



Development of Website-Based Information System to Facilitate Students in Finding Internship Opportunities

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Received: May 19, 2024; Accepted: July 10, 2024; Published: August 1, 2024.

Abstract: Internships play a crucial role in higher education by offering students valuable opportunities to gain professional experience and apply theoretical knowledge in a practical setting. However, the process of identifying and securing suitable internship positions can be challenging and time-consuming for both students and institutions. This research presents the development and implementation of a web-based information system designed to streamline the internship placement process and enhance accessibility for students. The proposed system addresses the challenges students face in navigating the myriad of internship opportunities across various industries and organizations. By leveraging web-based technology and a user-friendly interface, the platform facilitates the centralized listing of internships, enabling efficient search, filtering, and application processes. Through a comprehensive needs assessment and iterative design approach, the system incorporates features tailored to the specific requirements of students, academic institutions, and potential internship providers. Key functionalities include personalized profiles, customizable search filters, application tracking, and communication channels to coordinate internship placements. The system aims to improve the overall efficiency and effectiveness of the internship search process, ultimately supporting students in their career development and enhancing the quality of education.

Keywords: Internship; Web-based System; Higher Education; Career Development; Information System.

1. Introduction

The improvement of technology-based management and monitoring systems for students in Indonesia has become an essential focus in the education sector. Within higher education, internships play a pivotal role in providing students with practical experience and helping them develop the necessary skills to transition into full-time employment upon graduation. Internships not only offer valuable work experience but also give students access to professional networks, enabling them to explore various career paths and make informed decisions about their futures. As the demand for systems that effectively support the management and accessibility of internship opportunities increases, the development of a web-based information system has gained importance. This system is specifically designed to aid students in finding and applying for internships, making the selection process more efficient. The integration of digital technology within this system is crucial as it allows students to quickly access information and directly connect with companies or institutions that offer internship programs.

Several studies have emphasized the significance of developing web-based information systems to support internships. Putri *et al.* (2021) introduced the Excellent Internship System (EIS), a platform developed to help students maintain their skills during the pandemic. The EIS was designed as a connected medium that ensures students remain engaged with both their academic and professional growth despite the challenges posed by the global health crisis [1]. Similarly, Chand & Deshmukh (2019) highlighted the importance of internships in boosting students' employability, particularly in developing countries where access to quality education and career opportunities can be more challenging [2]. They argued that a well-structured information system could assist students in navigating the complex process of securing internships that align with their academic background and career ambitions.

In addition to improving access to internship opportunities, attention must also be given to the design and implementation of internship programs. Santoso *et al.* (2019) stressed the need for enhancements in these areas, which can be supported by the development of effective information systems. Their research suggested that such systems could offer students a more structured and supportive environment, thereby enhancing the overall value of the internship experience [3]. The role of technology and innovation in developing internship information systems is vital. The work by Santoso *et al.* (2019) on the creation of a mobile-based self-monitoring tool highlights the importance of a user-centered approach in technology development. Their research showed that tools designed with user needs in mind are more likely to be adopted and effectively used by students. This approach is particularly relevant for internship information systems, where ease of use and accessibility are critical to ensuring students fully benefit from the opportunities provided.

Moreover, Wiratama (2023) discussed the application of the Extreme Programming (XP) methodology in the development of an Android-based application, which offers valuable insights into creating efficient and reliable internship information systems [4]. The XP methodology emphasizes continuous feedback, adaptability, and collaboration among developers—essential elements in creating a robust information system that meets the evolving needs of students, academic institutions, and employers. The development of a web-based information system to facilitate student internships is a strategic move toward enhancing the quality of education and career preparation for students in Indonesia [5][6]. By centralizing the internship search and application process, this system aims to reduce the barriers students often face when seeking relevant opportunities. Additionally, it provides academic institutions with a tool to better manage and oversee student internships [7], ensuring that these experiences align with educational goals and contribute meaningfully to students' professional development [8]. The integration of digital technology into the management of internship programs represents a significant advancement in the education field. A well-designed web-based information system not only improves the efficiency and accessibility of the internship process but also supports the broader objective of preparing students for successful careers. Therefore, the development and implementation of this system are expected to have a lasting positive impact on the educational and professional outcomes for students in Indonesia.

