools Division of La Union. The administrator utilized the automated recruitment system to review, evaluate, and manage the incoming applications from the applicant teachers. They had access to the system's functionalities, such as screening applicants, notifying the applicants via email, and making hiring decisions.

Furthermore, the system provided real-time updates and notifications to both applicants and administrators, reducing delays and improving communication. For applicants, this meant receiving timely feedback on their application status and any additional steps required, such as scheduling interviews or submitting further documentation. For administrators, the system offered tools to track the progress of each application, set deadlines, and manage tasks effectively. The integration of these features contributed to a more organized and responsive recruitment process, reducing the administrative burden and minimizing errors. The diagram also highlighted the security measures embedded within the system to protect sensitive information. Applicant data, including personal and professional details, were securely stored and accessed only by authorized personnel. The system employed encryption and user authentication protocols to ensure data integrity and confidentiality. By incorporating these security features, the automated recruitment system upheld the trust of applicants and maintained the integrity of the recruitment process. Basically, the context diagram underscored the interconnected nature of the recruitment system, emphasizing the collaborative effort between applicants and administrators, facilitated by the advanced capabilities of the automated system. This innovative approach not only optimized the recruitment workflow but also aligned with

modern digital transformation initiatives within the education sector, paving the way for more effective and equitable hiring practices.

Figure 3 provides a comprehensive use case diagram for the automated recruitment system, detailing the various interactions and functionalities associated with the system. This diagram serves as a visual representation of the system's use cases, illustrating the specific actions that can be performed by different actors within the recruitment process. By mapping out these interactions, the use case diagram highlights the system's capabilities and the roles of the applicant teachers and administrators. This visual tool not only clarifies the functional requirements of the system but also aids in understanding how the automated recruitment system supports the efficient and effective management of the hiring process within the Department of Education – Schools Division of La Union. These diagrams played a critical role in illustrating the functional requirements of the system. They provided a clear and concise way to represent how various users, known as actors, interacted with the system to achieve specific goals. It exemplified this by detailing the various interactions and workflows within our system, highlighting the primary use cases that ensured the system met its intended functionality. Furthermore, it not only aided in the initial design phase but also acted as a reference throughout the development lifecycle. It supported the validation and verification processes by providing a baseline for test case development. Each use case in the diagram corresponded to a specific functionality that had to be tested, ensuring the system performed as expected. It was an indispensable asset that enhanced communication, facilitated requirement analysis, and contributed to the overall quality and reliability of the system.

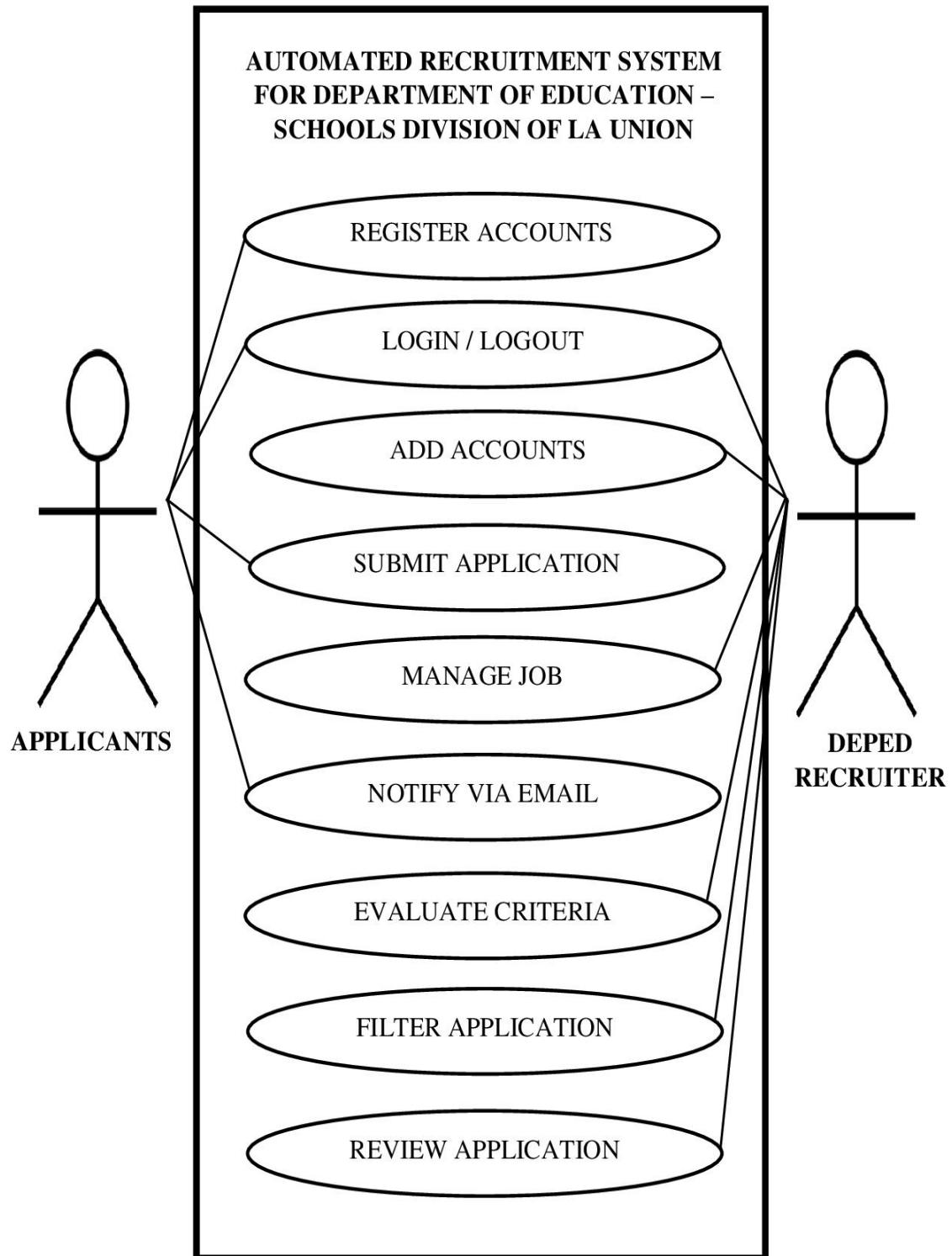


Fig.3. Use Case Diagram

The representation of Figure 3 illustrated the interaction between applicants and recruiters within the automated recruitment system. At the forefront were the applicants, who initiated their engagement by registering accounts within the system. Through this feature, they provided essential personal, educational, and professional information, establishing a digital footprint for their candidacy. Subsequently, applicants could seamlessly access their accounts through the login/logout features, ensuring secure interaction with the platform. Once logged in, they proceeded to submit their applications electronically, attaching their pertinent documents, ideally certificates during their teaching. The system further enhanced user experience by promptly notifying applicants via email regarding the status of their submissions, ensuring transparency and communication throughout the process.

On the other hand, DepEd recruiters used a set of tools designed to efficiently manage the recruitment process. Beginning with login/logout capabilities, recruiters accessed the system using their credentials, empowering them to navigate its functionalities securely. As gatekeepers of the recruitment process, the recruiters possessed the authority to add accounts for fellow recruiters or administrative personnel, facilitating collaborative efforts within the system. Moreover, they wielded the power to create, modify, or remove job postings, aligning recruitment initiatives with the division's current staffing needs. To ensure alignment with organizational objectives, recruiters meticulously assessed the applicants in which the evaluation criteria were derived from education, training, experience, examinations, and other assessments, and interviews. Leveraging the system's advanced filtering capabilities, the recruiters systematically reviewed the incoming

applications.

In essence, the automated recruitment system acted as a vital connection between applicants and DepEd recruiters, fostering a symbiotic relationship characterized by efficiency, transparency, and accountability. By seamlessly integrating features such as account management, application submission, and email notifications, the system optimized the recruitment journey for all stakeholders involved. Furthermore, its robust functionality empowered DepEd recruiters to orchestrate the recruitment process with precision, from job posting to candidate evaluation. The diagram visually represented the recruitment system's functionalities and interactions, outlining the roles and responsibilities of applicants and recruiters. It aided stakeholders in understanding tasks and interactions, facilitating efficient system design and development to meet the needs of both parties.

Detailing the features and requirements for an automated recruitment system tailored to the Department of Education – Schools Division of La Union was imperative for comprehensive system development, alongside the Use Case Diagram, context diagrams, and entity relationship diagram. The features represented the core functionalities that the automated recruitment system would offer, crucial for facilitating various aspects of the recruitment process and ensuring the system's effectiveness in meeting the needs of DepEd Schools Division of La Union. These features could be broadly categorized into two main types: functional and non-functional features. Functional features encompassed the tangible capabilities of the system that directly contributed to its primary purpose of streamlining the recruitment process.

Application screening. This process was meticulously designed to efficiently filter through a large volume of candidates while ensuring that only the most qualified individuals proceeded to the next stage of evaluation. This was achieved through advanced algorithms that automatically screened applications and analyzed application materials. Automated keyword matching and parsing techniques were utilized to filter out ineligible applications. Implementing an automated keyword matching and parsing search functionality based on applicants' last names, a structured approach still yielded efficient results. Upon submission, the data was sent to a PHP script for processing. Within this script, PHP functions were utilized to parse the submitted data and extract relevant information, such as the last name of the applicant. Regular expressions were employed to ensure accurate extraction of the last name field. Subsequently, the parsed data was stored in a MySQL database. A well-designed database schema included a table to store applicant information, with a dedicated column for last names. This structured approach facilitated efficient data retrieval and manipulation. To implement the search functionality, JavaScript and Ajax were used to create an asynchronous request mechanism. When a recruiter inputted a last name into the search field, JavaScript triggered an AJAX request to the PHP backend. The PHP script then queried the MySQL database, searching for applicants whose last names matched the input criteria.

Application submission. This provided a user-friendly online platform where future teachers could electronically submit their applications for advertised teaching positions within the La Union Division, simplifying the application process with clear instructions and intuitive interface elements.

Automated computation criteria. This streamlined the evaluation process by automatically calculating applicants' scores. It computed key factors such as education level, training time, completed experience, LET score, COIS rating, and NCOIS rating. These metrics objectively measured qualifications, expertise, and performance. Education level and training time reflected academic background and professional development, while completed experience showed practical teaching knowledge. LET scores and COIS/NCOIS ratings assessed competency and performance. This automation ensured fair and transparent evaluations, improving teaching quality.

Job posting. This enabled authorized users within the La Union division to post teaching vacancies with relevant details such as subject areas, qualifications, and application deadlines, and this ensured that job postings are tailored to teaching positions and include specific requirements for future teachers.

Notify applicants via email. The system leveraged PHPMailer to send automated email updates to the applicants. This functionality was crucial for ensuring that candidates receive timely and accurate notifications about various stages of their application process, such as submission confirmations, interview, and final decisions. This provides a reliable and secure way to handle email communications, reducing the chances of important messages being lost or overlooked. By automating these notifications, the system significantly enhanced communication efficiency, allowing administrators to focus more on evaluating candidates rather than managing correspondence. This feature not only keeps applicants well-informed but also contributes to a more transparent and streamlined recruitment process.

Passed teacher applicants report. The system was able to generate reports on successful candidates who had met the criteria for teaching positions within the La Union division. The system had the capability to print reports by year, presented in pie chart format, organized by municipality and year. Additionally, users could download the chart for printing, view it in full screen mode, and download it as JPEG and PNG images, PDF documents, and SVG vector images for further use.

Recruiter accounts. Authorized personnel could efficiently oversee the recruitment process through specialized accounts, granting access to application review, deadline setting, and data updates. They could also collaborate by adding co-recruiter accounts and sending applicant notifications, ensuring data security and organized operations. This centralized system enhanced efficiency and transparency in recruitment procedures.

Register new applicants. This enabled aspiring teachers to create an account and submit their applications online. This feature streamlined the initial application process by enabling candidates to easily enter their personal information, teaching profession, and upload necessary documents. Additional information, if the applicants wish to apply again for the next school year, it is unnecessary to register anew; they can simply log in with the account they used in the recent school year, making the process more convenient and efficient.

Conversely, non-functional features focus on how well the system performs and its ability to meet certain quality attributes.

Accessibility. This ensured that the recruitment system was accessible to users, adhering to accessibility standards and guidelines.

Integration. Supported seamless integration with existing DepEd systems and external platforms used within the La Union division for efficient data exchange and workflow integration in teacher recruitment.

Performance. Optimized system performance to ensure minimal response times and smooth operation even under peak loads during teacher recruitment periods. Aside from that, researchers conducted performance testing and scalability assessments to identify and address performance bottlenecks proactively.

Reliability. Ensured high availability and reliability of the recruitment system to prevent downtime and disruptions during critical teacher recruitment periods. Implemented redundancy and failover mechanisms for fault tolerance and system resilience.

Scalability. Designed the system architecture to accommodate a large volume of teacher applicants and job postings within the La Union division without compromising performance and utilized scalable cloud infrastructure and elastic scaling capabilities to handle fluctuations in demand during peak recruitment periods.

Security. Implemented robust security measures such as encryption, access controls, and data protection mechanisms to ensure the security and confidentiality of teacher applicant data. Regularly updated security protocols and conducted security audits to mitigate potential risks and vulnerabilities.

Usability. The researchers developed a user-friendly interface for administrators, recruiters, and teacher applicants in the La Union division. They conducted user testing and gathered feedback to enhance usability and improve the overall user experience in teacher recruitment.

The Entity Relationship Diagram (ERD) in Figure 4 served as a vital tool in database design, visually illustrating relationships between entities. As databases grew more complex, ERDs were crucial for understanding data structures. Figure 4 provided a clear overview of entity relationships, revealing how data components interacted to support system functionality.

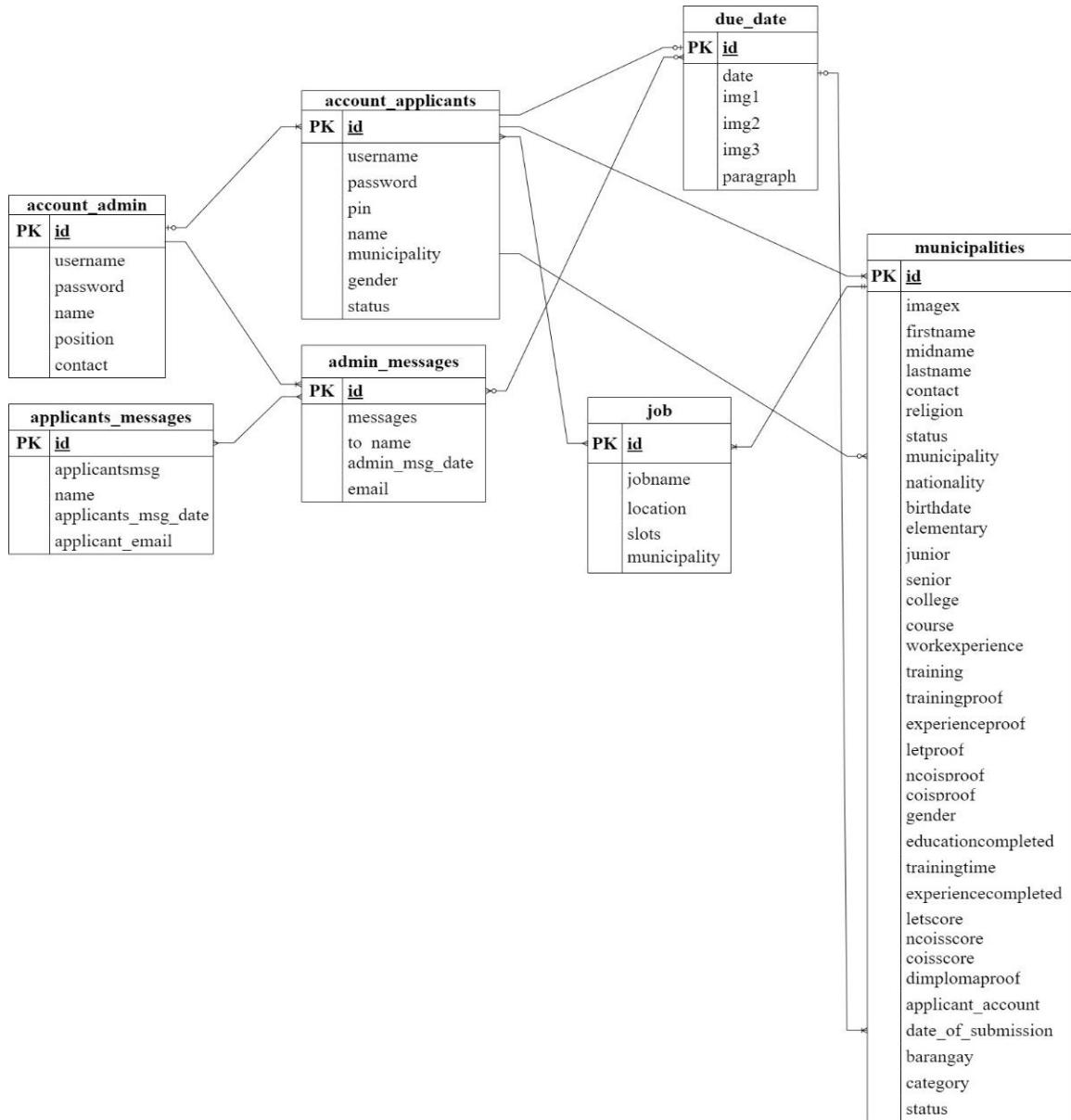


Fig.4. Entity Relationship Diagram

The depiction of Fig.4 demonstrated the intricate web of connections between various entities and their relationships within the automated recruitment system. The provided Entity-Relationship Diagram (ERD) offered a structured representation of the relational dynamics within a complex system. By visually mapping out the connections between entities, it provided insights into how data flowed, and relationships were established. This served as a foundational framework for understanding the intricate relationship between administrators, applicants, jobs, municipalities, and communication channels.

