

Implementation of a Web-Based Daily Worker Recruitment Application Using the CodeIgniter 3 Framework at PT Artha Kreasi Utama

Upay Sutisna

^{1,2}Teknologi Informasi, Teknik dan Informatika, Universitas Bina Sarana Informatika, Jakarta

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Abstract

The rapid development of information technology has encouraged companies to innovate in human resource management, including recruitment processes. PT Artha Kreasi Utama, an outsourcing company that supplies labor for Lazada warehouses, faces challenges in managing the recruitment of daily workers, which is still carried out manually. This manual process results in slow administration, difficulty in tracking applicant status, and subjectivity in candidate selection. This study aims to develop a web-based recruitment information system using the CodeIgniter 3 framework to manage applicant data more efficiently. The system also implements the Multi-Factor Evaluation Process (MFEP) method to assess candidates objectively based on predetermined criteria. The development method used is Extreme Programming (XP), which allows the application to be developed quickly and flexibly according to continuously evolving needs. With the system that has been developed, the recruitment process becomes more structured, transparent, and efficient. Applicant data management is more organized, candidate assessment is more objective, and tracking and reporting of applicant status can be done in real-time. As a result, the company can obtain daily workers who meet Lazada's warehouse operational needs more quickly and accurately.

Keywords: CodeIgniter 3; Daily Worker; MFEP; Recruitment; Information System.

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*Corresponding author: Upay Sutisna (upaysutisna@gmail.com)



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1. Introduction

The rapid and continuous advancement of information technology has been widely utilized to simplify human tasks that were previously impractical or time-consuming (Restaldo & Beeh, 2022). Many companies are now changing the way they manage various aspects of their business, including human resource management. With an online recruitment system, HR teams can manage applicant data, CVs, and other documents in a more organized and easily accessible way. In today's era of digitalization and globalization, companies are required to keep up with technological advancements. One important aspect that needs attention is the employee recruitment process (Zhafira & Ahmadi, 2025). By leveraging digital technology, companies can reach job seekers quickly and accurately.

Artha Kreasi Utama is an outsourcing company that provides staff for Lazada's warehouse. Currently, the company needs a more structured recruitment management system for daily workers to handle the high volume of applicants. According to Pahira & Rinaldy (as cited in Gunawan et al., 2025), Human Resource Management (HRM) is a combination of science and art in managing people within an organization to ensure they work effectively and harmoniously towards achieving the company's goals (Adriati & Sariani, 2024). Lazada's warehouse, as one of the largest e-commerce distribution centers in Indonesia, requires a varying number of daily workers depending on market demand fluctuations.

Currently, the recruitment process at PT. Artha Kreasi Utama is still conducted manually, a method full of operational challenges and inefficiencies. The reliance on traditional approaches, especially the use of spreadsheets like Excel to record applicant data, results in slow and complicated administrative workflows. Such a system is not only time-consuming but also highly prone to human error, including inaccurate data entry, inconsistencies across records, and the risk of accidental data deletion. The lack of a centralized real-time database makes collaborative efforts among HR teams difficult and often leads to confusion about data versions. In addition, the candidate evaluation process tends to be highly subjective, lacking a standard evaluation criteria framework. This poses a significant risk of bias, which can result in inconsistent and suboptimal hiring decisions, ultimately leading to mistakes in the selection process.

As a result, the company faces several critical risks. Manual processes significantly increase the likelihood of losing qualified candidates, who may accept competing offers while waiting for a decision. This inefficiency also translates into a considerable waste of time and resources, as HR personnel are consumed by administrative tasks instead of focusing on strategic functions such as candidate engagement and talent sourcing. Beyond these direct consequences, PTHA Kreasi Utama also experienced significant difficulties in systematically monitoring applicant status across recruitment pathways, storing historical applicant data for future talent pooling, and compiling comprehensive recruitment reports for strategic analysis. The manual effort required to produce these reports is difficult and often results in incomplete or inconsistent data, hampering management's ability to make informed decisions. Collectively, these glaring weaknesses severely hamper the overall efficiency and effectiveness of the recruitment process for daily workers for Lazada's warehouses, underscoring the urgent need for systemic reform.

As a solution, the development of a web-based recruitment information system becomes the right choice. The CodeIgniter 3 framework is selected because it is lightweight, easy to scale, and has comprehensive documentation. To enhance objectivity in candidate evaluation, this system adopts the Multi Factor Evaluation Process (MFEP) method. MFEP is a decision-making method that considers various weighted criteria to produce a more fair and measurable selection outcome. With this system, the recruitment process can be managed more efficiently, transparently, and cohesively. As a result, the company can acquire a workforce that is more suitable and aligned with the operational needs of Lazada's warehouse.

