THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol. 4 No.1 (2025)
Received: 03-04/ Revised: 05-06/ Accepted:06-30-2025
https://neust.journalintellect.com/quest

Hiring Management with AI Integration for State Universities and Colleges' Human Resource Office

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Abstract. This study developed and evaluated a "Hiring Management System with AI Integration" for the Human Resource Office of State Universities and Colleges (SUCs). The system aims to streamline recruitment by using artificial intelligence to assess applicants based on their education, skills, and work experience, matching them to job requirements. Built using the Agile Software Development Model, the system was refined through iterative feedback from users, ensuring it met the needs of HR staff and applicants. Core features include AI-driven applicant ranking on a 1-100 scale based on uploaded qualifications, AI job matching self-assessment, AI chatbot for frequently asked questions (FAQs) and decision support to enhance hiring accuracy and efficiency.

The system was assessed through surveys involving IT experts, HR office employees, and other Pampanga State Agricultural University (PSAU) staff. IT experts evaluated technical aspects such as functionality, reliability, and security, resulting in a strong mean score of 4.00. HR staff and PSAU employees rated the system highly in terms of usability, giving perfect scores of 4.00 for interface design and navigation, indicating ease of use and minimal training requirements.

With an overall acceptability score of 4.00, the system proved effective and userfriendly. Results show it significantly improves hiring efficiency, reduces administrative workload, and supports better decision-making. The AIintegrated Hiring Management System, developed through Agile methodology, is ready for deployment and offers a modern solution to enhance recruitment processes in SUC HR offices.

Keywords: Hiring Management System; Human Resource Office; SUCs

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1. Introduction

Pampanga State Agricultural University (PSAU) stands out among Philippine State Universities and Colleges (SUCs) for its academic excellence and board performance. With a growing student population, the demand for qualified teaching and non-teaching personnel continues to rise. The Human Resource (HR) Office plays a vital role in addressing this need through efficient hiring and staffing processes. To promote excellence and meritocracy in HR practices, the Civil Service Commission (CSC) issued Memorandum Circular No. 30, s. 2014, institutionalizing the PRIME-HRM program. This mandates all agencies to undergo assessment based on four HR maturity indicators: recruitment and placement, learning and development, performance management, and rewards and recognition—aligning public sector HR practices with global standards.

Traditionally, recruitment processes have been plagued by inefficiencies, inconsistencies, and data overload, making it difficult for HR professionals to assess candidates effectively. These challenges are increasingly being addressed through the integration of Artificial Intelligence (AI) in hiring systems. Studies such as Oseagwina (2024) and Hegde (2024) highlight how AI enhances recruitment by improving efficiency, accuracy, and fairness, while enabling data-driven decisions. Organizations worldwide, including startups and academic institutions, now use AI to streamline hiring, reduce bias, and match candidates to roles with greater precision. In response to these trends and HR challenges, the researcher developed an AI-integrated Hiring Management System. This system aims to transform traditional HR processes by leveraging AI to improve the recruitment, selection, and placement of staff—ensuring a more effective, objective, and scalable solution for modern HR needs.

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2. Methodology

This study used a mixed-methods approach to design and evaluate an AIpowered Hiring Management System for human resource offices in State Universities and Colleges. It combined interviews and surveys to understand how the system could improve the hiring process. HR staff and hiring managers were interviewed to identify common issues in the current recruitment process, while evaluation tools were used to measure the system's impact on efficiency and decision-making. The system was developed using the Agile Software Development Model, which allowed for continuous improvement through stages such as planning, testing, and updates. Key features include AI-driven applicant filtering, automated interview scheduling, candidate scoring, and secure file management. These tools were designed to make hiring faster, more accurate, and less time-consuming.

To assess the system's usability and effectiveness, surveys and interviews were conducted with HR personnel and job applicants. Based on ISO/IEC 25010 Software Product Quality Standards, the evaluation focused on usability and acceptability. Results showed that users found the system easy to use, efficient, and well-suited to their needs. Overall, the system proved to be a practical and user-friendly solution ready for real-world use in HR offices.

2.1. Sampling Procedure

The selection of respondents was carried out using purposive sampling, a non-probability sampling technique wherein participants are deliberately chosen based on their knowledge, expertise, and relevance to the objectives of the research.

2.2. Respondents

The respondents of this study include five (5) employees of the Human Resource Office at Pampanga State Agricultural University (PSAU), who are directly involved in the institution's recruitment processes. In addition, five (5) Information

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Technology (IT) experts and ten (10) end-user employees participated in validating the developed system.

2.2.1 Research Site

Table 1 *Tabulated data in the evaluation of the hiring management system for the IT Experts in terms of Functionality*

STATEMENT	Total	Mean	Interpretation
1. The system provides essential HR functions, such as applicant autoranking, self-assessment qualification, and interview scheduling.	5	4.0	Strongly Agree
2. The AI features effectively support decision-making, enhancing the hiring process with accurate candidate matching and ranking.	5	4.0	Strongly Agree
3. HR staff can complete tasks quickly and accurately, streamlining recruitment workflows.	5	4.0	Strongly Agree
4. The system performs consistently and without errors, ensuring seamless execution of HR tasks.	5	4.0	Strongly Agree
Mean		**4.0**	**Strongly Agree**

Based on the table entitled, *"Evaluation of the hiring management system for the IT Experts in terms of Functionality,"* the results show that users are very satisfied with the system's performance. Each of the four statements received a total score of 5 and a mean score of **4.0**, which corresponds to the interpretation "Strongly Agree." This indicates a high level of agreement among the respondents on the system's functionality.