The following comprehensive exploration of the Entity Relationship Diagram (ERD) highlighted the core structure and functionality of the system. At the core were the entities representing administrative and applicant accounts (account_admin and account_applicants).

The entity-relationship (ER) diagram represents the structure of a database designed for managing job applications, detailing the entities, their attributes, and the relationships between them. It includes several key entities: `account_admin`, `account_applicants`, `applicants_messages`, `admin_messages`, `job`, `due_date`, and `municipalities`. The `account_admin` entity stores details about admin accounts, such as `id`, `username`, `password`, `name`, `position`, and `contact`. The `account_applicants` entity contains information about job applicants, including `id`, `username`, `password`, `pin`, `name`, `municipality`, `gender`, and `status`. The `applicants_messages` entity records messages sent to applicants, featuring attributes like `id`, `applicantsmsg`, `name`, `applicants_msg_date`, and `applicant_email`. Similarly, the `admin_messages` entity

tracks messages from administrators, with fields such as `id`, `messages`, `to`, `name`, `admin_msg_date`, and `email`. The `job` entity describes job postings, including attributes like `id`, `jobname`, `location`, `slots`, and `municipality`. The `due_date` entity details due dates associated with applicants, featuring `id`, `date`, `img1`, `img2`, `img3`, and `paragraph`. Lastly, the `municipalities` entity holds comprehensive data on municipalities, encompassing a wide range of attributes from `id`, `firstname`, `lastname`, `contact`, and `religion` to various education and proof fields.

The diagram illustrates several relationships: `account_admin` is connected to `admin_messages`, indicating that admin messages are linked to specific admin accounts. The `account_applicants` entity is linked to both `applicants_messages` and `due_date`, showing that messages and due dates are associated with applicant accounts. The `job` entity is connected to `municipalities`, reflecting that job postings pertain to specific municipalities. Additionally, `account_applicants` is linked to `municipalities`, indicating that applicants belong to certain municipalities. Overall, this ER diagram structures data related to admin and applicant accounts, their messages, job postings, due dates, and detailed municipality information, establishing clear relationships to manage and track job applications and related communications effectively.

From the core entities representing administrative and applicant accounts to the intricate relationships between client results, jobs, municipalities, and due dates, the ERD revealed the underlying structure that facilitated effective communication and data management. These insights were crucial for informed decision-making and optimizing the automated recruitment system, ensuring its efficiency and efficacy in fulfilling its

objectives.

The snapshot of Plate 1 below depicted the process of gathering data from Dulao Integrated School in Aringay La Union regarding their computation of criteria for teachers and how they could pass onto those criteria as well as how the system worked. The researchers engaged in personal interviews with teachers and administrators to gather insights regarding the objective of the system, which was the automated computation for teachers who wished to apply later. These interviews were crucial for understanding the criteria used in evaluating teachers' performance. Through these discussions, the researchers likely found that the other information they had gathered before from the internet was quite accurate, and there appeared to be a resemblance in the formulas used to compute each criterion, such as education, experience, training, LET rate, NCOIs, and COIs.



Plate 1. Gathering data and clarification from Dulao Integrated School

Development phase. This was a significant accomplishment for the entire development team, marking their competence and proficiency in software development, as the development phase culminated in the successful creation of an automated recruitment system for the Department of Education - Schools Division of La Union. During the development process, the research team meticulously leveraged a comprehensive set of web development tools to craft their proposed system. At the core of their toolkit was Visual Studio Code, which served as their text editor, providing a robust environment for coding and debugging. Harnessing the power of Hypertext Markup Language (HTML), the team structured the content of their system, ensuring clarity and accessibility for users. In addition, the utilization of Bootstrap facilitated the creation of a responsive and visually appealing user interface, enhancing the overall user experience. To imbue the system with dynamic functionality, Ajax and JavaScript were employed, enabling seamless interaction and real-time updates without the need for page reloads. Moreover, CSS was utilized to style the elements of the system, ensuring consistency and aesthetic appeal across different devices and platforms. The integration of PHP provided server-side scripting capabilities, enabling the system to handle data processing and manipulation efficiently. Crucially, the researchers incorporated MySQL as the database management system, allowing for the storage and retrieval of vast amounts of data related to recruitment processes. This relational database management system ensured data integrity, security, and scalability, vital aspects for a system handling sensitive information. The team's expertise and dedication resulted in a successful automated recruitment system for the DEPED- Schools Division of La Union, highlighting their ability to tackle complex software challenges.

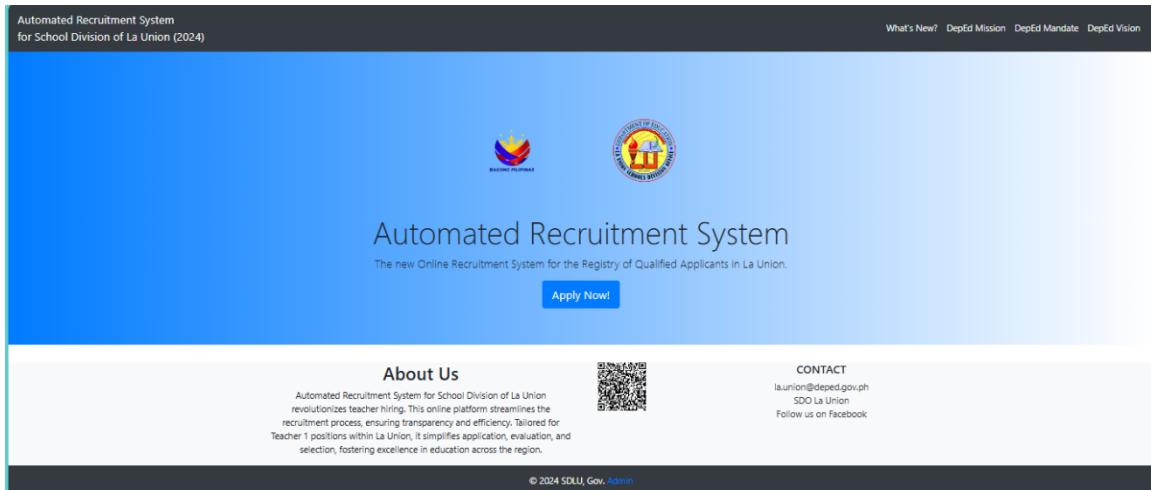


Plate 2. Homepage of recruitment system

Plate 2 serves as the homepage of the Automated Recruitment System for Department of Education – Schools Division of La Union presented a concise yet comprehensive overview of the system's features and purpose. It begins with the system's name, and highlights recent or developments, followed by foundational elements of the Department of Education including its mission, mandate, and vision, along with logos representing DepEd and potentially the School Division of La Union. The system itself was introduced as “The new Online Recruitment System for the Registry of Qualified Applicants in La Union,” emphasizing its role in revolutionizing teacher hiring by streamlining the process, ensuring transparency and efficiency. Tailored for Teacher 1 positions within La Union, the system simplifies application, evaluation, and selection, with the aim of fostering excellence in education across the region. Practical information such as the QR code for quick access and contact details, was provided to facilitate user engagement and interaction with the system administrators, making the homepage a comprehensive introduction to the platform’s functionality and significance.

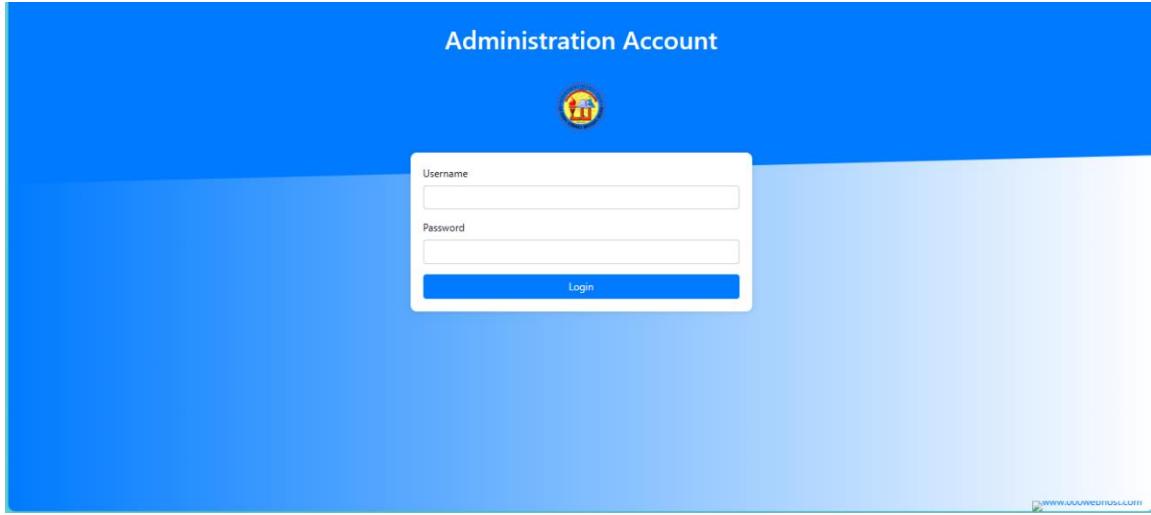


Plate 3. Administration Login Account

Plate 3 showcases the Administration Login Account interface, providing access for authorized personnel to manage the recruitment system. It prominently displays fields for entering their username and password, ensuring secure authentication. The username and password inputs are strategically positioned, offering convenience for administrators.

The login button, placed visibly below the input fields, serves as the gateway to access the system's administrative functions. It is designed to initiate the login process upon validation of credentials. This interface prioritizes simplicity and functionality, facilitating efficient access for the administrators.

In essence, Plate 3 prioritizes a streamlined login experience for administrators, emphasizing secure access to sensitive recruitment data while ensuring efficiency in system management. The design reflects the system's commitment to both usability and security, combining user-friendly elements with robust protective measures. This enhances the user experience for administrators while upholding high security standards, ensuring that sensitive recruitment data is well-protected and easily accessible to authorized personnel.

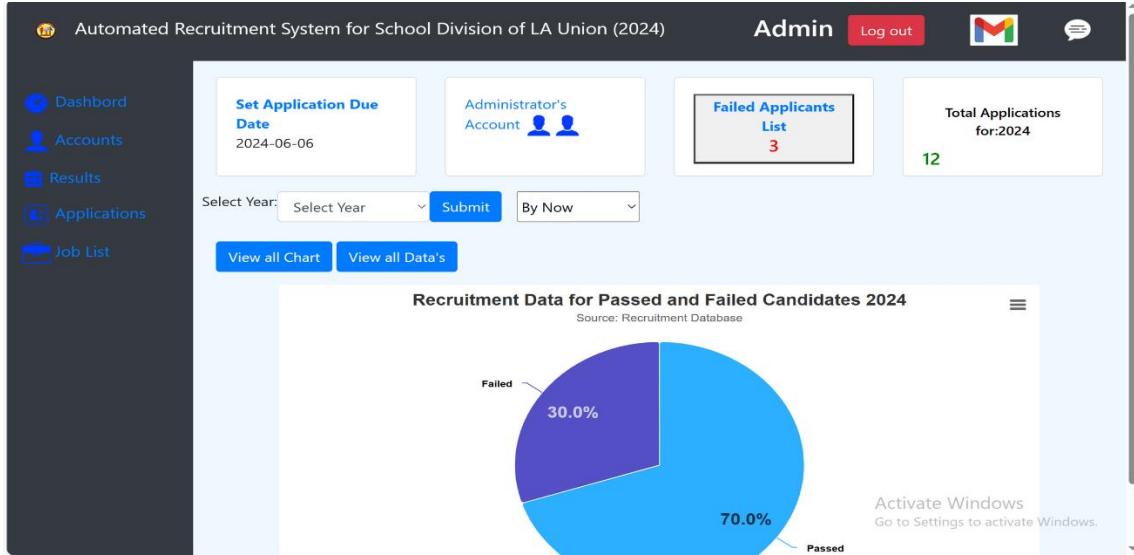


Plate 4. Dashboard of administrator

Plate 4 introduces the Dashboard of the administrator, serving as a central hub for managing various aspects of the recruitment system. It prominently displays tabs for accessing accounts of applicants, viewing results, managing messages, and sorting applications by municipality. Additionally, the dashboard provides a comprehensive job list, showcasing available positions within the system. Administrators can easily navigate between these sections to efficiently handle different tasks. The accounts section likely allows administrators to view the register accounts of applicants. Furthermore, the results section provides access to the outcomes of the recruitment process, showing which candidates have passed or failed. They could also manage the submission and processing of applications, ensuring all necessary information is collected and reviewed. The interface allows administrators to efficiently manage application deadlines with a tool set to date, and filter data by specific years for analysis. A pie chart titled Recruitment data for Passed and Failed Candidates 2024, visually presents a pass rate and alongside key statistics, offering a snapshot of the recruitment cycle's performance.

The screenshot shows the 'All Accounts' section of the recruitment system. At the top, there are three cards: 'Set Application Due Date' (2024-06-06), 'Administrator's Account' (with a user icon), and 'Failed Applicants List' (2). Below these, a summary box shows 'Total Applications for: 2024' with a count of '9'. The main area contains a table titled 'All Accounts' with the following data:

#	Applicant Name	Email	Municipality	Gender	Status
1	Villanueva, Godwin R.	godwinvillanueva790@gmail.com	agoo	Male	active
2	Anthony M. Verceles	bbcako@gmail.com	agoo	Male	not active
3	CATHERINE PAZ	catherineballilesipaz@gmail.com	agoo	female	not active
4	Villanueva TV	user143@gmail.com	agoo	female	not active
5	Dela Puenta, Maira, Velasquez	maira@gmail.com	pugo	female	not active
6	Christopher Lachica Amami	user@gmail.com	agoo	Male	not active
7	Estifan, Joy Z.	joy@gmail.com	agoo	female	not active
8	Marcelo Baltazar Ringor	marcelo@gmail.com	agoo	Male	not active
9	Villanueva, Marilou R.	malouv@gmail.com	agoo	female	not active

Plate 5. Registered accounts page with status

Plate 5 introduces the registered accounts page, a crucial component of the recruitment system dedicated to managing all registered accounts of applicants. This page serves as an extensive repository containing detailed profiles of individuals who have registered and applied for teaching positions within the La Union region. Each account is meticulously organized, providing essential information such as their names, email, municipality, and gender. In addition to this, only one account is accepted per year. Furthermore, the status of the registered applicant is indicated, showing whether they are active or not. An account becomes active only when the applicant applies within the school year; otherwise, it remains not active. Aside from that, the administrator can effortlessly search and filter through the list of registered accounts by the name of applicants, facilitating efficient candidate management. This layout is designed for clarity and accessibility, with intuitive navigation tools and user-friendly interfaces. The administrators can quickly access relevant information and perform actions with ease, enhancing productivity and efficiency in managing applicant accounts.

#	Lastname	Firstname	Middleinitial	Rate	Municipality	Email	Send
1	Kingsberry	Jammy	Vil	94.65	agoo	jam@gmail.com	Gmail
3	Vercelles	Antonio	Villanueva	91.65	agoo	antonio@gmail.com	Gmail
5	Villanueva	Godwin	Refuerzo	88.3	santotomas	godwinvillanueva790@gmail.com	Gmail
7	catalan	Allan	Marzan	87.05	naguilan	allan@gmail.com	Gmail
9	Carbonel	Piolo	Abad	87.16	tubao	piolo@gmail.com	Gmail
11	Gamboa	Ernest	Aquino	86.8	agoo	ernest@gmail.com	Gmail

Plate 6. Results of passed applicants

Plate 6 unveils the results of successful applicants in a well-structured format, facilitating quick searches by last name or municipality for administrators. This intuitive layout simplifies the process for both administrators and applicants, enabling easy access to information about where individuals can apply for elementary or high school, along with the year of application. Moreover, the inclusion of Gmail addresses allows administrators to contact successful applicants directly. This feature not only facilitates communication but also ensures that updates regarding further requirements or processes can be promptly conveyed. Additionally, administrators have the capability to update the status of other applicants who have been processed but are not yet listed. Furthermore, the system can sort by ranking, update, generate, and print the list of successful candidates. Applicants can also immediately see when the recruiter has updated the results. This comprehensive solution enhances the administration and accessibility of applicant results, promoting efficiency and clarity in the selection process.