2. Research Method

The methodology used in this system development is Rapid Application Development (RAD). This study focuses on the design workshop phase, with the primary objective of developing and validating the product through a Research & Development (R&D) approach adapted from Borg and Gall. The design framework adopts the ADDIE method, which consists of five key phases: Analysis, Design, Development, Implementation,

and Evaluation. During the Analysis phase, problems faced by students in finding internship placements were identified. These problems include difficulties in accessing information about suitable internships, challenges in directly communicating with internship providers, and obstacles in obtaining information about the necessary internship requirements. The data collected in this phase includes information about available internships, required qualifications, and the specific needs of students in their search for internships. This data is then analyzed to identify patterns and student needs, which serve as the foundation for developing the information system. The Design phase involves creating a web-based information system design based on the results of the analysis. This design includes the structure of the website, the features to be provided, and a user interface designed to be easy for students to use. Additionally, system documentation is developed to provide clear guidelines for users on how to operate the system effectively. In the Development phase, the web-based information system is realized according to the design that has been established. This development includes creating the website structure, integrating the planned features, and refining the user interface to be more user-friendly. Once development is complete, testing is conducted to ensure the system functions correctly and meets the students' needs. The Implementation phase involves deploying the information system on the developed website. During this phase, the system is fully integrated and further tested in a real-world environment to ensure its smooth operation. Additionally, user training is conducted to equip students with the knowledge and skills necessary to effectively use the information system. The final phase is Evaluation, where the web-based information system is thoroughly assessed to ensure that all features operate as intended and meet user requirements. Feedback from users is collected as part of this evaluation process to identify areas needing improvement and to enhance the overall quality of the system. Through ongoing evaluation, the system is expected to continue evolving and providing maximum benefits to students in their internship search process.

3. Result and Discussion

3.1 Results

This study aimed to develop and implement a web-based information system designed to facilitate students in efficiently searching for internship placements in various companies. The system, as outlined in the study titled "Development of a Web-Based Information System to Facilitate Students in Finding Internship Opportunities," can be accessed through Google Sites and incorporates several key features that enhance user experience and functionality. The system's initial interface presents users with a well-organized and intuitive home page, designed to allow users to navigate the platform with ease. The interface provides four main features, each tailored to address specific needs of the users. The design prioritizes user experience, ensuring that students can quickly find relevant information without confusion or unnecessary steps. The simplicity of the interface is intended to reduce the learning curve for new users, thereby increasing the system's overall usability and effectiveness.

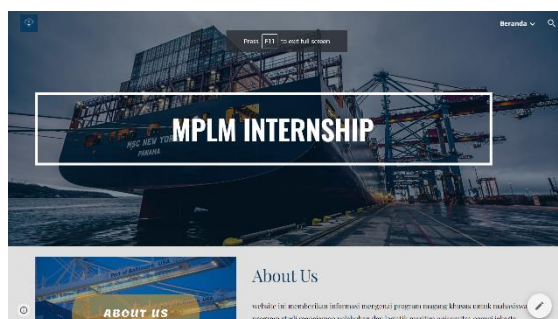


Figure 1. Initial Display Features



Figure 2. About Us feature

The "About Us" feature offers comprehensive information about the website, including the background and objectives of the system, as well as details about the development team. This section is crucial for building transparency and trust with users, as it explains the purpose of the platform and how it can support students in their internship search. Additionally, the section includes a profile of the website that helps users better understand how to navigate and utilize the platform's features effectively. This feature serves to orient users, providing them with the necessary context and background to fully engage with the system.