2. Literature Review

Research on recruitment information systems has developed rapidly in response to the industry's need to optimize human resource selection processes. The transformation from manual to digital methods has become a primary focus to improve efficiency, objectivity, and accuracy. This section will discuss several relevant studies that provide a theoretical foundation and help identify existing research gaps.

Transition to a Web-Based Recruitment System

Study by Gunawan et al. (2022) and Safitri & Kurnia (2024) highlighting the urgency of transitioning from manual recruitment processes to web-based platforms. Gunawan et al. (2022) designing information systems that successfully improve efficiency and transparency, leading to more structured data management. In line with this, Safitri & Kurnia (2024) Applying the Agile Scrum method shows that the e-recruitment system can minimize the risk of human error and accelerate document verification. However, both studies primarily focus on the general recruitment workflow and do not specifically integrate quantitative decision support methods for objective candidate selection.

Application of Decision Support Methods for Objectivity

To overcome subjectivity in assessments, several studies have adopted Decision Support Systems (DSS). Lia Amelia et al. (2021) successfully implemented the Multifactor Evaluation Process (MFEP) algorithm to generate objective candidate scores based on structured criteria. Likewise, Widyianto et al. (2022) using the Weighted Product (WP) method, which has also proven effective in providing accurate evaluations. The main focus of this study is on algorithm validation to reduce bias. However, its implementation is not explicitly intended to handle recruitment with a very high volume of applicants and rapid turnover, as is the case with daily workers.

Specific Context of Daily Worker Recruitment

The demand for daily workers has unique characteristics, such as high demand fluctuations and the need for a quick selection process. Research by Priartini & Rahmawati (2020) Specifically, they analyzed the recruitment process of daily workers in the hospitality sector. Their findings show that a structured procedure can produce competent workers. However, their research is a descriptive analysis of an existing process and does not offer a solution in the form of a computerized information system to automate and optimize it.

Based on the literature review above, it can be concluded that although many web-based recruitment systems have been developed and various DSS methods have proven effective, there is still a research gap. There is a lack of studies that integrate efficient recruitment information systems with DSS methods such as MFEP, which are specifically designed to address the challenges of high-volume daily worker recruitment.

This is the research gap that this study aims to address. Previous studies have developed digital recruitment systems or applied DSS algorithms separately, but with limitations in context and integration. The main gap identified is as follows:

Lack of focus on the daily work context. Previous research, such as by Gunawan et al. (2022) and (Safitri & Kurnia, 2024) focused on general employee recruitment. This system may not be optimal for handling the dynamics of daily worker recruitment, which requires speed, scalability for high volumes, and specific evaluation criteria.

The implementation of DSS is limited in integrated systems. A study by Lia Amelia et al. (2021) and Widyianto et al. (2022) Successfully demonstrated the advantages of the MFEP and WP methods, but the focus was more on proof-of-concept for the algorithms. No research has shown the full

integration of these methods into an end-to-end web-based recruitment system, from applicant registration to reporting selection results for operational needs.

The lack of a systematic solution to the identified problem. Research by Priartini & Rahmawati (2020) identifying and analyzing the daily worker recruitment process but stopping at the analysis phase without designing or implementing a technological solution. This indicates an unmet need for a system specifically designed for this context.

Therefore, the main gap discussed in this study is the lack of an integrated web-based recruitment information system specifically designed to manage high-volume daily worker recruitment by implementing the Multifactor Evaluation Process (MFEP) method to ensure a fast, efficient, and objective selection process.

3. Methods

Extreme Programming (XP) is an Agile-based development method that emphasizes simplicity, collaboration, and adaptability. This method was chosen for the development of a web-based daily worker recruitment application for Lazada's warehouse using CodeIgniter 3 because it accelerates development, ensures software quality, and responds quickly to changing needs (Ardiansah, 2022; Kalua, 2022). The XP process consists of four main stages: planning, design, coding, and testing, which are carried out iteratively until the system meets the users' needs (Abdillah et al., 2025).