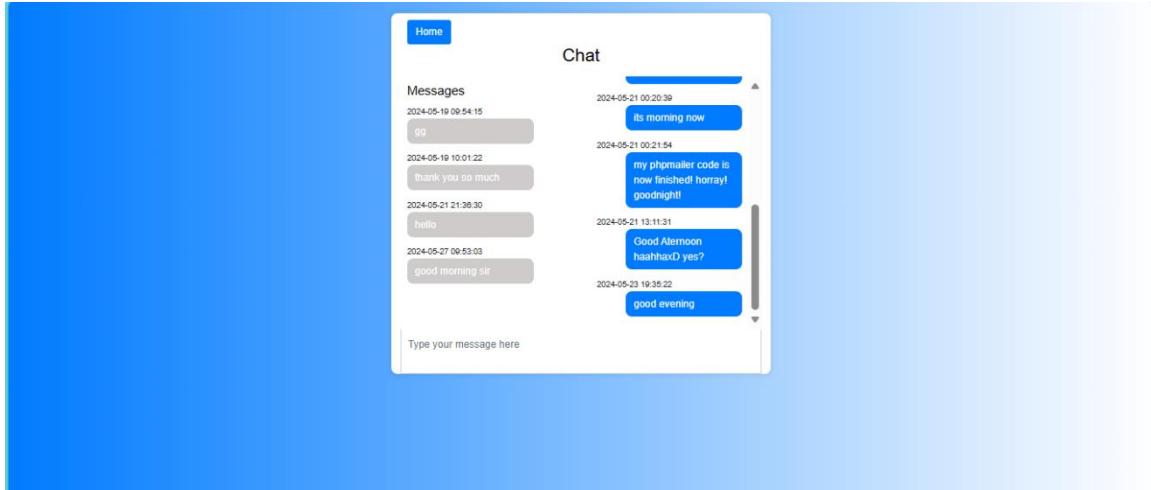


Plate 7. Messages to the administrator

Plate 7 exhibits the messages interface to administrator, providing a platform for communication between applicants and administrators within the recruitment system. This section displays a consolidated view of all messages exchanged between applicants and administrators, facilitating seamless communication throughout the hiring process. Administrators use this platform to provide updates, request additional information, or address inquiries raised by the applicants. In addition to this, the developers utilized PHPMailer for messages, enhancing the efficiency and reliability of communication. This serves as a vital communication tool within the recruitment system, facilitating interaction and collaboration between applicants and administrators. By providing a centralized platform for messaging, it streamlines communication processes and enhances transparency, ultimately contributing to a smoother and more efficient recruitment experience for all stakeholders involved.

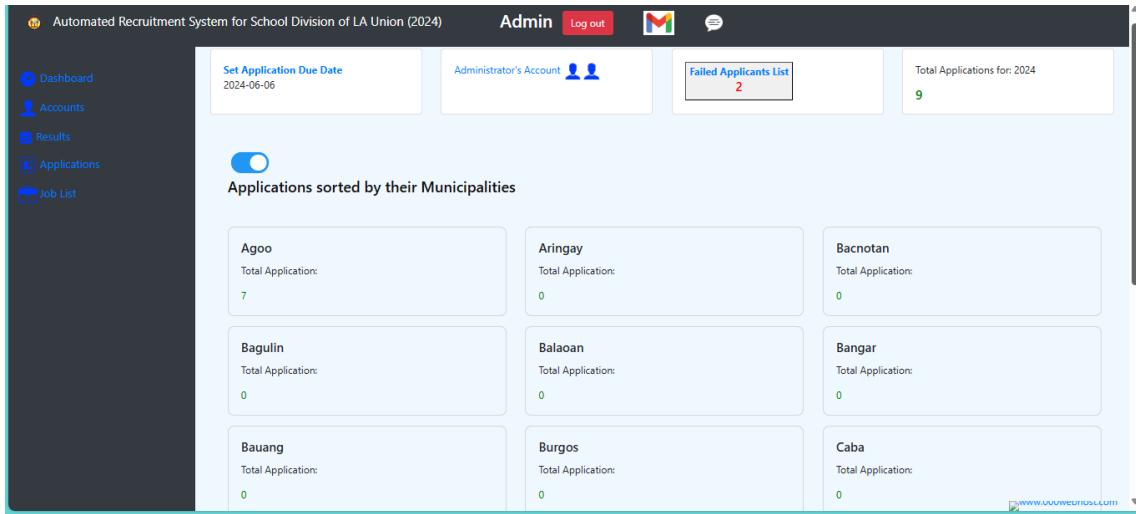


Plate 8. Application forms sorted by municipality of La Union

Plate 8 modernizes the application forms sorted by municipality of La Union interface, designed to streamline the organization of application forms submitted by applicants. This interface ensures that each application form is automatically directed to the municipality specified by the applicant during their submission process. By categorizing applications according to the municipality indicated by the applicant, administrator can efficiently manage and process applications based on their respective municipality within the La Union. The interface offers a structured view of application forms, allowing administrators to easily navigate through applications from specific municipalities within La Union. This organization enhances the efficiency of administrative tasks, such as reviewing applications, coordinating interviews, and communicating with applicants, tailored to the unique needs of each municipality. Furthermore, this system ensures a localized and responsive approach to teacher hiring, aligning with the diverse requirements and preferences of each community within La Union.

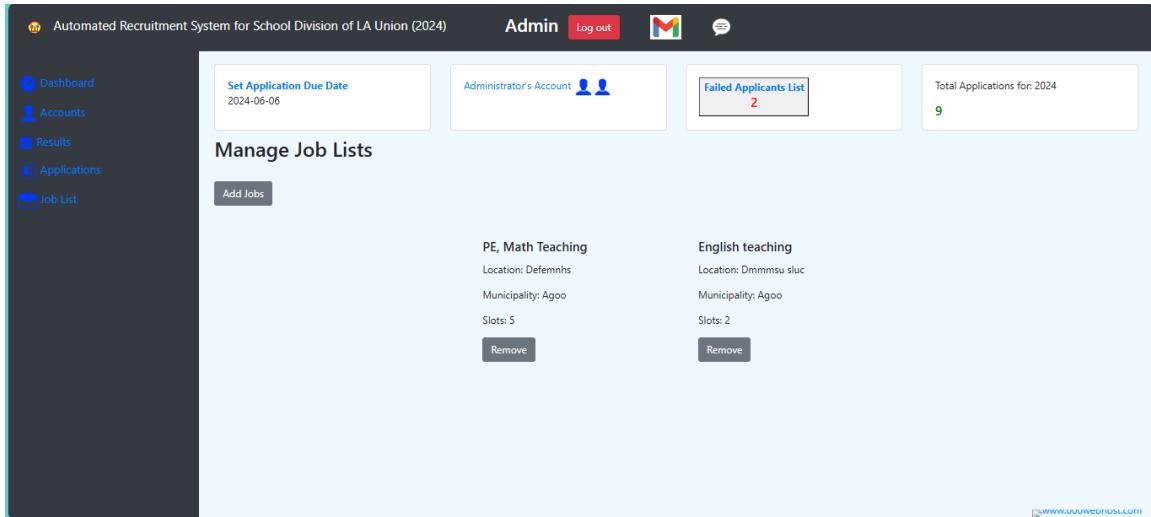


Plate 9. Manage the job list

Plate 9 portrays the job list interface, offering administrators the capability to oversee and modify the list of job vacancies within the recruitment system. This interface empowers administrators to add new job vacancies as they become available, ensuring that the job list remains up-to-date and reflective of current staffing needs. Additionally, administrators can display interest jobs, allowing them to highlight specific positions that require immediate attention or have garnered significant interest from applicants. The interface provides a user-friendly platform for administrators to manage the job list efficiently. Administrators can easily navigate through the list of existing job vacancies and add new positions. This functionality enables administrators to stay proactive in addressing staffing requirements and responding to the preferences of applicants.

The user-friendly nature of the interface facilitates efficient management of the job list. This enables administrators to swiftly meet staffing needs and accommodate applicant preferences, ensuring a smoother recruitment process that satisfies both organizational requirements and applicant interests.

The screenshot displays a web-based application for managing administrator accounts. On the left, there is a table titled "Administrators Accounts" listing three existing accounts:

Name	Username	Position
Godwin Ito Refuerzo Villanueva	grvillanueva@student.dmmmsu.edu.ph	Programmer
SDLU	automatedrecruitmentsystem@gmail.com	Interviewer

On the right, there is a form titled "Add Admin Account" for creating new accounts. It includes fields for Name, Position, Contact, Create your Username, Create your own Password, and Confirm Password. At the bottom of the form are two buttons: "Add account" (green) and "Return Home" (blue).

Plate 10. Administrator accounts

Plate 10 features prominently the administrator account interface, a pivotal component for overseeing the accounts of administrators within the recruitment system. This interface provides a comprehensive overview of existing administrator accounts and offers the functionality to add new ones. Administrators can seamlessly navigate through the list of accounts, accessing crucial details such as usernames or email addresses together with their saved passwords. Furthermore, administrators can effortlessly add new administrator accounts directly from the interface. Simple input fields facilitate the process, allowing administrators to enter essential information like usernames or email addresses, and passwords for the new accounts. While the specific roles and permissions assignment may not be included in this interface, administrators can still ensure appropriate access levels and functionalities for each account through subsequent administrative actions. This provides administrators with a user-friendly platform to efficiently manage administrator accounts, whether they are reviewing existing ones or adding new ones, streamlining administrative tasks, and supporting seamless collaboration within the recruitment system.

Juan S. dela Cruz

Allen Catalin Abaco

Date of Submission: 2024-05-08
Courses: B Education
Applying As: Elementary teacher
Gender: Male
Email: allen@gmail.com
Contact: 09563944520
Religion: catholic
Marital Status: single
Municipality: Nagillian
Barangay: Tudungan
Nationality: Filipino
Date of Birth: 1999-05-08
Age: 25
Elementary School: Tudungan Elementary School
Secondary School: Tudungan National High School
Senior High School: N/A
College: Don Mariano Marcos Memorial State University
Work Experience: 1 year (UAMPC)
Training: 240 hours (IT)
Education completed: Bachelor's Degree
Let/Plet rate: 76.65
COIS score: 4.68

Computations

EDUCATION BACKGROUND COMPLETED:
Bachelor's Degree

TOTAL TRAINING TIME COMPLETED:
240hrs Above

Plate 11. Automated computations for teachers page

Plate 11 of the Automated Computations for Teachers page offers a concise explanation of how administrators utilize automated systems to assess teachers. Administrators systematically compute crucial factors including education level, training time level, completed experience, LET score, COIS rating, and NCOIS rating. These metrics serve as objective measures of a teacher's qualifications, expertise, and performance. The education level reflects the teacher's academic background, while the training time level indicates their commitment to professional development. Completed experience accounts for practical knowledge gained over years of teaching, shaping effectiveness in the classroom. LET score provides standardized assessment of competency, while COIS and NCOIS ratings offer insights into instructional and non-instructional performance. Through automated computations, administrators ensure fair and transparent evaluations, enhancing the quality of teaching and learning experiences. Additionally, the name of person who evaluated or computed the criteria is also included.

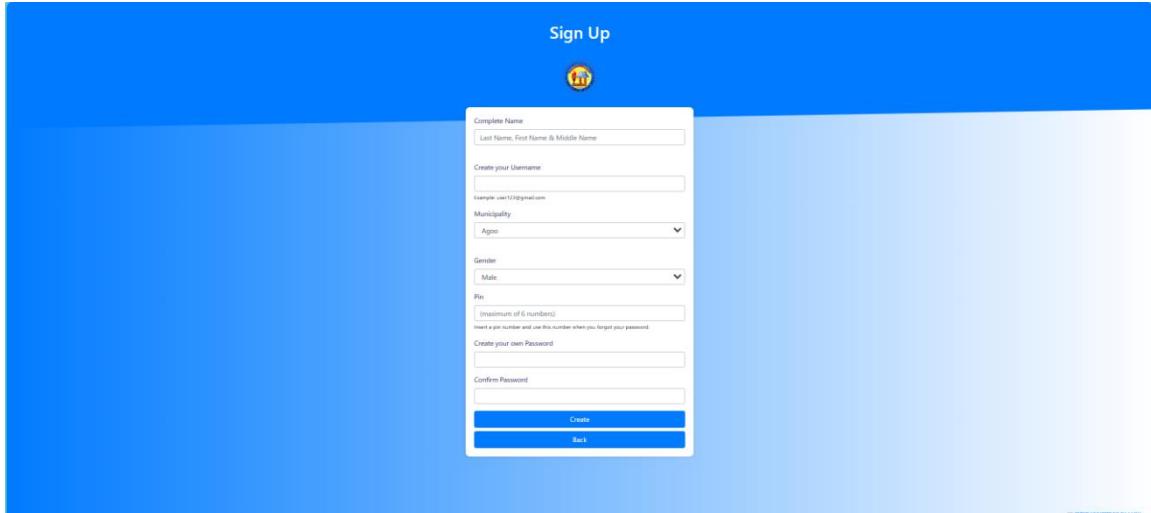


Plate 12. Sign up accounts by applicants

Plate 12 outlines the crucial step of signing up accounts by the applicants as part of this system. Applicants interested in joining the Schools Division of La Union are required to create accounts on the designated platform before proceeding with their application submissions. This sign-up process serves as the initial entry point into the system, allowing candidates to input their personal details such as their complete name, username, municipality they came from, gender, pin code (in which can be used it for password recovery purposes), and create a password. By creating an account, applicants establish a digital profile that facilitates the efficient management and review of their applications throughout the recruitment process. The significance of this sign-up procedure lies in its role in ensuring a standardized and organized approach to candidate engagement. By mandating all applicants to create accounts, the system centralizes information, enabling administrators to easily access and evaluate candidate profiles. Moreover, the account creation process serves as a means of verifying applicant identities and credentials enhancing the integrity and reliability of the system.

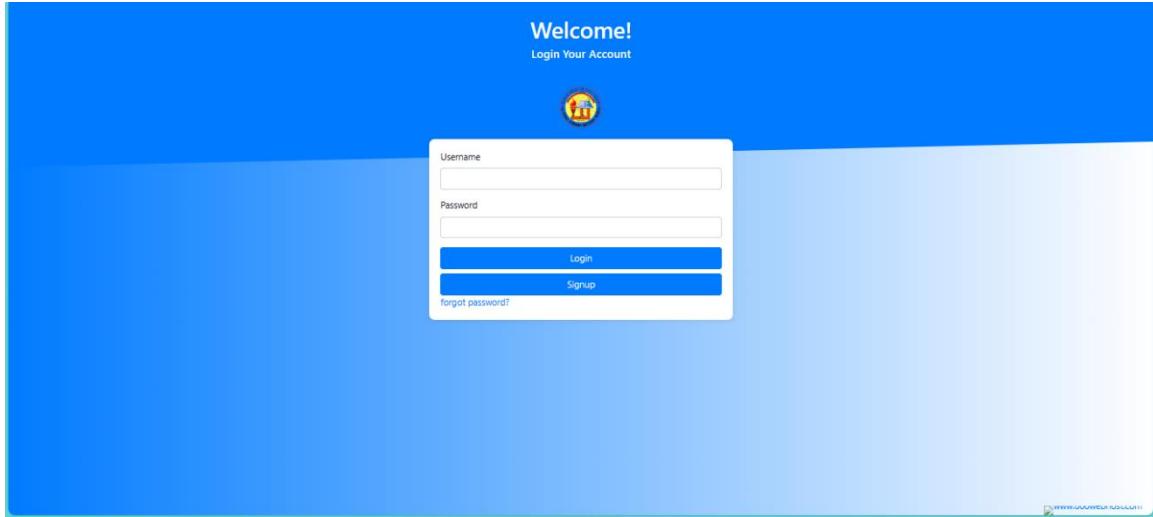


Plate 13. Applicants' login account

Plate 13 illustrates a crucial aspect of the system utilized by the Department of Education – Schools Division of La Union, the applicants' login account. This component represents the gateway for candidates to access and manage their applications within the system. The applicants who have previously signed up for an account are provided with login credentials, typically comprising a username and password. These credentials grant candidates access to their accounts, where they can track the status of their application, submit required documents, and communicate with administrators or hiring personnel. This login account serves as a secure and centralized platform for candidates to engage with the recruitment process, offering convenience and transparency throughout. The implementation of login accounts for applicants plays a crucial role in streamlining recruitment operations. By providing candidates with individualized access to their applications, the system promotes efficiency in managing a massive volume of candidates while minimizing administrative burden. Additionally, it ensures data security and confidentiality, safeguarding sensitive applicant information throughout the process.

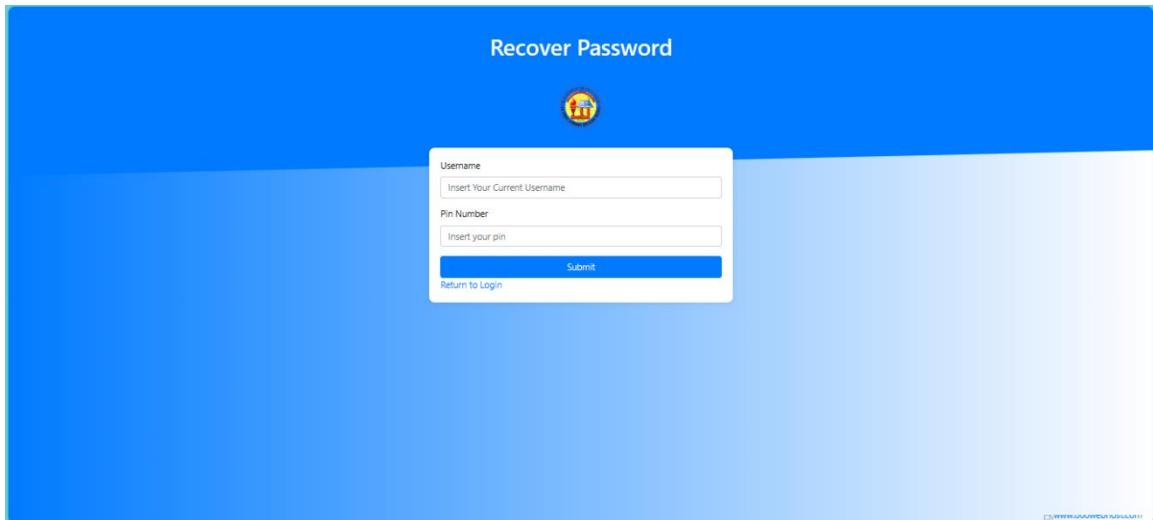


Plate 14. Password recovery

Plate 14 introduces prominently the crucial aspect of the system utilized by the Department of Education - Schools Division of La Union which is the password recovery via the entry of the current username and remembered pin code by the applicant. This streamlined process offers a swift solution for applicants experiencing login issues, ensuring uninterrupted access to their accounts. When candidates encounter difficulties logging in, they can initiate the password recovery process by providing their current username and recalling a previously set pin code. Upon submission, the password would be sent via email, utilizing PHPMailer, to ensure secure delivery and enable them to regain access to their accounts without delay. This efficient approach minimizes frustration for applicants and maintains the integrity of the recruitment process. The implementation of this password recovery method reflects the division's commitment to providing a user-friendly and accessible platform for candidates. By simplifying the retrieval process and promptly resolving login issues, the system enhances user experience and facilitates seamless management of applications throughout the recruitment journey.