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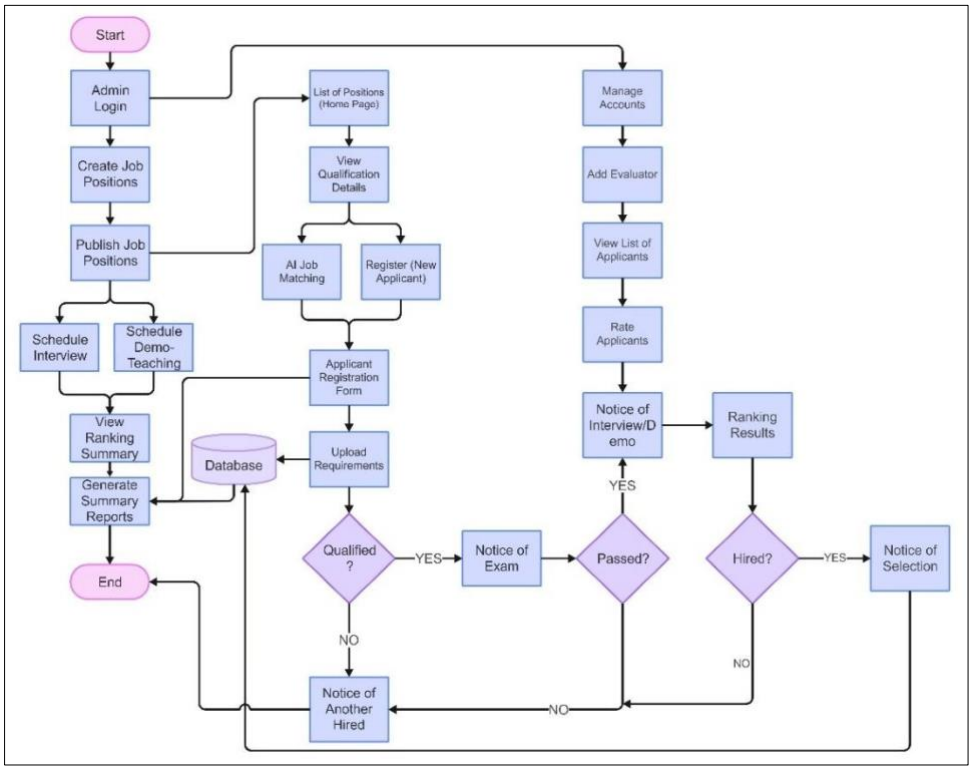

Figure 1. Process Flow Digram

3. Results and Discussion

3.1. System Performance Benchmark

The research titled *"Hiring Management System with AI Integration for SUC's HR Office"* was developed to improve and streamline the hiring process. Its main goal is to utilize AI to evaluate applicants based on their education, skills, and work experience, matching them to the qualifications required for each job posting. This helps recruiters save time and effort by quickly identifying the most suitable candidates for the available positions.

The Hiring Management System with AI Integration was developed to streamline the recruitment process for a university's HR office. Using the Agile Software Development Model, the system was continuously improved based on user feedback. It automates applicant evaluation based on qualifications and helps HR staff manage communication, saving time and improving decisionmaking. The AI features ensure better candidate matching, while the

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Agile approach ensures the system meets the real needs of both HR staff and applicants.

To evaluate the performance and readiness of the Hiring Management System, the researcher used three (3) structured survey questionnaires targeting different respondent groups: IT experts, HR office staff, and end-users. The IT experts assessed key technical aspects of the system, including functionality, reliability, security, and maintainability. The system received an overall mean score of 4.00 across these areas, indicating strong technical soundness. For system acceptability, the experts gave a mean score of 3.93, also interpreted as "Strongly Agree." These results suggest that the system meets high standards in both performance and usability and is ready for deployment in a real-world HR environment.The HR staff gave very positive feedback on the Hiring Management System, with an overall score of 3.93, meaning they "Strongly Agree" that the system is easy to use. The interface received a perfect score of 4.00, as users found the layout clear and simple, which allowed them to quickly get the hang of it without much training.

The navigation also scored 4.00, meaning HR staff found it easy to find the features they needed. The system's straightforward design made it easy to use, which helped staff focus on their tasks instead of learning how to use the system. Overall, the results show that the system is user-friendly and supports higher productivity in the HR office. The usability evaluation of the AI-driven Hiring Management System for the end-users was highly positive, with an overall score of 3.93. HR professionals praised the system's intuitive interface and easy navigation, both scoring a perfect 4.00. These features allowed users to quickly adopt the system with minimal training, leading to increased efficiency and productivity. With a perfect average score of 4.00 for acceptability, the system has proven to be both effective and user-friendly. It's ready to launch, and it promises to cut down on admin work, improve hiring accuracy, and make HR teams more satisfied and productive.

4. Conclusions

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In conclusion, the Hiring Management System with AI Integration for SUC's HR Office has been proven to be an effective and user-friendly solution for optimizing the hiring process. The system received outstanding feedback from IT experts, HR staff, and end-users, highlighting its strong technical performance, ease of use, and ability to enhance productivity. The AI-powered features, such as automated applicant evaluation and improved decisionmaking, enable HR professionals to quickly identify the most qualified candidates, saving valuable time and effort. The system's intuitive interface and straightforward navigation allow for seamless adoption, reducing training time and increasing efficiency. With a perfect average score for acceptability and high marks for its usability and technical aspects, the system is fully ready for deployment. It promises to deliver significant improvements in administrative processes, hiring accuracy, and overall productivity for HR teams, making it a valuable tool for any organization looking to enhance its recruitment process.

Acknowledgements

Nueva Ecija State University's faculty-for the guidance and insights given to the researcher.

Pampanga State Agricultural University's HR Office Employees-for being the respondents of the study.

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