Research Stages for a Digital e-Recruitment System

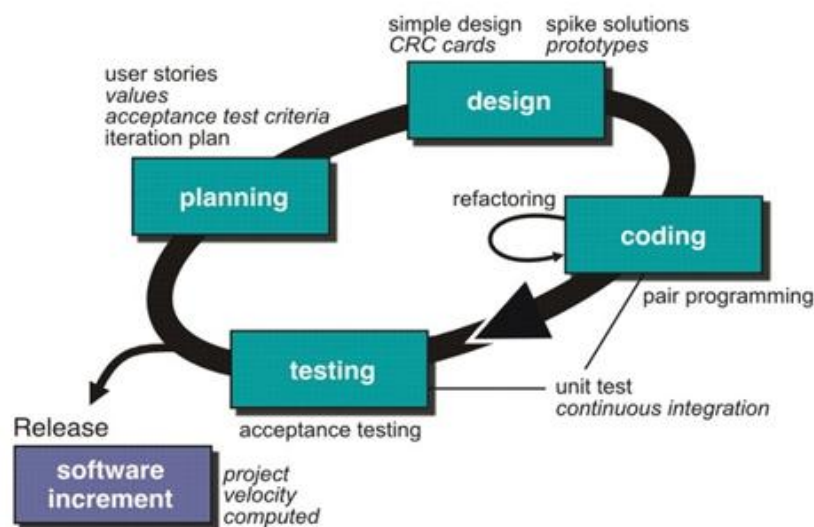


Figure 1. Extreme Programming

Planning

Planning At this stage, the development team prepares a plan for the upcoming iteration. Activities include gathering requirements through user stories, determining acceptance test criteria, creating an iteration plan, and selecting features to be developed. The goal is to ensure that the e-recruitment system develops in a structured manner and meets user needs.

Development

This stage focuses on system design using simple design principles. The team creates the system architecture, flowcharts, and prototypes to visualize the application more clearly. In addition, CRC cards and spike solutions are developed to make the design adaptable to possible changes in user requirements.

Coding

The system design is implemented into actual code. The process involves pair programming and continuous integration to maintain quality and synchronization across all modules. Refactoring is also carried out to keep the code clean, efficient, and easy to maintain.

Testing

This stage ensures that the developed code works according to the requirements. The system undergoes unit testing and acceptance testing to validate functionality and performance. Feedback from these tests provides input for improvements before release.

4. Results

In the requirement analysis phase, the researcher must determine the system, software, and hardware requirements needed to solve the identified problems. This stage is very important in developing the daily worker recruitment system at PT Artha Kreasi Utama. The following are the proposed system requirements:

Applicants can access the landing page to view company information, register and edit their data through the registration form, view job openings, and check recruitment results on the announcement page.

The administrator can log in, access the dashboard, manage the company profile, job vacancies, applicant data, the selection process using the Multi-Factor Evaluation Method (MFEP), announcements, and generate reports.

A Use Case Diagram illustrates how users interact with the system and explains the roles and activities carried out in the recruitment process.

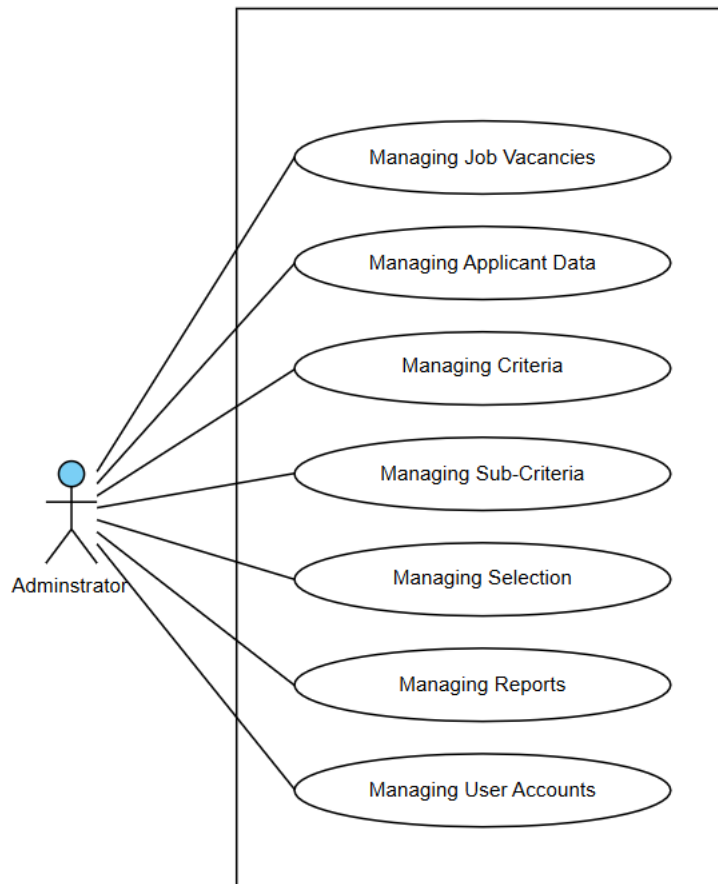


Figure 2. Use Case Diagram of Web-Based Daily Worker Recruitment Application

Database Design

The database design is illustrated using an Entity Relationship Diagram (ERD), as shown in Figure 3, which depicts the relationships between one entity and another. In this Web-Based Daily Worker Recruitment Application, there are 4 tables representing entities, each with its attributes.