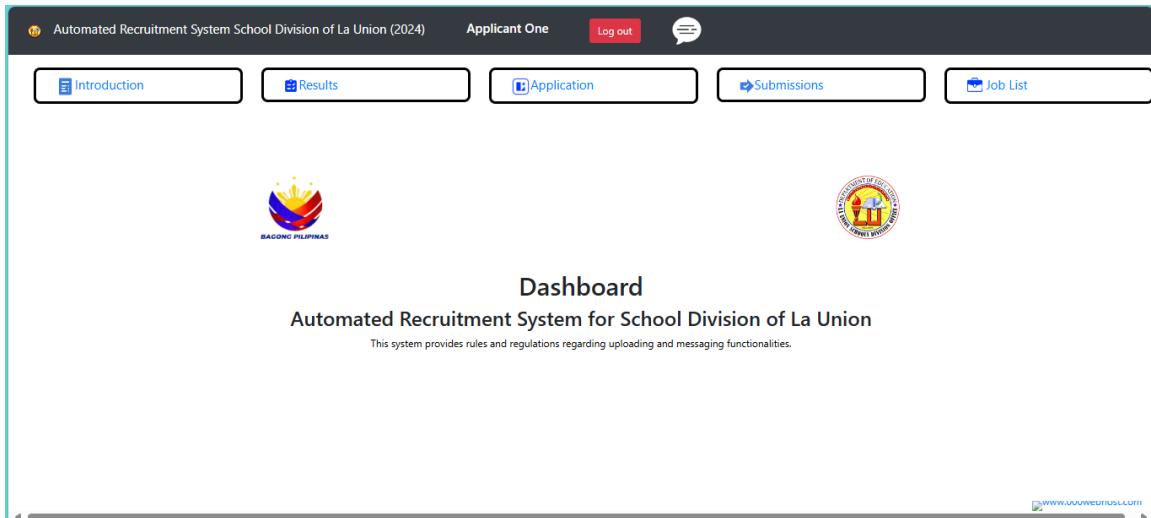


Plate 15. Dashboard of applicants

Plate 15 showcases the dashboard of applicants, serving as the central interface for those engaging with the Automated Recruitment System for DepEd Schools Division of La Union. This dashboard offers an overview of the recruitment process and essential functionalities. Key sections include the results of applicants who meet the criteria, promoting transparency and providing feedback to successful candidates. Additionally, it features a messaging function for communication between applicants and administrators, enhancing user experience. Along with this, an application section available for those interested in applying, providing easy access to the necessary documents. Moreover, applicants can access their submissions, track progress, and make necessary updates. The job list offers comprehensive information on available positions, empowering applicants to explore opportunities. The overall significance, Plate 14 provides a user-friendly and comprehensive dashboard tailored to applicants' requirements. It serves as a centralized platform for managing applications, accessing results, and communicating with administrators, thereby streamlining the recruitment process, and enhancing efficiency.

<p>Set Due Date and Update about the System</p> <p>Due Date:</p> <input type="text" value="mm/dd/yyyy"/> <input type="button" value="Update Due date"/> <input type="button" value="Choose File"/> No file chosen	<p>Instructions and new about the System</p> <p>Due Date: 2024-06-06</p>  <p>Good Day!</p> <p>Add a Description</p> <input type="button" value="Update News"/>
--	---

Plate 16. Setting the due date for passing of applications

Plate 16 focused on setting the due date for the submission of applications, a critical aspect of the application process that ensured timely and organized handling of candidate submissions. This plate outlined the steps and considerations involved in establishing a clear and firm deadline for applicants to submit their documents. Setting a due date was essential to manage the influx of applications, allowing administrators to plan and allocate resources efficiently for the review process. It also provided applicants with a clear timeframe, helping them prepare and submit their applications without last-minute rushes. Moreover, a well-communicated due date ensured fairness, as all applicants were given the same deadline, thereby maintaining the integrity of the selection process. Plate 16 emphasized the importance of transparency and communication, recommending that the due date be prominently displayed on all relevant platforms and communicated through multiple channels to reach all potential applicants. This structured approach not only aided in the smooth operation of the application process but also enhanced the overall efficiency and effectiveness of the administrative workflow.

The screenshot shows a recruitment system interface. A modal window titled "Summary of the Computations" is open, displaying the following details for a candidate:

- Name:** Jammy VII Kingsberry
- School Category:** Highschool
- Municipality:** agoo
- Educational Background:** 27 units of Master's Degree
- Level:** 14
- Increment:** 8
- Points Gained:** 10%
- Total Training Hours:** 96hrs-104hrs
- Level:** 13

Below the summary, there is a table of passed applicants:

#	Lastname	Firstname	Score	Municipality
1	Kingsberry	Jammy	91.65	agoo
3	Vergeles	Antonio	88.3	santotomas
5	Villanueva	Godwin	87.05	naguilian
7	catalan	Allan	87.16	tubao
9	Carbonel	Piolo	86.8	agoo
11	Gamboa	Ernest	86.8	agoo

On the right side of the screen, there is a list of emails with "Send" buttons next to them, and a "Print" button at the top right.

Plate 17. Summary of the computations

Plate 17 provides a detailed summary of the computations conducted throughout the recruitment process. This section offers administrators a comprehensive breakdown of all points earned by candidates, ensuring transparency and accountability in the evaluation process. It meticulously outlines the performance of applicants in various assessment categories, shedding light on their strengths and weaknesses. The summary facilitates a thorough analysis of candidates' performances, enabling administrators to make informed decisions regarding their qualifications. By offering clear insights into the evaluation criteria, Plate 17 enhances the objectivity of the recruitment process and enables administrators to assess candidates fairly. Overall, it serves as a valuable tool for administrators to evaluate candidates' qualifications objectively and ensure the selection of the most suitable candidates for the positions available.

Plate 18. Application forms for applicants

Plate 18 presents a detailed array of application forms, each requiring interested applicants, including those applying as elementary/high school teachers, to meticulously input their essential credentials. These forms serve as the initial gateway to numerous opportunities, demanding individuals to divulge a comprehensive set of personal details, from basic identifiers like names, email addresses, and contact numbers to more intimate aspects such as religion, marital status, and gender. Furthermore, applicants are tasked with specifying their municipality, nationality, and date of birth, while educational backgrounds are meticulously recorded, with individuals required to list their alma maters, training periods, and even upload certificates as proof of eligibility. Notably, academic achievements are scrutinized through the inclusion of exact ratings for examinations like the LET and COIS, emphasizing the significance placed on merit and qualifications. Through Plate 18, the intricate process of application unfolds, highlighting the exhaustive requirements applicants must fulfill to access various opportunities in society.

The screenshot shows a web-based application form for the School Division of La Union. On the left, the main application page displays several fields: 'OTHERS.pdf' (button), 'CHOOSE EXPERIENCE COMPLETED' (dropdown menu showing '10 years and 6 months to 11 years'), 'Click or Drag a PDF file to Upload your Letter of Recommendation' (button), 'Insert a Let Score:' (input field with value '88.85'), 'Click or Drag a PDF file to Upload your Nicos Score' (button), 'Your Nicos Score Depends on your Interview' (text), 'Click or Drag a PDF file to Upload your Cois Score' (button), 'Insert a Cois Score:' (input field with value '7'), and a 'Submit' button. On the right, a 'Review Form Before Submit' modal window is open, listing the following applicant details:

Field	Value
Firstname:	Applicant
Middlename:	Wineline
Lastname:	One
Category:	Highschool
Course:	BS Mathematics
Email:	applicant_one@gmail.com
Contact:	09773482032
Religion:	catholic
Status:	married
Municipality:	sangabriel
Barangay:	San Gabriel

Plate 19. Review applications before submitting

Plate 19 emphasizes the importance of a thorough review process for applicants prior to the final submission of their applications. This step is crucial to ensure that all required information is accurately and completely provided, and that any potential errors or omissions are identified and corrected. The review process involves a detailed examination of the application form, supporting documents, and any other required materials. Applicants should carefully check for consistency, accuracy, and completeness in their personal information, educational background, work experience, ratings, certificates, courses, and other relevant sections. Taking the time to review the application meticulously can significantly enhance the quality of the submission, potentially increasing the applicant's chances of success. This proactive approach helps to avoid common pitfalls such as missing deadlines, submitting incomplete forms, or including incorrect details, thereby reflecting a high level of preparedness and professionalism.



Plate 20. View submissions

Plate 20 presents a collection of view submissions, offering applicants a glimpse into their submitted application forms. These submissions represent a crucial stage in the application process, providing individuals with an opportunity to review and verify the accuracy of their provided information. Through Plate 20, applicants can revisit their completed forms, ensuring that all essential credentials, such as personal details and educational backgrounds, are correctly inputted. This viewing stage serves as a moment of reflection and confirmation, allowing applicants to double-check their submissions before they are further processed. Additionally, Plate 20 emphasizes the transparency of the application process, granting applicants visibility into their submitted data and fostering trust in the system. Overall, this plate signifies a pivotal step in the journey towards accessing various opportunities, as applicants engage in a final review of their application forms, ensuring completeness and accuracy.

Testing phase. The researchers utilized the XAMPP Server localhost for the testing phase, focusing on ensuring the quality and functionality for the automated recruitment system being developed for the Department of Education – Schools Division of La Union. After completing development, the project team validated the application's functionality and addressed any arising issues, ensuring cleanliness and adherence to standards through code examination. Comprehensive testing identified and addressed bugs or errors, including various functionalities like user authentication and data entry. Administrators and applicants provided feedback, validating functionality against established requirements, ensuring the application was of high quality and ready for deployment and release.



Plate 21. Conduct system testing in Agoo West Central School

As Plate 21 above depicted the process of conducting system testing at Agoo West Central School, where the researchers undertook a comprehensive evaluation of their system. The methodology involved administering of the Usefulness, Satisfaction, Ease of Learning and Ease of Use Questionnaire to gauge the system's effectiveness and user experience. This systematic approach allowed the researchers to gather valuable feedback on various aspects of the system's functionality and usability.

During that system testing, an IT expert, who had also considered him as a seasoned programmer, suggested that clear instructions be provided for the applicants to know what information should be included, especially since there were some applicants who were rarely unaware with the system. Additionally, they recommended that the applicants submit their certificates, achievements, and trainings in PDF format, particularly for those who needed to submit multiple documents. In essence of this testing, the IT expert appreciated the system presented to them, seeing that it was new and innovative to him.



Plate 22. System evaluation in Dr. Manuel T. Cases National High School

The illustration of Plate 22 above was the system evaluation process at Dr. Manuel T. Cases National High School depicted. This evaluation was a crucial step in assessing the effectiveness and usability of the system developed by the researchers. The evaluation methodology involved administering the USE (Usefulness, Satisfaction, Ease of Use, and Ease of Learning) questionnaire to gather valuable feedback from them. During that system testing, it could be observed that they found enjoyment in using the system crafted for educators within the DepEd Schools Division of La Union. They exhibited a profound sense of amazement at the system's development process and expressed considerable appreciation for it. Furthermore, they inquired about the feasibility of implementing the system and raised the possibility of commercializing it to generate revenue. Through this evaluation process, researchers could make informed decisions to refine and improve the system, ultimately ensuring its effectiveness and usability in real-world educational settings.



Plate 23. System analysis with teacher in Dulaو Integrated School

The portrayal depicted in Plate 23 above illustrates the comprehensive system evaluation process undertaken at Dulao Integrated School. This evaluation constituted a critical phase in comprehensively assessing the efficacy and user-friendliness of the system developed by the researchers. This inclusive process aimed to capture insights not only on the system's functionality but also on its practicality and ease of adoption within the educational setting. During the system testing, they had suggested abbreviating inputs to mitigate typing difficulties. This proposal emerged from their recognition of potential time-saving benefits and improved user experience that abbreviations could provide. While acknowledging this practical suggestion, it's worth noting that they expressed a general appreciation for the work undertaken by the research team. Their acknowledgment of the system's overall functionality and effectiveness indicated a positive reception to the efforts invested in its development.

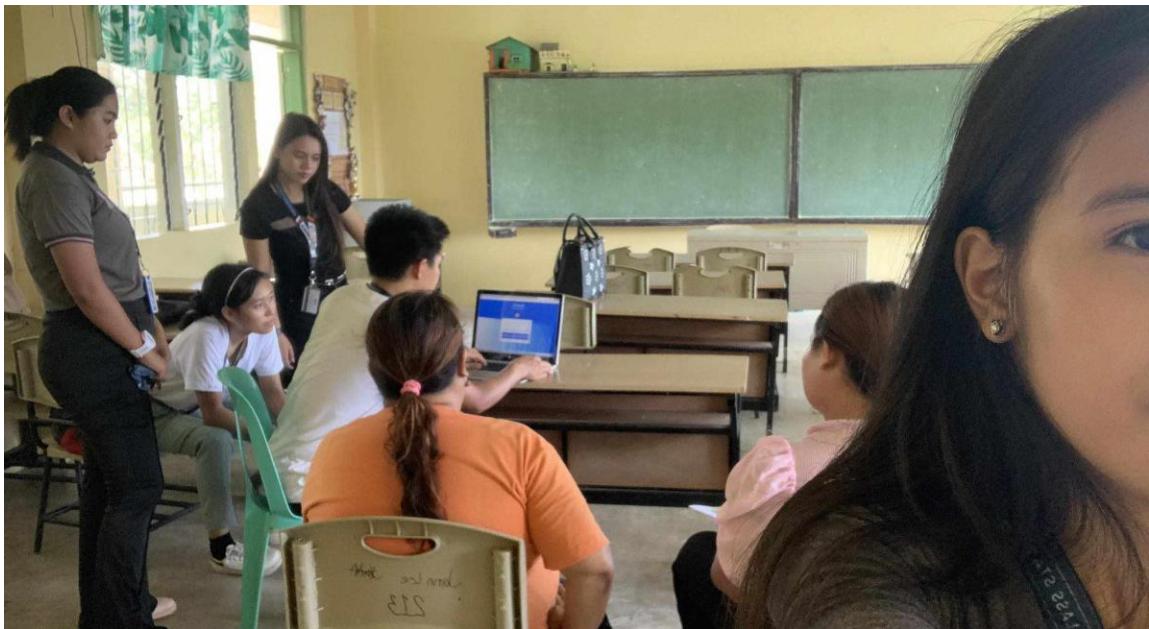


Plate 24. Executing user acceptance testing in San Julian Integrated School

The process of executing user acceptance testing (UAT) at San Julian Integrated School was depicted in Plate 24. This stage represented a critical phase in the software development lifecycle, wherein the system underwent rigorous evaluation by end-users to determine its readiness for deployment. The UAT process actively involved typically the teachers and administrators in assessing the system's functionality, usability, and compatibility with their specific needs and workflows. During the system testing phase, they provided valuable feedback to the team aimed at enhancing the functionality of the automated recruitment system for the DepEd Schools Division of La Union. One notable suggestion put forward was the integration of a ranking and job feature within the system. This proposal was made with the intent of refining the recruitment process, allowing for a more structured and efficient evaluation of candidates based on predefined criteria. By incorporating a ranking mechanism, stakeholders envisioned a transparent and systematic approach to candidate assessment, facilitating the selection of the most qualified individuals for teaching positions. Additionally, the inclusion of job specifications within the system was deemed essential for clearly delineating the requirements and responsibilities associated with each available position. This enhancement aimed to streamline the recruitment process, providing both recruiters and applicants with a clearer understanding of job expectations and qualifications. Overall, their input underscored a commitment to optimizing the system's functionality to better meet the specific needs and objectives of the DepEd Schools Division of La Union.

Basically, the system testing conducted at various educational institutions, including Agoo West Central School, Dr. Manuel T. Cases National High School, Dulaو

Integrated School, and San Julian Integrated School, played a pivotal role in evaluating the effectiveness, usability, and practicality of the developed systems. Methodologies such as administering the USE questionnaire and engaging end-users in the evaluation process allowed researchers to gather valuable insights into the functionality and user experience of the systems.

Notably, feedback from IT experts and end-users highlighted areas for improvement, such as providing clear instructions for users, accepting documents in PDF format, and abbreviating inputs to enhance user experience. Despite these suggestions, there was an overall positive reception to the systems, with stakeholders expressing appreciation for their innovation and potential benefits.