Figure 4. Registration feature



Figure 5. Company Features

Following an introduction to the system through the "About Us" feature, users are guided to the "Registration" feature. This section is crucial as it allows students to create accounts and gain full access to the system's functionalities. The registration process is designed to be straightforward, with clear steps and guidance provided to ensure that all students can complete it without difficulty. The data collected during registration is securely stored in the system's database, allowing for personalized user experiences and enabling the tracking of student progress throughout their internship search. This feature is foundational to the system, as it establishes the user base and ensures that all interactions with the platform are tracked and optimized for each user. The "Company" feature provides a curated list of companies that are currently offering internship opportunities. This feature includes detailed information about each company, such as location, industry sector, and specific internship roles available. By presenting this information in a clear and organized manner, the system allows students to make informed decisions about which companies align with their academic background and career aspirations. The feature is designed to update in real-time, ensuring that students have access to the most current opportunities. This feature not only simplifies the internship search process but also enhances the quality of matches between students and companies, leading to more successful internship experiences.



Figure 6. Help feature

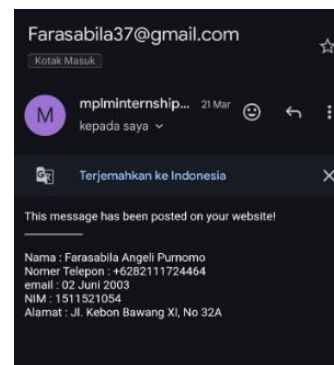


Figure 6. Registrant Data

The "Help" feature is an essential support tool within the system, designed to assist users who may encounter difficulties while using the platform. This section provides a range of resources, including written guides, frequently asked questions (FAQ), and direct access to technical support if needed. The inclusion of this feature is critical to maintaining a high level of user satisfaction, as it ensures that all users can resolve issues quickly and continue using the system without significant disruption. The "Help" feature underscores the platform's commitment to providing a user-friendly experience and supports the system's overall goal of accessibility. All registration data entered by users is automatically sent to the email of the designated system operator. This feature ensures that the operator can promptly review and verify new registrations, maintaining the integrity of the user base. The efficient management of registration data is crucial for the smooth operation of the system, enabling administrators to track user activity and engagement effectively. By automating this process, the system minimizes the potential for errors and delays in data processing, thereby enhancing overall system reliability.

The primary objectives of this web-based information system are multifaceted. Firstly, it aims to significantly enhance the accessibility of information regarding internship opportunities for students. By providing detailed, up-to-date information on available internships, including specifics such as location, field of study, and required qualifications, the system enables students to quickly find and apply for relevant positions. Secondly, the system is designed to improve the efficiency of the internship search process. By consolidating all relevant

information into a single platform, the system eliminates the need for students to search across multiple sources, saving time and effort. Additionally, the system is intended to assist students in the decision-making process by providing comprehensive information about each internship opportunity. This feature allows students to compare and evaluate their options effectively, leading to more informed and strategic choices. The platform also seeks to enhance the connectivity between students and industry professionals by facilitating direct communication through the system. This increased interaction not only aids in securing internships but also helps students build professional networks that are vital for their future careers. Furthermore, the system supports career development by offering accurate and current information, enabling students to prepare more effectively for their professional journeys. By integrating practical learning opportunities through internships, the system also contributes to the overall quality of education. For educational institutions and companies, the system provides an efficient tool for managing the entire internship process, including registration, selection, and scheduling.