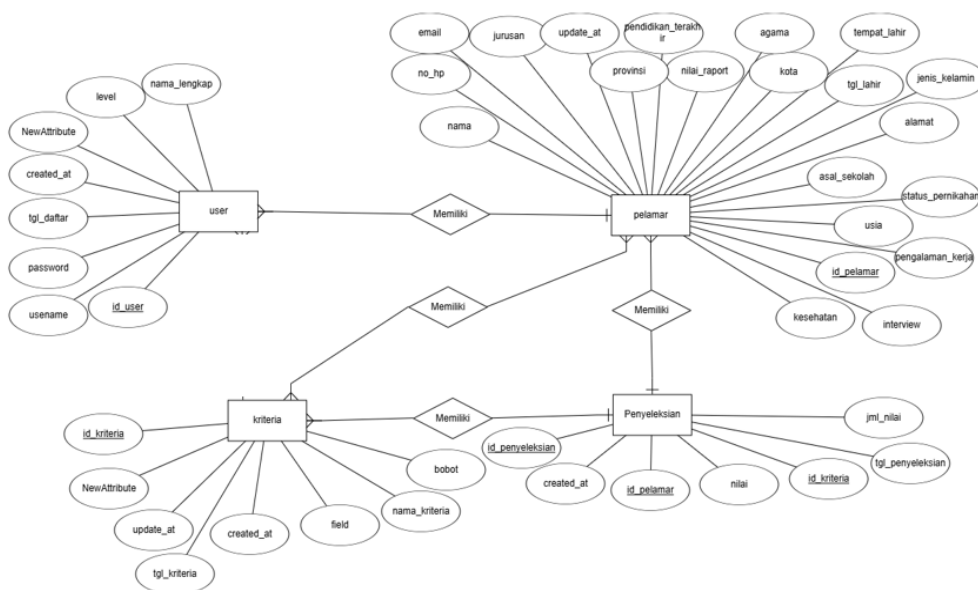


Figure 3. ERD Web-Based Daily Worker Recruitment App

User Interface

The user interface is designed to provide ease and convenience in accessing and managing various system features, as shown in Figure 3, which displays the system dashboard. Its design ensures an intuitive experience, allowing users to easily understand the workflow and operate the system without requiring complicated instructions.