Furthermore, suggestions for enhancements, such as integrating ranking and job features within the automated recruitment system, demonstrated a commitment to refining the systems to better meet the specific needs of the educational institutions and the DepEd Schools Division of La Union. Overall, the system testing phase served as a crucial step in ensuring the readiness and effectiveness of the systems for deployment in real-world educational settings, reflecting a dedication to continuous improvement and user satisfaction.

The automated recruitment system implemented by the Department of Education - Schools Division of La Union is a groundbreaking solution that revolutionizes the hiring process for educators. Developed with cutting-edge web development tools, this system offered a multifaceted approach to streamline and enhance various aspects of recruitment. It simplified and automated administrative tasks such as automated evaluation criteria for

the candidate and application submission, allowing candidates to submit their applications online and ensuring secure, easily accessible information.

Through its intuitive interface and seamless functionality, the system facilitates greater collaboration and communication among stakeholders. DepEd teachers can easily interact with recruitment personnel, submit inquiries, and receive responses, fostering a more dynamic and responsive recruitment experience. This collaborative approach not only boosts efficiency but also nurtures a sense of community and shared responsibility towards achieving the division's objectives.

The system fostered a sense of community and shared responsibility towards the division's objectives, promoting active engagement among educators and administrative staff. It strengthened professional relationships and encouraged collaboration towards common goals. Additionally, the automated recruitment system enhanced efficiency by saving time, optimizing resources, and reducing costs. This approach not only improved operational efficiency but also reinforced community among educators, contributing to the division's educational success.

By embracing technology and leveraging personal computers, the Department of Education - Schools Division of La Union showcases its dedication to innovation and advancement in education. As the recruitment landscape evolves, this automated system ensures the division's agility and adaptability in meeting the evolving needs of the education sector. Ultimately, by spearheading digital transformation, the division sets a benchmark for other educational institutions, driving progress and excellence in teacher recruitment and development.

Usability Evaluation of the Automated Recruitment System

Evaluating the usability of the automated recruitment system implemented by the Department of Education (DepEd) – Schools Division of La Union, in collaboration with the DepEd teachers, is paramount to ensure its effectiveness in optimizing the hiring process for educators. This study aims to explore the user experience of DepEd teachers within La Union who play a crucial role in the recruitment process. By examining the system's usability from the perspective of these teachers, their insights into its functionality and overall satisfaction can be gained. Through this investigation, valuable feedback can be obtained to guide future enhancements that cater to the unique needs and preferences of both administrators and educators, facilitating a smooth and efficient recruitment journey within the Department of Education environment in La Union.

Table 1 showcases the outcomes of a study assessing the usability of an automated recruitment system, particularly in terms of its usefulness. The most noteworthy findings reveal that both "It is useful" and "It meets my needs" received the highest mean score of 4.97. These scores indicate an overwhelmingly positive perception among participants regarding the system's practical value and its ability to align with their specific requirements. Such high ratings illuminate the system's effectiveness in fulfilling its intended purpose and catering to diverse user needs. The convergence of such overwhelmingly affirmative feedback highlights the system's efficacy in enhancing the recruitment process. Overall, these results validate the utility of the automated recruitment system within the organization. On the other hand, one notable finding is the lowest mean score, 4.17, attributed to the statement "It does everything I would expect it to do." This

Table 1. Results of Usability Evaluation in Terms of Usefulness

Items	Mean	Descriptive Equivalent Rating (DER)	Descriptive Interpretation
1. It helps me be more effective.	4.77	Strongly Agree	Very High Usability
2. It helps me more productive.	4.80	Strongly Agree	Very High Usability
3. It is useful.	4.97	Strongly Agree	Very High Usability
4. It gives me more control over the activities in my life.	4.60	Strongly Agree	Very High Usability
5. It makes the things I want to accomplish easier to get done.	4.77	Strongly Agree	Very High Usability
6. It saves me time when I use it.	4.87	Strongly Agree	Very High Usability
7. It meets my needs.	4.97	Strongly Agree	Very High Usability
8. It does everything I would expect it to do.	4.17	Agree	High Usability
Average Weighted Mean	4.73	Strongly Agree	Very High Usability

result suggests a level of discrepancy between users' expectations and the system's functionalities. The lower score indicates that some users may perceive the system as falling short of fulfilling all their anticipated requirements or tasks. Such feedback highlights potential areas where the system may need improvement or where user expectations may need to be managed more effectively through clearer communication or additional features. While the overall usability ratings are generally positive, this particular aspect signals an opportunity for refinement to enhance the system's alignment with user expectations and thereby improve its effectiveness in supporting recruitment processes. Addressing these discrepancies could lead to a more robust and satisfactory user experience, ultimately enhancing the system's usability and value in recruitment contexts.

The total average weighted mean of 4.73, indicating the agreement of the respondents and signifying "Very High Usability," reflects an overwhelmingly positive evaluation of the automated recruitment system's usefulness by the study participants. This high score suggests widespread agreement among users regarding the system's effectiveness and practicality in facilitating their recruitment tasks. The weighted average, considering both the degree of agreement and the frequency of responses, emphasizes the robustness of these findings. It suggests that the majority of users not only find the system useful but also perceive its usefulness to be at an exceptionally high level. This overall assessment of "Very High Usability" attests to the system's quality and effectiveness in supporting recruitment processes, highlighting its significance as a valuable tool in hiring and talent acquisition contexts.

In their research study, Hajesmael-Gohari et al. (2022) sought to evaluate the effectiveness of both objective and subjective methods in assessing system usability. Their findings revealed that subjective approaches, such as user surveys and interviews, effectively identified usability issues and gathered user feedback. These results echo those of a separate study on the usability of an automated recruitment system for the Department of Education – Schools Division of La Union, which also utilized user surveys to assess usability. These consistent findings highlights the importance of employing subjective methods for evaluating systems like automated recruitment platforms.

Overall, integrating subjective and objective methods enhances understanding system usability by capturing user perspectives, complementing objective evaluations.

Table 2 reveals insights from a study evaluating the usability of an automated recruitment system. The highest mean score of 4.87, assigned to "It is user-friendly," indicates participants found the system intuitive and easy to navigate, leading to a positive experience. Conversely, the lowest mean score of 3.00 for "It requires the fewest steps possible to accomplish what I want to do with it" suggests room for improvement in terms of efficiency and streamlining processes. Overall, the calculated average weighted mean of 4.06 indicates strong agreement and very high usability across all evaluated aspects. These results highlight the system's overall ease of use, emphasizing its user-friendly nature, while suggesting a potential area for improvement in reducing the number of steps required to enhance user experience and streamline processes within the system.

Table 2. Results of Usability Evaluation in Terms of Ease of Use

Items	Mean	Descriptive Equivalent Rating (DER)	Descriptive Interpretation
1. It is easy to use.	4.7	Strongly Agree	Very High Usability
2. It is simple to use.	3.5	Moderately Agree	Moderately Usability
3. It is user-friendly.	4.87	Strongly Agree	Very High Usability
4. It requires the fewest steps possible to accomplish what I want to do with it.	3.00	Moderately Agree	Moderately Usability
5. It is flexible.	3.47	Agree	High Usability
6. Using it, is effortless.	4.33	Strongly Agree	Very High Usability
7. I can use it without written instructions.	3.67	Agree	High Usability
8. I didn't notice any inconsistencies as I use it.	3.57	Agree	High Usability
9. Both occasional and regular users would like it.	4.53	Strongly Agree	Very High Usability
10. I can recover from mistakes quickly and easily.	4.4	Strongly Agree	Very High Usability
11. I can use it successfully with it.	4.67	Strongly Agree	Very High Usability
Average Weighted Mean	4.06	Strongly Agree	Very High Usability

Nugroho et al. (2022) states that the usability is an important factor in mobile applications' role in making them easy to use and efficient. In correlation with Savioja et al. (2008), the system usability is introduced. This raises usability evaluation from analyzing user tasks to the level of analyzing user activity. This study provides insights into the importance of usability evaluation methods for system and emphasizes a systematic review of different methods used to evaluate the usability of system. Furthermore, it highlights the need for considering various aspects of usability, including learnability, efficiency, memorability, errors, and satisfaction. The findings of their study could be used to support the results of the automated recruitment system for Department of Education – Schools Division of La Union study by emphasizing the significance of considering various aspects of usability in evaluating the system.

Table 3. Results of Usability Evaluation in Terms of Ease of Learning

Items	Mean	Descriptive Equivalent Rating (DER)	Descriptive Interpretation
1. I learned to use it quickly.	4.7	Strongly Agree	Very High Usability
2. I easily remember how to use it.	3.9	Agree	High Usability
3. It is easy to learn to use it.	4.57	Strongly Agree	Very High Usability
4. I quickly because skillful every it.	4.53	Strongly Agree	Very High Usability
Average Weighted Mean	4.43	Strongly Agree	Very High Usability

Table 3 presents a comprehensive overview of the usability of the automated recruitment system, focusing specifically on ease of learning. Among the various indicators, the highest mean score of 4.7 was observed for the statement "I learned to use it quickly," indicating a resounding agreement among users. This exceptionally high score suggests that the system facilitated a swift learning curve, enabling users to grasp its functionalities promptly and efficiently. This aspect is crucial as it signifies that users could adapt to the system rapidly, minimizing the time and effort required for training and familiarization.

Conversely, the lowest mean score of 3.9 was attributed to the statement "I easily remember how to use it." While still indicating agreement, this score implies a slightly lower level of confidence among users regarding the system's memorability. Despite this, the score still falls within the "High Usability" range, suggesting that while users may not find it effortless to remember every aspect of the system, they still perceive it as generally manageable and user-friendly. This indicates that although there may be some areas where users feel less confident in their recall, overall, the system remains intuitive and navigable.

The calculated average weighted mean of 4.43 further reinforces the notion of very high usability in terms of ease of learning. This integrates the various scores across different indicators, providing a holistic assessment of the system's performance in facilitating user learning. This high weighted mean underscores the system's effectiveness in streamlining the learning process for users, affirming its status as a highly usable tool in the realm of recruitment automation. Overall, these findings emphasize the system's

commendable design and functionality, positioning it as a valuable asset in optimizing recruitment processes with its user-friendly interface and intuitive design.

In the study of Gatian (1994), the user satisfaction is a valid measure of system effectiveness, as it positively influences user behavior in both indirect and direct user groups in organizations. This supports the findings in the study on the level of usability of automated recruitment system which found out that users rated the system as easy to learn and use, indicating high usability and user-friendliness.

Table 4 delineates the usability of the automated recruitment system concerning ease of satisfaction, providing valuable insights into user experiences. At the highest point of satisfaction metrics, two statements garnered a perfect mean score of 5.00. Firstly, "I am satisfied with it" reflects an overwhelming consensus among users, highlighting a strong affirmation of the system's performance and utility. This outstanding score suggests that users find the system highly effective in meeting their needs and expectations, fostering a sense of contentment and fulfillment with its functionalities. Additionally, "It is pleasant to use" also received a perfect score, reinforcing the notion of very high usability. This statement underscores not only the system's functional efficiency but also its user-friendly design and interface, which contribute to an enjoyable user experience. Such high ratings signify that users not only find the system effective but also enjoyable to interact with, enhancing overall user satisfaction and engagement.

Conversely, the lowest mean score of 4.03 was attributed to the statement "It is fun to use." While still reflecting a strong agreement, this slightly lower score suggests that users may not perceive the system as inherently entertaining or recreational. Nonetheless,

Table 4. Results of Usability Evaluation in Terms of Ease of Satisfaction

Items	Mean	Descriptive Equivalent Rating (DER)	Descriptive Interpretation
1. I am satisfied with it.	5.00	Strongly Agree	Very High Usability
2. I would recommend it to a friend.	4.57	Agree	High Usability
3. It is fun to use.	4.03	Strongly Agree	Very High Usability
4. It works the way I want it to work.	4.20	Strongly Agree	Very High Usability
5. It is wonderful.	5.00	Strongly Agree	Very High Usability
6. I feel I need to have it.	4.53	Strongly Agree	Very High Usability
7. It is pleasant to use.	5.00	Strongly Agree	Very High Usability
Average Weighted Mean	4.62	Strongly Agree	Very High Usability

the score still falls within the "Very High Usability" range, indicating that while users may not find the system explicitly fun, they still perceive it as highly effective and satisfying to use in accomplishing their tasks.

The calculated average weighted mean of 4.62 further reinforces the overarching theme of very high usability in terms of ease of satisfaction. This weighted mean amalgamates the various satisfaction scores, providing a comprehensive assessment of user sentiments towards the system. This high weighted mean signifies a consistent pattern of satisfaction across different satisfaction indicators, reaffirming the system's effectiveness in meeting user needs and expectations. Overall, these findings underscore the automated recruitment system's commendable performance in fostering user satisfaction and usability. The combination of high satisfaction scores, coupled with a strong weighted mean,

highlights the system's efficacy in delivering a seamless and satisfying user experience, thereby positioning it as a valuable asset in the realm of recruitment automation.

In relevance to the study of Tarhan & Yilmaz (n.d), various quality models with different characteristics have been proposed for quality evaluation of software products. System evaluation methods play a pivotal role in assessing the effectiveness, efficiency, and usability of systems across various domains. These methods serve as critical tools for stakeholders, including developers, users, and decision-makers, to gauge the performance and impact of a system. By employing systematic evaluation techniques, organizations can identify strengths and weaknesses, pinpoint areas for improvement, and make informed decisions regarding system design, implementation, and optimization.

The study reveals the automated recruitment system's strengths in usefulness, user-friendliness, and overall satisfaction, yet also identifies areas for improvement. While users largely find the system useful and aligned with their needs, addressing slight discrepancies in meeting expectations fully could enhance user experience, possibly through clearer communication or additional features. Streamlining processes to reduce steps could increase efficiency despite the system's general user-friendliness. While users find the system easy to learn, enhancing memorability could further improve the user experience, along with addressing minor issues in perceiving the system as fun to use. These findings emphasize the system's effectiveness while suggesting avenues for refinement to boost usability and user satisfaction.

Table 5 interpreted the Overall Summary Level of Usability (USE) and provided a comprehensive evaluation of the system's performance in terms of user experience, with

all metrics indicating "Strongly Agree" and "Very High Usability." The usefulness score of 4.73 highlighted that users found the system extremely beneficial and well-suited to their needs, suggesting it significantly enhanced their productivity or fulfilled its intended purpose effectively. A score of 4.06 for ease of use implied that users perceived the system as straightforward and easy to navigate, reducing the time and effort required to accomplish tasks.

The ease of learning score of 4.43 signified that new users could quickly become proficient with the system, indicating good design and adequate support for onboarding. This suggested that the system provided clear instructions, intuitive interfaces, and effective help resources, allowing users to learn and adapt without frustration. The ease of satisfaction score of 4.62 revealed that users were highly content with their overall experience, indicating that the system met or exceeded their expectations in functionality, reliability, and design.

The overall average weighted mean of 4.46 reinforced the conclusion that the system had very high usability. This average reflected consistently positive feedback across all assessed areas, demonstrating that the system was not only effective and efficient but also provided a satisfying user experience. These high ratings suggested that the system had been well-designed with a strong focus on user needs, resulting in a tool that was both practical and enjoyable to use. Users frequently praised the system for its intuitive interface, seamless navigation, comprehensive features, and responsive support, all of which contributed to a seamless integration into their workflow and fostered a strong sense of trust and reliability in their interactions.

Table 5. Overall Summary Level of Usability (USE)

Items	Overall Average Weighted Mean	Descriptive Equivalent Rating (DER)	Descriptive Interpretation
Usefulness	4.73	Strongly Agree	Very High Usability
Ease of Use	4.06	Strongly Agree	Very High Usability
Ease of Learning	4.43	Strongly Agree	Very High Usability
Ease of Satisfaction	4.62	Strongly Agree	Very High Usability
Overall Average Weighted Mean	4.46	Strongly Agree	Very High Usability

Basically, the study's findings validate the automated recruitment system's utility and effectiveness in supporting recruitment processes. The overwhelmingly positive feedback across various dimensions underscores its significance as a valuable tool in talent acquisition contexts. However, the study also identifies specific areas for improvement, such as better aligning the system with user expectations, streamlining processes for increased efficiency, enhancing memorability, and potentially injecting elements of fun into the user experience.

Addressing these areas of improvement could further elevate the system's usability and user satisfaction, solidifying its position as a reliable and indispensable asset in the realm of recruitment automation. Overall, the study highlights the system's commendable performance while providing valuable insights for refinement to better meet user needs and expectations in the future.

Chapter 4

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

The study intended to address the growing need for efficiency and effectiveness in the recruitment process of the Department of Education (DEPED) Schools Division of La Union. The researchers sought to develop an innovative solution in the form of an Automated Recruitment System to streamline and enhance the hiring procedures within the educational institution. Its explicit goal was to achieve the following specified objectives: (1) to develop an Automated Recruitment System; (2) and to evaluate the level of usability of the proposed system.

Descriptive and developmental research methods were applied by the researchers in conducting the study. Descriptive research was utilized for the study to effectively assess the requirements and evaluate the level of functionality and usability of the system. Along with that, developmental research was also utilized in formulating the Automated Recruitment System as it emphasizes the systematic development and enhancement of solutions to meet specific needs. Here are the findings of the study conducted:

1. The development of the automated recruitment system for the Department of Education – School's Division of La Union was a meticulous process, driven by a comprehensive understanding of the essential requirements and a thoughtful incorporation of key features. The researchers utilized agile methodology, ensuring adaptability and responsiveness

throughout the development cycle. The system was designed to streamline and enhance the entire recruitment process, ensuring efficiency, accuracy, and a user-friendly experience.

2. The evaluation of the Automated Recruitment System for the Department of Education – Schools Division of La Union assessed its performance based on usefulness, ease of use, ease of learning, and overall satisfaction. With commendable mean scores of 4.73 for usefulness, 4.06 for ease of use, and 4.43 for ease of learning, the system demonstrated its effectiveness in facilitating recruitment processes. Stakeholders also expressed high satisfaction, reflected in a mean score of 4.62, affirming the system's capability to meet user expectations and enhance recruitment management within the educational institution. Ultimately, the overall average weighted mean of 4.46 highlights the automated recruitment system's commendable usability, reflecting strong user agreement and satisfaction. While the system demonstrates effectiveness across various dimensions, opportunities for refinement exist to further enhance usability and user experience.

Conclusions

These conclusions were drawn based from the findings of the study:

1. The utilization of agile methodology in the development of the Automated Recruitment System proved pivotal in addressing the system's objectives. Through its iterative and collaborative approach, agile enabled the researchers to effectively respond to changing requirements and stakeholder feedback, ensuring alignment with user needs. The inherent flexibility of agile practices facilitated continuous refinement and improvement, resulting in a resilient and adaptable solution. As the researchers concluded their thesis, the

successful application of agile methodology underscored its significance in complex software development projects, offering valuable insights for future technological innovations.

2. The assessment of the proposed system's usability was a fundamental objective in this thesis. Through comprehensive evaluation methods and user feedback, the researchers gained valuable insights into the system's effectiveness, efficiency, and user satisfaction. The findings highlighted areas of strength and areas for improvement, guiding future refinements to enhance the system's usability. As the thesis concluded, the significance of usability evaluation in ensuring the practicality and user-friendliness of technological solutions was reaffirmed, emphasizing its critical role in the development and optimization of innovative systems.

Recommendations

Based on the findings and conclusions, the researchers recommend the following:

1. To effectively develop an Automated Recruitment System, the researchers highly recommend adopting Agile Methodology as the guiding framework. Agile's iterative approach and collaborative ethos are well-suited to the dynamic nature of software development projects. This methodology enables adaptability to changing requirements and facilitates continuous improvement through frequent feedback loops. Additionally, Agile promotes cross-functional teamwork, fostering collaboration and innovation among diverse team members. Leveraging Agile Methodology revolutionizes the recruitment process with enhanced efficiency and effectiveness.

2. The researchers strongly advocate for prioritizing the evaluation of the proposed system's usability, emphasizing its pivotal role in successful implementation. A thorough assessment will yield valuable insights into user experience, interaction efficiency, and overall satisfaction, enhancing the credibility and efficacy of the research. By emphasizing this objective, they ensure the development of a user-centric solution tailored to meet the needs and expectations of its intended audience.
3. In addition to evaluating usability, it is recommended to consider employing a variety of usability testing methods such as user interviews, surveys, and task-based assessments. This multifaceted approach will provide a comprehensive understanding of user interactions and perceptions, enabling the identification of specific areas for improvement. Additionally, incorporating feedback mechanisms into the evaluation process fosters ongoing refinement and optimization of the system, ultimately leading to its enhanced usability and effectiveness.

LITERATURE CITED

- 360 Talent Avenue. (2023, August 10). The impact of technology on the hiring process. *360 Talent Avenue*. <https://360talentavenue.com/the-impact-of-technology-on-the-hiring-process/>
- Aljuaid, A., & Abbod, M. (2020). Artificial Intelligence-based e-recruitments system. In *Proceedings of the 2020 IEEE 10th International Conference on Intelligent Systems*, (pp.144–147). IEEE. <https://doi.org/10.1109/is48319.2020.9199979>
- Arribathi, A. H., Anggraeni, L., & Gestiarie, R. P. (2021). Rancang Bangun sistem informasi recruitment berbasis web Bagi Karyawan Baru. *REDAKSI Journal Cerita: Creative Education of Research in Information Technology and Artificial Informatics*, 7(2), 201–208. <https://doi.org/10.33050/cerita.v7i2.1777>
- Bell, E., & Bryman, A. (2006). The Ethics of Management Research: An exploratory content analysis. *British Journal of Management*, 18(1), 63–77. <https://doi.org/10.1111/j.1467-8551.2006.00487.x>
- Bhat, A. (2024, February 9). Research design: what it is, elements and types. *QuestionPro*. <https://www.questionpro.com/blog/research-design/>
- Bika, N. (2023, September 26). The most common recruiting challenges and how to overcome them. *Resources for Employers*. <https://resources.workable.com/stories-and-insights/common-recruiting-challenges>
- Bottrell, G. (2023, April 14). The importance of hiring the right employees for your business. *LinkedIn*. <https://www.linkedin.com/pulse/importance-hiring-right-employees-your-business-gavin-bottrell>
- Breyer, R. (2021, March 18). Hiring the right people is crucial for your school culture. *Teach Better*. <https://teachbetter.com/blog/hiring-the-right-people-is-crucial-for-your-school-culture/>
- Empxtrack | Technology, People, Growth. (2024, February 7). Recruitment and selection – the most important human resource function. *Empxtrack / Technology, People, Growth*. <https://empxtrack.com/blog/recruitment-and-selection-the-most-important-hr-function/>
- Erlano-De Torres, J. A. (2021). Implementation of decision support personnel recruitment System for Laguna State Polytechnic University-San Pablo City Campus. *International Journal of Managing Information Technology (IJMIT)*, 13(03), 45–63. <https://doi.org/10.5121/ijmit.2021.13304>

- Evans, D. (2023, February 16). How to use technology to help teachers be better and to make life better for teachers. *World Bank Blogs*. <https://blogs.worldbank.org/education/how-use-technology-help-teachers-be-better-and-make-life-better-teachers>
- Faculty, G. (2022, November 16). 5 biggest recruitment challenges in 2023 and how to overcome them. *LinkedIn*. <https://www.linkedin.com/pulse/5-biggest-recruitment-challenges-2023-how-overcome-them->
- Gatian, A. W. (1994). Is user satisfaction a valid measure of system effectiveness? *Information & Management*, 26(3), 119–131. [https://doi.org/10.1016/0378-7206\(94\)90036-1](https://doi.org/10.1016/0378-7206(94)90036-1)
- Ghodasara, A. (2023). 11 biggest recruitment challenges faced by recruiters in 2024. *iSmartRecruit*. <https://www.ismartrecruit.com/blog-recruitment-challenges-faced-by-recruiters>
- Gomathy, C. K. (Dr.), Ramaseshacharyulu, A. L. S. (Mr.), Sarath, Ch. S. (Mr.), & Sreekanth, A. S. (Mr.). (2022, May 3). Overview of recruitment and selection process in hrm. *International Journal of Scientific Research in Engineering and Management*, 8(4). <https://ijjsrem.com/download/overview-of-recruitment-and-selection-process-in-hrm/>
- Hajesmael-Gohari, S., Khordastan, F., Fatehi, F., Samzadeh, H., & Bahaadinbeigy, K. (2022, January 27). The most used questionnaires for evaluating satisfaction, usability, acceptance, and quality outcomes of Mobile Health. *BMC medical informatics and decision making*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8793175/>
- Hassan, M. (2023, August 15). Purposive sampling - methods, types, and examples. *Research Method*. <https://researchmethod.net/purposive-sampling/>
- Hermele, D. (2023, January 2). Why efficient recruitment is so important. *Tengai Candidate Screening*. Tengai. <https://tengai.io/blog/why-efficient-recruitment-is-so-important>
- Hoek, J. van der. (2024, April 10). The 5 stages of the agile software development lifecycle. *Mendix*. <https://www.mendix.com/blog/agile-software-development-lifecycle-stages/>
- Igwe, A., Onwumere, J. U. J., & Egbo, O. P. (2014). Human resource management, international labour standards and globalization. *ResearchGate*, 4(26), 159-165. https://www.researchgate.net/publication/309678713_Human_Resource_Management_International_Labour_Standards_and_Globalization

- Kavade, P. (2019). Innovative recruitment techniques in job portal with mern stack. *International Journal for Research in Applied Science and Engineering Technology*, 7(10), 810–814. <https://doi.org/10.22214/ijraset.2019.10122>
- Malki, Z., & Atlam, E. (2021). Graduate students and companies web-based e-recruitment system. *Journal of Computer and Communications*, 09(09), 71–84. Scientific Research: An academic publisher. <https://doi.org/10.4236/jcc.2021.99005>
- Martini, M., & Merdekawati, A. (2020). Rancang Bangun sistem informasi Rekrutmen Karyawan berbasis web pada pt megah perkasa teknologi. *JTIM : Jurnal Teknologi Informasi Dan Multimedia*, 2(2), 76–83. <https://doi.org/10.35746/jtim.v2i2.88>
- McCombes, S. (2023, May 22). Descriptive research: definition, types, methods & examples. *Scribbr*. <https://www.scribbr.com/methodology/descriptive-research/>
- Nehra, M. (2022, May 11). 6 stages of the agile development lifecycle. *decipherzone.com*. <https://www.decipherzone.com/blog-detail/agile-development-lifecycle>
- Parkin, M., & S, B. (2023, August 31). What are the benefits and challenges of using online recruitment platforms?. *LinkedIn*. <https://www.linkedin.com/advice/0/what-benefits-challenges-using-online-recruitment>
- Richey, R. C. (1994). Developmental research: the definition and scope. (ED373753) *Educational Resources Information Center*. <https://eric.ed.gov/?id=ED373753>
- Rivera, J. A. (2023, September 20). Life before internet. *Medium*. <https://medium.com/@josearivera631/life-before-internet-da2feae9c342>
- Sajjad, & Chandra, J. (2021, October 13). Impact of automation in human resource. *Gleematic A.I.* <https://gleematic.com/impact-of-automation-in-hr/>
- Simion, P. C., Popescu, M. A., Costea-Marcu, I. C., & Grecu, I. (2021). Human resource management in modern society. *Advances in Science and Technology*. <https://doi.org/10.4028/www.scientific.net/ast.110.25>
- Singh, R. (2022, April 27). What is e-recruitment and why is it important?. *appvizer*. <https://www.appvizer.com/magazine/hr/recruiting/e-recruitment>
- Swartz, E. (2023, August 16). Understanding automation, artificial intelligence, and generative ai in the recruitment industry. *Bullhorn UK*. <https://www.bullhorn.com/uk/blog/understanding-automation-ai-and-generative-ai-in-the-recruitment-industry/>

- Tarhan, A. K., & Yılmaz, N. (n.d.). Meta-models for software quality and its evaluation. <https://ceur-ws.org/Vol-2725/paper16.pdf>
- Teach Pinas. (2023, August 24). DepEd hiring guidelines (Teacher 1 ranking process 2023-2024). *Philippine Community Website for Teachers*. https://www.teachpinas.com/deped-hiring-guidelines-teacher-ranking-process/#20_SCOPE
- The Scientific World. (2019, November 11). The importance of technology in our daily life - how has technology changed our lives?. *The Scientific World - Let's have a moment of science*. <https://www.scientificworldinfo.com/2019/11/importance-of-technology-in-our-daily-life.html>
- UNESCO's International Institute for Educational Planning. (2021, September 23). Teacher recruitment and deployment. *Teacher recruitment and deployment / UNESCO IIEP Learning Portal*. <https://learningportal.iiep.unesco.org/en/issue-briefs/improve-learning/teacher-recruitment-and-deployment>
- Uttarwar, S., Gambani, S., Thakkar, T., & Mulla, N. (1970, January 1). Artificial intelligence-based system for preliminary rounds of recruitment process. *SpringerLink*. https://link.springer.com/chapter/10.1007/978-3-030-37218-7_97

APPENDICES

APPENDIX A

Letter of Request to Thesis Adviser



Don Mariano Marcos Memorial State University
South La Union Campus
COLLEGE OF COMPUTER SCIENCE
Agoo La Union



September 11, 2023

MR. ENRIQUE G. ABAD
Faculty, Member
College of Computer Science

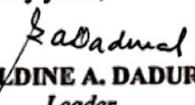
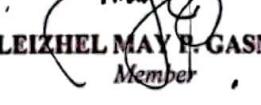
Sir:

We, the undersigned 4th-year students pursuing a Bachelor of Science in Computer Science (BSCS), are currently in the process of embarking upon Thesis Writing I as a pivotal requirement for our academic program. The crux of this undertaking entails the composition of a thesis proposal, the focus of which is entitled "Automated Recruitment System."

Given your esteemed reputation and profound expertise in the field of Computer Science, we are reaching out to kindly request your invaluable support and guidance as our prospective Thesis Adviser for this significant endeavor. In anticipation of your positive response, we remain open to any suggestions you may have regarding the proposed project and its direction.

Thank you for considering our request, and we eagerly await the opportunity to hear from you.

Respectfully yours,

 GERALDINE A. DADURAL <i>Leader</i>	 VILLA CARLA B. MARQUEZ <i>Member</i>	 JASMINE LYN L. GALISTE <i>Member</i>
 GODWIN R. VILLANUEVA <i>Member</i>	 LEIZHEL MAY E. GASMEN <i>Member</i>	 JASMIN L. GUBGUBAN <i>Member</i>

Approved:


ENRIQUE G. ABAD
Thesis Adviser

APPENDIX B

Letter of Request to the Chair



**DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY
SOUTH LA UNION CAMPUS
COLLEGE OF COMPUTER SCIENCE**
Agoo, La Union, Philippines
Mobile Number: +63 917-728-0563
Website: www.dmmmsu.edu.ph
Email Address: ccs.sluc@dmmmsu.edu.ph

October 9, 2023

PROF. HAYDEE D. LIMSON
CCS Faculty Member
DMMMSU-SLUC
Agoo, La Union

Ma'am:

Greetings!

I am writing to formally invite you to serve as CHAIR for the proposal and final defense of the undergraduate thesis titled "Automated Recruitment System for Dulao Integrated School", authored by Dadural, Geraldine A., Galiste, Jasmine Lyn L., Gasmen, Leizhel May P., Gubguban, Jasmin L., Marquez, Villa Carla B., and Villanueva, Godwin R. This research is being conducted as part of their requirement in the Bachelor of Science in Computer Science program.

I believe that your expertise and experience make you an ideal member of the Thesis Committee for this research. Your insights and feedback will be instrumental in evaluating the proposal and final defense presentations, as well as in providing valuable guidance to the authors throughout the research process.

Thank you very much and God bless!

Sincerely Yours,

CHARLIE S. MARZAN
Chair, BSCS Program

Approved:

HAYDEE D. LIMSON
Faculty

APPENDIX C

Letter of Request to the Panel Members



**DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY
SOUTH LA UNION CAMPUS
COLLEGE OF COMPUTER SCIENCE**
Agoo, La Union, Philippines
Mobile Number: +63 917-728-0563
Website: www.dmmmsu.edu.ph
Email Address: ccs.sluc@dmmmsu.edu.ph

October 9, 2023

PROF. ENRICO G. DACANAY
CCS Faculty Member
DMMMSU-SLUC
Agoo, La Union

Sir:

Greetings!

I am writing to formally invite you to serve as **TECHNICAL PANEL MEMBER** for the proposal and final defense of the undergraduate thesis titled "*Automated Recruitment System for Dulao Integrated School*", authored by *Dadural, Geraldine A., Galiste, Jasmine Lyn L., Gasmen, Leizhel May P., Gubguban, Jasmin L., Marquez, Villa Carla B., and Villanueva, Godwin R.* This research is being conducted as part of their requirement in the Bachelor of Science in Computer Science program.

I believe that your expertise and experience make you an ideal member of the Thesis Committee for this research. Your insights and feedback will be instrumental in evaluating the proposal and final defense presentations, as well as in providing valuable guidance to the authors throughout the research process.

Thank you very much and God bless!

Sincerely Yours,


CHARLIE S. MARZAN
Chair, BSCS Program

Approved:


ENRICO G. DACANAY
Faculty



**DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY
SOUTH LA UNION CAMPUS
COLLEGE OF COMPUTER SCIENCE**

Agoo, La Union, Philippines
Mobile Number: +63 917-728-0563
Website: www.dmmmsu.edu.ph
Email Address: ccs.sluc@dmmmsu.edu.ph

October 9, 2023

PROF. CHARLIE S. MARZAN
CCS Faculty Member
DMMMSU-SLUC
Agoo, La Union

Sir:

Greetings!

I am writing to formally invite you to serve as **TECHNICAL PANEL MEMBER** for the proposal and final defense of the undergraduate thesis titled "*Automated Recruitment System for Dulao Integrated School*", authored by *Dadural, Geraldine A., Galiste, Jasmine Lyn L., Gasmen, Leizhel May P., Gubguban, Jasmin L., Marquez, Villa Carla B., and Villanueva, Godwin R.* This research is being conducted as part of their requirement in the Bachelor of Science in Computer Science program.

I believe that your expertise and experience make you an ideal member of the Thesis Committee for this research. Your insights and feedback will be instrumental in evaluating the proposal and final defense presentations, as well as in providing valuable guidance to the authors throughout the research process.

Thank you very much and God bless!