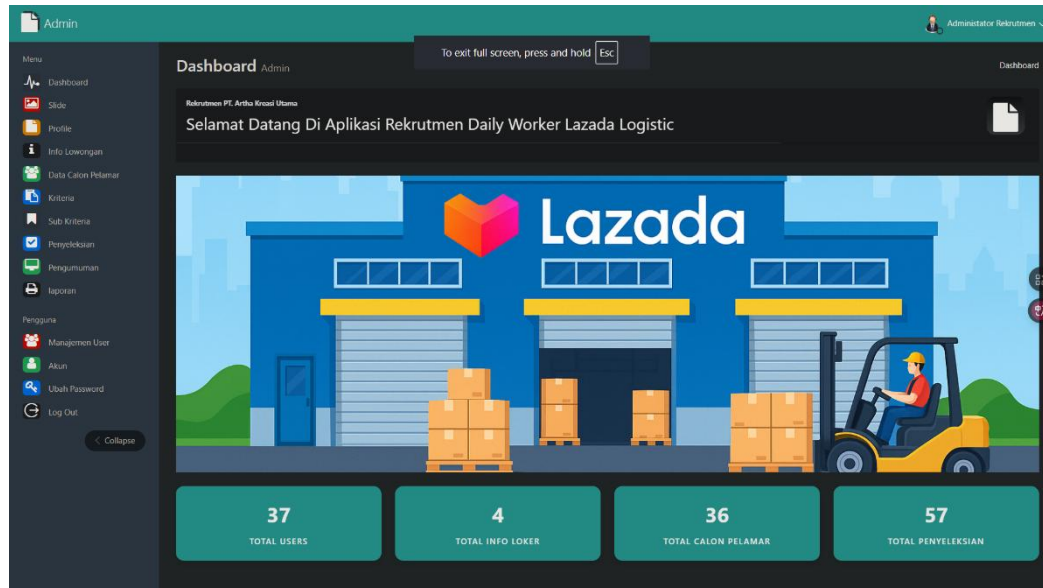


Figure 4. User dashboard page interface

5. Discussion

The web-based recruitment application developed in this study successfully addresses the main challenges in the conventional recruitment process at PT Artha Kreasi Utama. This system not only simplifies applicant management but also integrates several essential features needed in modern digital recruitment, such as managing applicant data, setting evaluation criteria, processing selection using the Multi Factor Evaluation Process (MFEP) method, and providing announcement results online.

The use of the CodeIgniter 3 framework in system development has proven to provide several advantages, including development efficiency through the Model View Controller (MVC) architecture, faster execution, and simpler maintenance. Compared to previous systems developed using raw PHP or basic manual methods such as Google Forms, CodeIgniter offers better structure, reusability, and more stable performance, supporting sustainable system development.

In addition, the application of the Agile Development method allows this recruitment system to be developed iteratively based on continuous feedback from users. This approach improves the alignment between the system's features and the real conditions in the field. This is a clear advantage compared to systems built using the Waterfall model, which are less adaptable to changes during development.

The multi-role user system, consisting of admins and applicants, also serves as a key differentiator. Each type of user has different access and functionality, providing personalized interaction and structured management. For instance, applicants can submit job applications, upload required documents, and view the status of selection results online, while administrators can manage applicant data, adjust selection criteria, perform evaluations using the MFEP method, and publish announcements.

In addition, this system provides ease in data management and accessibility. The web-based design allows applicants and HR administrators to access the system from anywhere and at any time, simply

using an internet connection and a browser. This not only increases efficiency and accuracy but also minimizes human errors that commonly occur in manual data handling.

However, in the development of this system, there are still several aspects that can be improved, such as:

1. Integration of email notifications or automatic messages for option updates.
2. Enhanced data security through stronger encryption and validation mechanisms.
3. Optimization for mobile device access to ensure a responsive user experience.

User involvement in the testing and evaluation process is also an important factor for the improvement of the system in the future, as direct feedback can be used to enhance functionality and user interface design.

This research successfully designed and implemented a Web-Based Recruitment Application for Daily Worker Management at PT Artha Kreasi Utama using the CodeIgniter 3 framework and the Agile Development approach. This system is capable of providing an efficient, flexible, and accessible digital recruitment process for administrators and applicants.

Various integrated features including applicant data input, document uploads, selection management, result announcements, and report generation make this system a superior alternative to traditional recruitment methods.

The system test results show that the technical approach used (CodeIgniter 3 + Agile) supports system stability, ease of use, and flexibility in feature development. This system provides a positive user experience and successfully reduces complexity, processing time, and administrative workload in the recruitment process.

This recruitment application has high practical value for human resources departments, agencies, and companies that frequently manage short-term or project-based jobs. The ease of online data processing and transparent selection tracking makes the recruitment process more professional and data driven.

The widespread implementation of this system also contributes to paperless operations, reducing the use of printed forms, manual documentation, and physical data storage. This contributes to environmental sustainability by minimizing waste and optimizing the use of digital resources through an efficient and environmentally friendly system infrastructure.

6. Conclusion

The development of a Web-based Daily Worker Recruitment Application using the CodeIgniter 3 framework at PT Artha Kreasi Utama is an innovation that provides an efficient and modern solution to overcome various challenges in the daily worker recruitment process. This system is designed to simplify and speed up the registration, selection, and candidate announcement processes, replacing previous manual methods such as Excel with a more structured and easily accessible web-based system. By implementing the Multi Factor Evaluation Process (MFEP) method, the system ensures a more objective and transparent selection process based on clear criteria and evaluation weights.

The conclusion of this study is that the implementation of this web-based recruitment system greatly improves the efficiency and effectiveness of the employee selection process. This system facilitates administrators in managing applicant data, monitoring application status in real time, and generating easy-to-understand reports. It also enhances transparency by providing open access to job information and company profiles, which increases applicants' trust in the company.

With this application, PT Artha Kreasi Utama can manage the recruitment process more quickly, accurately, and systematically. This system not only optimizes data management and decision-making but also offers flexibility to handle an increased number of applicants during peak recruitment periods. Overall, this application provides a comprehensive, user-friendly, and secure solution that significantly benefits the company in efficiently managing the recruitment of daily workers.

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