Sincerely Yours,

ENRICO G. DACANAY
Dean

Approved:

CHARLIE S. MARZAN
Faculty



The WORLD
UNIVERSITY
RANKINGS
for INNOVATION





**DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY
SOUTH LA UNION CAMPUS
COLLEGE OF COMPUTER SCIENCE**

Agoo, La Union, Philippines
Mobile Number: +63 917-728-0563
Website: www.dmmmsu.edu.ph
Email Address: ccs.sluc@dmmmsu.edu.ph

October 9, 2023

PROF. AGNES S. SUGUITAN
CCS Faculty Member
DMMMSU-SLUC
Agoo, La Union

Ma'am:

Greetings!

I am writing to formally invite you to serve as **TECHNICAL PANEL MEMBER** for the proposal and final defense of the undergraduate thesis titled "*Automated Recruitment System for Dulaو Integrated School*", authored by *Dadural, Geraldine A., Galiste, Jasmine Lyn L., Gasmen, Leizhel May P., Gubguban, Jasmin L., Marquez, Villa Carla B., and Villanueva, Godwin R.* This research is being conducted as part of their requirement in the Bachelor of Science in Computer Science program.

I believe that your expertise and experience make you an ideal member of the Thesis Committee for this research. Your insights and feedback will be instrumental in evaluating the proposal and final defense presentations, as well as in providing valuable guidance to the authors throughout the research process.

Thank you very much and God bless!

Sincerely Yours,


CHARLIE V. MARZAN
Chair, BSCS Program

Approved:

AGNES S. SUGUITAN
Faculty



The WORLD
UNIVERSITY
RANKINGS
for INNOVATION



APPENDIX D

Letter of Request to the Client



Don Mariano Marcos Memorial State University
South La Union Campus
COLLEGE OF COMPUTER SCIENCE
Agoo, La Union



March 21, 2024

DEPED Teachers/Principal
DEPED Schools Division of La Union

Sir/Madam:

We, as students from DMMMSU pursuing a Bachelor of Science in Computer Science, are reaching out to express our intent to conduct a survey and system testing for our thesis within the DEPED Schools Division of La Union, specifically focusing on the recruitment system.

Our research aims to enhance the recruitment process within the educational system by evaluating the current technology infrastructure's impact on hiring practices. We plan to gather perspectives through surveys and conduct system testing to assess the effectiveness, usability, necessary modifications, and other recommendations related to the recruitment system.

We kindly request your support in granting permissions and access essential for the successful execution of this research. Your collaboration is crucial for identifying improvements and integrating innovative technologies to enhance the overall recruitment experience within the division.

Respectfully yours,

Geraldine A. Dadural
GERALDINE A. DADURAL
Leader
Jasmine L. Gubguban
JASMINE L. GUBGUBAN
Member

Jasmine Lyn L. Galiste
JASMINE LYN L. GALISTE
Member
Villa Carla B. Marquez
VILLA CARLA B. MARQUEZ
Member

Leizhel May P. Gasmen
LEIZHEL MAY P. GASMEN
Member
Godwin R. Villanueva
GODWIN R. VILLANUEVA
Member

Approved by:

Enrique G. Abad
ENRIQUE G. ABAD
Thesis Adviser

Raymund E. Dilan
RAYMUND E. DILAN
Chair, BSCS Program

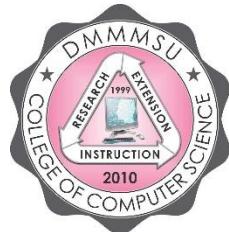
Enrico G. Dacanay
ENRICO G. DACANAY
Dean

APPENDIX E

USE Questionnaire: Usefulness, Satisfaction, and Ease of Use Adopted from Lund A.M (2001)



Don Mariano Marcos Memorial State University
South La Union Campus
COLLEGE OF COMPUTER SCIENCE
Agoo, La Union



Direction: Please evaluate the following items to determine the level of usability with the proposed system entitled, “Automated Recruitment System for Department of Education – Schools Division of La Union.”

5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
---------------------	------------	--------------	---------------	------------------------

USEFULNESS	5	4	3	2	1
USEFULNESS					
1. It helps me be more effective.					
2. It helps me more productive.					
3. It is useful.					
4. It gives me more control over the activities in my life.					
5. It makes the things I want to accomplish easier to get done.					
6. It saves me time when I use it.					
7. It meets my needs.					
8. It does everything I would expect it to do.					
EASE OF USE					
1. It is easy to use.					
2. It is simple to use.					
3. It is user-friendly.					
4. It requires the fewest steps possible to accomplish what I want to do with it.					
5. It is flexible.					
6. Using it, is effortless.					
7. I can use it without written instructions.					

8. I didn't notice any inconsistencies as I use it.				
9. Both occasional and regular users would like it.				
10. I can recover from mistakes quickly and easily.				
11. I can use it successfully with it.				
EASE OF LEARNING				
1. I learned to use it quickly.				
2. I easily remember how to use it.				
3. It is easy to learn to use it.				
4. I quickly because skillful every it.				
SATISFACTION				
1. I am satisfied with it.				
2. I would recommend it to a friend.				
3. It is fun to use.				
4. It works the way I want it to work.				
5. It is wonderful.				
6. I feel I need to have it.				
7. It is pleasant to use.				

Any comments or suggestions

Thank you so much.

Signature Over Printed Name

APPENDIX F

	Application for Ethics Review of a New Protocol
---	--

Instructions to the Researcher: Please accomplish this form and ensure that you have included in your submission the documents that you checked below (in Section 3. Checklist of Documents).

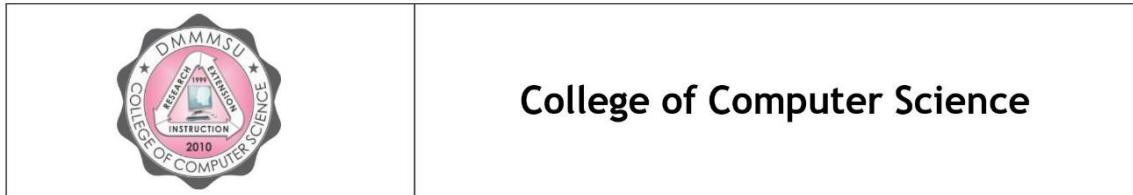
1. General Information			
*Title of Study	Automated Recruitment System for Department of Education School's Division of La Union		
*RETC Code (To be provided by RETC)	2024-534- Automated Recruitment System - Dadural	*Study Site	La Union
*Name of Researcher	Geraldine A. Dadural	Contact Information	*Tel No:
*Co-researcher (if any)			Jasmine Lyn L. Galiste Leizhel May P. Gasmen Jasmin L. Gubguban Villa Carla B. Marquez Godwin R. Villanueva
*Institution	Don Mariano Marcos Memorial State University College of Computer Science		
*Address of Institution	Consolacion Agoo, La Union		
*Type of Study	<input type="checkbox"/> Clinical Trial (Sponsored)		<input type="checkbox"/> Biomedical Research (Retrospective, Prospective, and diagnostic studies)
	<input type="checkbox"/> Clinical Trials (Researcher-initiated)		<input type="checkbox"/> Stem Cell Research
	<input type="checkbox"/> Health Operations Research (Health Programs and Policies)		<input type="checkbox"/> Genetic Research
	<input type="checkbox"/> Public Health / Epidemiologic Research		<input type="checkbox"/> Social / Behavioral Research
	<input checked="" type="checkbox"/> Others: <u>Occupational Research</u>		
	<input type="checkbox"/> Multicenter (International)	<input type="checkbox"/> Multicenter (National)	<input checked="" type="checkbox"/> Single Site

*Source of Funding	<input checked="" type="checkbox"/> Self-funded			<input type="checkbox"/> Sponsored by a Pharmaceutical Company
	<input type="checkbox"/> Government-Funded			Specify:
	<input type="checkbox"/> Scholarship/Research Grant			
	<input type="checkbox"/> Institution-Funded			
	<input type="checkbox"/> Others			
*Duration of the study	Start date:	August 2023		Eight (8)
	End date:	April 2024	No. of study participants	
*Has the Research undergone Technical Review?			<input checked="" type="checkbox"/> Yes (please attach technical review results)	
			<input type="checkbox"/> No	
*Has the Research been submitted to another REC?			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. Brief Description of the study				
<p>This study focuses on the development and implementation of an Automated Recruitment System specifically tailored for the Department of Education (DepEd) Schools Division of La Union. This system aims to modernize and optimize the teacher hiring process within the region. It streamlines various recruitment tasks, such as application management, candidate evaluation, and selection procedures, utilizing automation technology to enhance efficiency and transparency. The study investigates the impact of this automated system on recruitment outcomes, such as the quality of hires, time and cost savings, and overall effectiveness in meeting the division's staffing needs. Ultimately, it aims to provide insights into the benefits and challenges of employing such technology in educational institutions like the DepEd Schools Division of La Union.</p>				
3. Checklist of Documents				
Basic requirements:		Supplementary Documents:		
<input checked="" type="checkbox"/> Letter request for review		<input checked="" type="checkbox"/> Questionnaire (if applicable)		
<input checked="" type="checkbox"/> Endorsement/Referral Letter		<input type="checkbox"/> Data Collection Forms (if applicable)		

<input checked="" type="checkbox"/> Full proposal / study protocol		<input type="checkbox"/> Philippine FDA Marketing Authorization or Import License (if applicable)
<input checked="" type="checkbox"/> Technical Review Approval		<input type="checkbox"/> Permit/s for special populations (please specify)
<input checked="" type="checkbox"/> Curriculum Vitae of Researcher/s		
<input checked="" type="checkbox"/> Informed Consent Form		<input type="checkbox"/> Others (please specify)
	<input checked="" type="checkbox"/> English version	
	<input type="checkbox"/> Filipino version	
	<input type="checkbox"/> Others:	

APPENDIX G

Informed Consent Form



This Informed Consent Form is for Teachers of Department of Education - Schools Division of La Union who are inviting to participate in our Research Project entitled “Automated Recruitment System for Department of Education - Schools Division of La Union.”

Name of Principal Investigator: Dadural, Geraldine A.

Other Investigators: Galiste, Jasmine Lyn L.
Gasmen, Leizhel May P.
Gubguban, Jasmin L.
Marquez, Villa Carla B.
Villanueva, Godwin R.

Name of Organization: Don Mariano Marcos Memorial State University - South La Union Campus

Name of Sponsor (if applicable)

Name of Project and Version: Automated Recruitment System for Department of Education - Schools Division of La Union

Part I: Information Sheet

Introduction

We, the undersigned Bachelor of Science in Computer Science - fourth year students are currently enrolled in the subject Methods of Research / Thesis Writing. One of our requirements for this course will be to undergo the process of research and be able to generate and produce a project that will give something profitable, nourishing, and beneficial. This study entitled Automated Recruitment System, aids in streamlining and automating the hiring processes for our DepEd applicants. It aims to enhance recruiter productivity, reduce time-consuming, lower cost per hire and enhance the overall talent profile.

Purpose of the research

The purpose of this research is to streamline and modernize the recruitment process of the Department of Education. This aims to enhance efficiency, transitioning from manual to automating tasks such as job posting, application screening, evaluating,



College of Computer Science

and candidate selection, ultimately ensuring a more transparent and merit-based hiring process.

Type of Research Intervention

This study requires the participation of Department of Education (DepEd) teachers and administrators in a series of activities. The participants will need to attend a face-to-face interview which is estimated to be about twenty (20) minutes. Along with this, there will be a pilot test of the developed system, during which the respondents will spend approximately fifteen (15) to thirty (30) minutes assessing its functionality. After the pilot test, participants will be asked to evaluate and complete the usability survey questionnaire, which should take about twenty (20) to thirty (30) minutes to finish.

Participant Selection

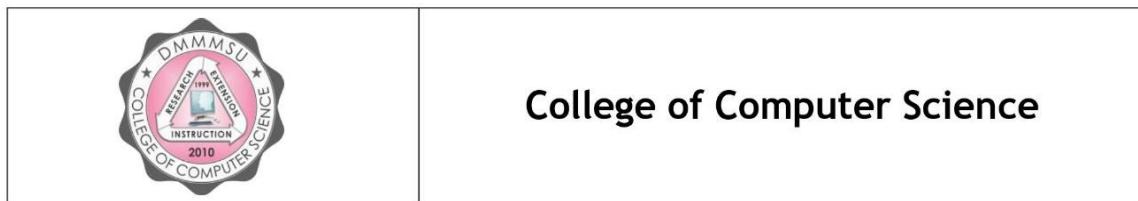
Under Department of Education (DepEd) Teachers 1 within La Union, you are invited to participate in this research. You are the primary focus of the study which adds a unique perspective to the research, considering your role in educational institutions and potential insights into the adoption of technology in the hiring process.

Voluntary Participation

Your involvement in this study relies on individuals choosing to participate willingly and voluntarily, meaning that those who decide to join may be different from those who do not. Choosing not to participate in this survey won't affect your teaching profession or any related assessment. Your decision remains independent and keeping it your journey will be the same.

Procedures

- A. We shall follow the safety measures to guarantee the safety of all study participants before conducting a personal interview. To make our system more beneficial to our clients, we need to know what needs to be improved.
- B. During the system testing, the respondents will use the personal laptops of the researchers to evaluate the functionality and navigate the developed system. We will observe precautionary measures such as social distancing and wearing of face masks to guarantee the safety of all research participants.
- C. After testing the developed system, respondents will be asked to help us in answering the level of usability of the Automated Recruitment System for the



College of Computer Science

Department of Education - Schools Division of La Union. We aim to determine the satisfaction level of participants with the developed system. We will make sure that all the collected survey questionnaires will be disinfected to prevent the spreading of COVID-19 virus before the data analysis.

Duration

The duration of this thesis study is eight (8) months. The questionnaire survey is in hard copy with a predetermined format. Participants answer questionnaires to provide a thorough understanding of their workloads and availability. If the questionnaire is lengthy or contains complex inquiries, participants may require more time for thoughtful responses. Keep participants engaged and ensure the data collected is meaningful.

Risks

We are asking you to share with us some private details and confidential information such as your name, address, contact details, and other relevant information regarding your teaching experiences. Should you feel uncomfortable talking about some of the topics, you are free not to answer any questions or take part in the discussion/interview/survey. You do not have to give us any reason for not responding to any questions, or for refusing to take part in the survey.

Benefits

Your participation in this research will greatly assist us in assessing the needs of the system. Your involvement is invaluable and will likely provide crucial insights into identifying both the influential and non-influential factors affecting the satisfaction of our target system. By participating in this study, you contribute to the advancement of knowledge in our field and help us make informed decisions to improve the system's functionality and effectiveness. Your input will be instrumental in shaping future developments and ensuring that the system meets the needs and expectations of its users.

Reimbursements

You will not be compensated for your participation in this study. However, your time and effort will be very much appreciated.

Confidentiality



College of Computer Science

Researchers prioritize confidentiality in web-based automated recruitment systems to protect sensitive data, implementing secure protocols, encryption, and access controls. This ensures participant privacy and research integrity, adhering to clear data protection policies and promoting trust and compliance with privacy regulations throughout the research process. Various strategies, such as anonymized data collection and unique identifiers, maintain participant confidentiality, fostering a safe environment for open communication without fear of repercussions. Researchers maintain confidentiality throughout the research process, safeguarding participant identities and responses at every stage.

Sharing the Results

We assure you that any data collected during this study that could potentially identify you, will be treated with the utmost confidentiality. Rest assured that the data gathered will be kept strictly confidential and will only be accessible to the researchers involved in the study. Your sensitive personal information will not be shared with anyone outside of the research team without your explicit consent. We are committed to maintaining the confidentiality of your information and will take all necessary precautions to safeguard it against unauthorized access or disclosure. Furthermore, we adhere to a strict policy of confidentiality regarding the details of the study procedure. This means that the specific information of how the research is conducted will be kept confidential to ensure the integrity and validity of the findings.

Right to Refuse or Withdraw

Individuals have the authority to decide their participation, ensuring their autonomy and voluntary involvement. They can decline or withdraw from studies without any consequences, maintaining control over their personal data. This commitment to respecting participants fosters transparency and trust, reinforcing ethical standards. Additionally, individuals can withdraw from taking part in this study, following jurisdictional regulations. They also have rights concerning consent, access to information, and data privacy, emphasizing transparency and compliance with relevant laws.

Who to Contact

This proposal has been reviewed and approved by DMMMSU Research Ethics Committee, which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find out more about the Committee, contact:



College of Computer Science

Joel C. Estacio
Chair, DMMMSU REC
rec@dmmmsu.edu.ph

Do you know that you do not have to take part in this study if you do not wish to? You can say No if you wish to? Do you know that you can ask me questions later, if you wish to? Do you know that I have given the contact details of the person who can give you more information about the study?

You can ask me any more questions about any part of the research study if you wish to. Do you have any questions? You can contact me through the following:

Geraldine A. Dadural
 Group Leader, Automated Recruitment System for DEPED School's Division of La Union
 gdadural@student.dmmmsu.edu.ph
 09664914130

Part II: Certificate of Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant: _____
 Signature of Participant: _____
 Date: _____
 Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

1.

2.

3.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Name of Researcher/person taking the consent

Signature of Researcher /person taking the consent

Date _____

Day/month/year

APPENDIX H

Ethical Clearance



Don Mariano Marcos Memorial State University

Research Ethics

Bacnotan, La Union, Philippines

Email: rec@dmmsu.edu.ph

Level I Accredited by the Philippine Health Research Ethics Board (PHREB)

Accreditation No: L1-2023-056-01

<p>Research Ethics Committee</p> <p>Prof. Joel C. Estacio (Health) Chair</p> <p>Engr. Luis A. Tattao (Engineering and Technology) Vice-Chair</p> <p>Prof. Sherille A. Orejudos (Health) Member Secretary</p> <p>Members:</p> <p>Prof. Claudia Denise P. Barbadillo (Social and Behavioral Sciences)</p> <p>Dr. Amy P. Balcita (ICT)</p> <p>Dr. CF Omar D. Domingo (Animal Science and Veterinary Medicine)</p> <p>Prof. Led Karen R. Zamudio (Health)</p> <p>Dr. Genaro D. Omo (Agriculture, Aquaculture and Natural Resources)</p> <p>Dr. Violeta F. Collado (Science Education)</p> <p>Dr. Jovencio M. Milan Jr. (Health)</p> <p>Prof. Sheldy M. Peralta (Health)</p> <p>Dr. Aileen Kris S. Padilla (Psychology)</p> <p>Prof. Yezza E. Sindayen (Psychology)</p> <p>External Members:</p> <p>Ptr. Epifanio D. Aduan (Humanities and Spirituality)</p> <p>Prof. Janna M. Boado (Health)</p> <p>Mr. Enrico S. Del Rosario (Health)</p> <p>Atty. Leonard S. Dulay (Governance and Management)</p> <p>Mr. Alex P. Sarmiento (Criminal Justice Education)</p> <p>Secretariat:</p> <p>Engr. Rhodora S. Mortela Staff Secretary</p>	<p style="text-align: center;">ETHICAL CLEARANCE</p> <p style="text-align: center;">June 3, 2024</p> <p>This is to certify that DMMSU Research Ethics Committee has APPROVED the following study protocol.</p> <p>Name of Principal Investigator: Geraldine A. Dadural</p> <p>Title of Study / Protocol: Automated Recruitment System For Department Of Education - Schools Division Of La Union</p> <p>RETC Code: 2024-534- Automated Recruitment System-Dadural</p> <p>The following are the responsibilities of the investigators / researchers after protocol approval:</p> <ol style="list-style-type: none"> 1. Seek approval from DMMSU Research Ethics for any protocol amendment after this date. 2. Submit SAE and SUSAR Reports to RETC when deemed necessary. 3. Submit progress report. 4. Notify DMMSU RETC of any Protocol deviation/violation. 5. Abide by the principles of good clinical practice and ethical research 6. Comply with relevant international and national guidelines and regulations 7. Submit the final report after study completion using the Final Report Form (DMMSU-RETC-F022). <p>This Ethical Clearance is valid until June 3, 2025.</p> <p style="text-align: center;"> JOEL C. ESTACIO Chair DMMSU Research Ethics Committee </p>
---	---

APPENDIX I

Decision Letter



Don Mariano Marcos Memorial State University
Research Ethics
 Bacnotan, La Union, Philippines
 Email: rec@dmmmsu.edu.ph
 Level I Accredited by the Philippine Health Research Ethics Board (PHREB)

DECISION LETTER

June 3, 2024



MS. GERALDINE A. DADURAL
 BSCS Student, CCS
 DMMMSU-SLUC, Agoo, La Union

RE: Automated Recruitment System For Department Of Education - Schools Division
 Of La Union

RETC code: 2024-534- Automated Recruitment System- Dadural

Subject: Evaluation results, findings, and recommendations

Dear *Ms. Dadural*:

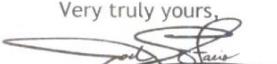
This is to acknowledge receipt of your request and the following supporting documents dated April 29, 2024.

- Request Letter for Review
- Application for Ethics Review of a New Protocol Form
- Full proposal / Study protocol
- Questionnaire
- Informed Consent Form
- Curriculum Vitae
- Technical Review Approval/Compliance Matrix

After review of your initial submission documents, the REC decides to **APPROVE** your protocol. Attached with this letter is your Ethical Clearance.

Please note the responsibilities of the researchers/Investigators after protocol approval. Note that failure to comply with the conditions and responsibilities may result in the withdrawal of approval of your protocol.

Very truly yours,


JOEL C. ESTACIO

Chair, Research Ethics

APPENDIX J

Proofreading Certification



DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY
South La Union Campus
COLLEGE OF COMPUTER SCIENCE
 Agoo, La Union, Philippines
 Mobile Number: +63 917-728-0563
 Website: www.dmmmsu.edu.ph
 Email Address: ccs.sluc@dmmmsu.edu.ph

CERTIFICATION

This is to certify that the undersigned has provided technical assistance to the researchers specified below:

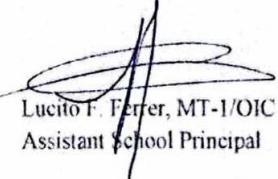
Name of Researchers	GERALDINE A. DADURAL JASMINE LYN L. GALISTE LEIZHEL MAY P. GASMEN JASMIN L. GUBGUBAN VILLA CARLA B. MARQUEZ GODWIN R. VILLANUEVA
Degree Program	BACHELOR OF SCIENCE IN COMPUTER SCIENCE
Title of Research	Automated Recruitment System for Department of Education – Schools Division of La Union

The said manuscript has been thoroughly edited, reviewed, and assessed to be in order and conforms to the style and format of the university.

The manuscript is endorsed for:

- final defense
 final printing and binding

Editor:


 Lucito F. Ferrer, MT-1/OIC
 Assistant School Principal

Date:

June 4, 2024

CURRICULUM VITAE

GERALDINE ABSALON DADURAL
 San Nicolas East, Agoo, La Union
 2504 Philippines
 09664914130
 gdadural@student.dmmmsu.edu.ph



Personal Information

Birthdate: August 18, 2001	Age: 22
Gender: Female	Civil Status: Single
Nationality: Filipino	Religion: Roman Catholic
Father's Name: Johnny N. Dadural	Mother's Name: Corazon D. Absalon

Educational Background

<i>2020 – present</i>	College Level Bachelor of Science in Computer Science Don Mariano Marcos Memorial State University Consolacion, Agoo, La Union Thesis: “Automated Recruitment System for Department of Education – Schools Division of La Union”
<i>2018-2020</i>	Senior High School Level Agoo Kiddie Special School (AKSS) - ABM Consolacion Agoo, La Union
<i>2012-2018</i>	Junior High School Level Saint Mary's Academy Consolacion, Agoo, La Union Agoo Montessori Learning Center and High School Inc. San Antonio Agoo, La Union
<i>2006-2012</i>	Primary Level Agoo Montessori Learning Center and High School Inc. San Antonio Agoo, La Union
<i>2005-2006</i>	Kindergarten Agoo Kiddie Special School Consolacion Agoo, La Union

Work Experiences

Jul – Aug 2023

On-the-Job Training
La Union Multi-Purpose Cooperative
San Nicolas Central Agoo, La Union

Seminars and Trainings Attended

<i>March 20, 2023</i>	Poster Designing and Financial Literacy and Investment Planning ComSci-Yahan 2023 Jose D. Aspiras Hall College of Computer Science DMMMSU-SLUC, Agoo, La Union
<i>June 2023</i>	40-Hours Hands-On Training Workshop College of Computer Science DMMMSU-SLUC, Agoo, La Union

Achievements

2009 9th Honor, Most Punctual
Agoo Montessori Learning Center and High School Inc.

2012 5th Honor
Saint Mary's Academy

Special Skills and Talents

- Accounting skills
- Writing Skills
- Knowledge in Java and Laravel
- Web development using HTML, CSS Bootstrap, JavaScript with PHP and MySQL
- Proficient in Microsoft Office applications

I hereby certify that the statements above are correct to my best knowledge.

Geraldine A. Dadural
Leader

CURRICULUM VITAE

JASMINE LYN LAROZA GALISTE
 Namboongan, Sto. Tomas La Union
 2505 Philippines
 0945-607-2723
 jlgaliste@dmmmsu.edu.ph



Personal Information

Birthdate: March 31, 2002	Age: 22
Gender: Female	Religion: Roman Catholic
Nationality: Filipino	Civil Status: Single
Father's Name: Jomer Galiste	Mother's Name: Mylene Laroza

Educational Background

<i>2020 – present</i>	College Level Bachelor of Science in Computer Science Don Mariano Marcos Memorial State University Consolacion, Agoo, La Union Thesis: “Automated Recruitment System for Department of Education – Schools Division of La Union”
<i>2018-2020</i>	Senior High School Level Polytechnic College of La Union (PCLU) - HUMSS San Nicolas Central Agoo, La Union
<i>2012-2018</i>	Junior High School Level Saint Mary of the Sea Academy Santo Tomas La Union
<i>2005-2012</i>	Primary Level Saint Isidore School Tubao, La Union

Work Experiences

<i>Jul – Aug 2023</i>	On-the-Job Training National Irrigation Administration San Jose Agoo, La Union
-----------------------	--

Seminars and Trainings Attended

<i>March 20, 2023</i>	Poster Designing and Financial Literacy and Investment Planning ComSci-Yahan 2023 Jose D. Aspiras Hall College of Computer Science DMMMSU-SLUC, Agoo, La Union
<i>June 2023</i>	40-Hours Hands-On Training Workshop College of Computer Science DMMMSU-SLUC, Agoo, La Union

Special Skills and Talents

- Basic programming skills in HTML, CSS, and JavaScript.
- Proficient in Microsoft Office applications
- Great in Video Editing
- Has basic knowledge in WordPress

I hereby certify that the statements above are correct to my best knowledge.

Jasmine Lyn L. Galiste
Member

CURRICULUM VITAE

LEIZHEL MAY PANEDA GASMEN
 Rosario, La Union
 2505 Philippines
 0945-607-2723
 lmgasmen@student.dmmmsu.edu.ph



Personal Information

Birthdate: May 24, 2002	Age: 22
Gender: Female	Religion: Roman Catholic
Nationality: Filipino	Civil Status: Single
Father's Name: Melano B. Gasmen	Mother's Name: Laelani P. Gasmen

Educational Background

<i>2020 – present</i>	College Level Bachelor of Science in Computer Science Don Mariano Marcos Memorial State University Consolacion, Agoo, La Union Thesis: “Automated Recruitment System for Department of Education – Schools Division of La Union”
<i>2018-2020</i>	Senior High School Level Union Institute of Rosario Poblacion East, Rosario, La Union
<i>2012-2018</i>	Junior High School Level Union Institute of Rosario Poblacion East, Rosario, La Union
<i>2005-2012</i>	Primary Level Maoasaoas Elementary School - ANNEX Maoasaoas Norte, Pugo La Union

Work Experiences

<i>Jul – Aug 2023</i>	On-the-Job Training National Irrigation Administration San Jose Agoo, La Union
-----------------------	--

Seminars and Trainings Attended

<i>March 20, 2023</i>	Poster Designing and Financial Literacy and Investment Planning ComSci-Yahan 2023 Jose D. Aspiras Hall College of Computer Science DMMMSU-SLUC, Agoo, La Union
<i>June 2023</i>	40-Hours Hands-On Training Workshop College of Computer Science DMMMSU-SLUC, Agoo, La Union

Special Skills and Talents

- Basic programming skills in HTML, CSS, JavaScript, and Python.
- Proficient in Microsoft Office applications
- Basic knowledge in Graphic Design
- Computer Literate
- Encoding and Printing

I hereby certify that the statements above are correct to my best knowledge.

Leizhel May P. Gasmend
Member

CURRICULUM VITAE

JASMIN LABUANAN GUBGUBAN
 Cabaruan, Sto. Tomas La Union
 2505 Philippines
 09814013390
 jgubguban@student.dmmmsu.edu.ph



Personal Information

Birthdate: April 03, 2002	Age: 22
Gender: Female	Religion: Methodist
Nationality: Filipino	Civil Status: Single
Father's Name: Crissanto L. Gubguban	Mother's Name: Manuela G. Labuanan

Educational Background

<i>2020 – present</i>	College Level Bachelor of Science in Computer Science Don Mariano Marcos Memorial State University Consolacion, Agoo, La Union Thesis: “Automated Recruitment System for Department of Education – Schools Division of La Union”
<i>2018-2020</i>	Senior High School Level Cabaruan Integrated School - GAS Cabaruan Sto. Tomas La Union
<i>2012-2018</i>	Junior High School Level Cabaruan Integrated School Cabaruan Sto. Tomas La Union
<i>2005-2012</i>	Primary Level Cabaruan Elementary School Cabaruan Sto. Tomas La Union

Work Experiences

<i>Jul – Aug 2023</i>	On-the-Job Training National Irrigation Administration San Jose Agoo, La Union
-----------------------	--

Seminars and Trainings Attended

<i>March 20, 2023</i>	Poster Designing and Financial Literacy and Investment Planning ComSci-Yahan 2023 Jose D. Aspiras Hall College of Computer Science DMMMSU-SLUC, Agoo, La Union
<i>June 2023</i>	40-Hours Hands-On Training Workshop College of Computer Science DMMMSU-SLUC, Agoo, La Union

Special Skills and Talents

- Basic programming skills in HTML, CSS, JavaScript, and Python.
- Proficient in Microsoft Office applications
- Basic knowledge in Graphic Design
- Computer Literate
- Technical skills

I hereby certify that the statements above are correct to my best knowledge.

Jasmin L. Gubguban
Member

CURRICULUM VITAE

VILLA CARLA BAUTISTA MARQUEZ
 Sta. Rita West Aringay, La Union
 2503 Philippines
 09127428896
 vmarquez@student.dmmmsu.edu.ph



Personal Information

Birthdate: April 30, 2002	Age: 22
Gender: Female	Religion: Roman Catholic
Nationality: Filipino	Civil Status: Single
Father's Name: Carl Bryan D. Marquez	Mother's Name: Villa Freda Bautista

Educational Background

2020 – present

College Level

Bachelor of Science in Computer Science
 Don Mariano Marcos Memorial State University
 Consolacion, Agoo, La Union
 Thesis: “Automated Recruitment System for Department of Education – Schools Division of La Union”

2018-2020

Senior High School Level

Computer System Servicing
 South Ilocandia College of Arts and Technology
 San Eugenio Aringay, La Union

2012-2018

Junior High School Level

Aringay Nation High School
 Poblacion Aringay, La Union

2005-2012

Primary Level

Sta. Rita Elementary School
 Sta. Rita West Aringay, La Union

Work Experiences

Jul – Aug 2023

On-the-Job Training
 National Irrigation Administration
 San Jose Agoo, La Union

Seminars and Trainings Attended

March 20, 2023 Poster Designing and Financial Literacy and Investment Planning
ComSci-Yahan 2023
Jose D. Aspiras Hall
College of Computer Science
DMMMSU-SLUC, Agoo, La Union

June 2023 40-Hours Hands-On Training Workshop
College of Computer Science
DMMMSU-SLUC, Agoo, La Union

Special Skills and Talents

- Basic programming skills in HTML, CSS, JavaScript, and Python.
- Proficient in Microsoft Office applications
- Encoder
- Basic knowledge in WordPress

I hereby certify that the statements above are correct to my best knowledge.

Villa Carla B. Marquez
Member

CURRICULUM VITAE

GODWIN REFUERZO VILLANUEVA
 Balaoc Sto. Tomas, La Union
 2505 Philippines
 09563944520
 grvillanueva@student.dmmmsu.edu.ph



Personal Information

Birthdate: March 04, 2001	Age: 23
Gender: Male	Civil Status: Single
Nationality: Filipino	Religion: Roman Catholic
Father's Name: Virgilio G. Villanueva	Mother's Name: Marilou Refuerzo

Educational Background

<i>2020 – present</i>	College Level Bachelor of Science in Computer Science Don Mariano Marcos Memorial State University Consolacion, Agoo, La Union Thesis: “Automated Recruitment System for Department of Education – Schools Division of La Union”
<i>2018-2020</i>	Senior High School Level Don Eufemio F. Eriguel Memorial National High School Consolacion Agoo, La Union
<i>2012-2018</i>	Junior High School Level Don Eufemio F. Eriguel Memorial National High School Consolacion, Agoo, La Union
<i>2005-2012</i>	Primary Level Balaoc Elementary School Balaoc Sto. Tomas, La Union

Work Experiences

<i>Jul – Aug 2023</i>	On-the-Job Training La Union Multi-Purpose Cooperative San Nicolas Central Agoo, La Union
-----------------------	---

Seminars and Trainings Attended

2017	Data Core Mobile Game Development (San Fernando, La Union)
2019	Java Development DMMMSU-SLUC, Agoo, La Union
2023	Vue.Js Seminar DMMMSU-SLUC, Agoo, La Union
<i>March 20, 2023</i>	Poster Designing and Financial Literacy and Investment Planning ComSci-Yahan 2023 Jose D. Aspiras Hall College of Computer Science DMMMSU-SLUC, Agoo, La Union
June 2023	40-Hours Hands-On Training Workshop College of Computer Science DMMMSU-SLUC, Agoo, La Union

Achievements

2012	With Honor Balaoc Elementary School
2015-2020	COCC Officer / Commander Don Eufemio F. Eriguel Memorial National High School
2023	SLUC Binary Beats Band / CCS Band Don Mariano Marcos Memorial State University - SLUC

Special Skills and Talents

- Expertise in Front End Web Development in JavaScript Frameworks such as ReactJs, VueJs, NuxtJs.
- Expertise in Hypertext Markup Language and Cascading Style Sheet Frameworks such as Tailwind CSS, and Bootstrap with PHP, and MySQL Database.
- Knowledge in Photoshop and User Interface designing using Figma
- Knowledge in Computer Hardware Servicing and Proficient in Microsoft Office applications

I hereby certify that the statements above are correct to my best knowledge.

Godwin R. Villanueva
Programmer / Member