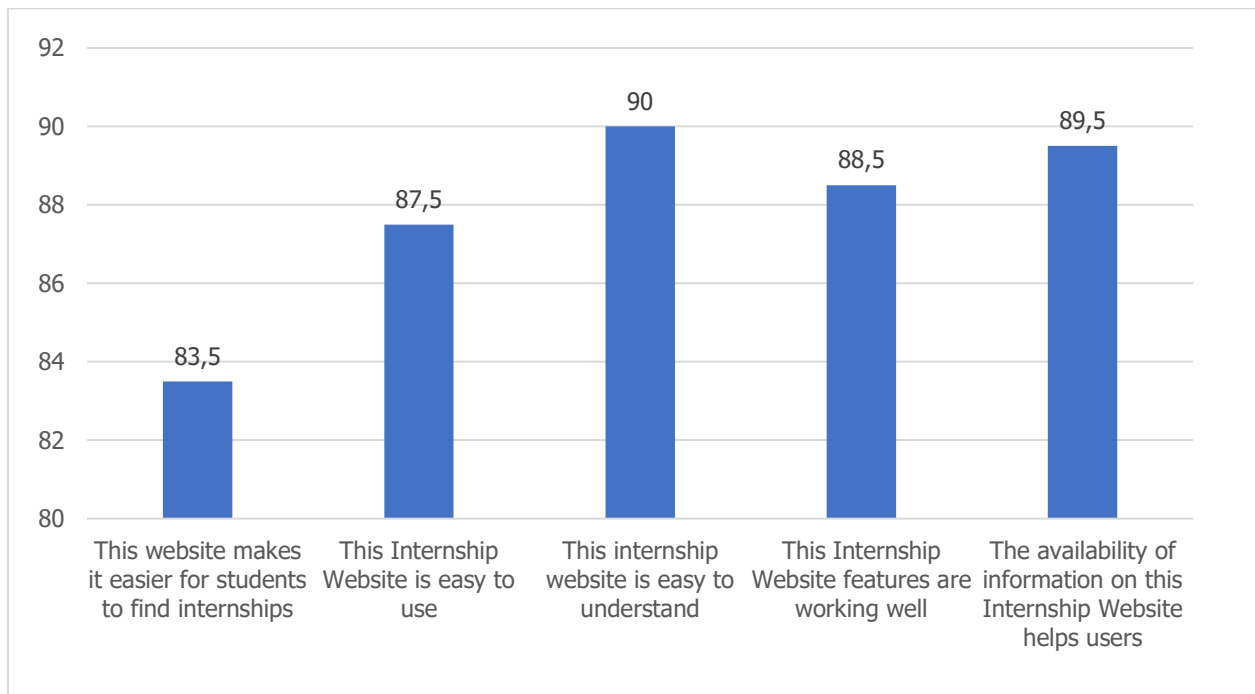


Figure 7. Results of the Student Satisfaction Questionnaire
Diagram Survey on the MPLM Internship Website

Survey results indicate that many respondents, comprising students from the Maritime Logistics and Port Management (MPLM) program at Universitas Negeri Jakarta, are highly satisfied with the system's performance. The satisfaction scale, which measures various aspects of the system, revealed that the website received an average satisfaction score of 87.8%. This score reflects positive feedback on the system's ease of use and its effectiveness in facilitating the search for internship opportunities. The high satisfaction rate underscores the system's success in meeting the needs of its users and its potential to enhance the internship search experience for students. This web-based information system has proven to be an effective and reliable tool for facilitating student internships. By streamlining the search process and providing valuable resources, the system not only meets the needs of students but also contributes to the overall enhancement of educational quality and career preparedness.

3.2 Discussion

The development and implementation of the web-based information system aimed at facilitating student internships represent a significant advancement in the field of educational technology, particularly in the context of higher education in Indonesia. This system addresses several critical challenges that students typically encounter when searching for and applying to internships, thereby enhancing both the efficiency and effectiveness of the process. In this discussion, we explore the implications of the system's features, the broader impact on stakeholders, and potential areas for future improvement. One of the primary challenges that students face in their search for internships is the fragmentation of information across multiple sources. Traditionally, students need to consult various platforms, career services, and company websites to gather

information about available internships, which can be time-consuming and inefficient. The web-based system developed in this study consolidates all relevant information into a single, user-friendly platform. This consolidation significantly reduces the time and effort required to identify suitable internship opportunities, thereby making the search process more accessible and manageable for students. Additionally, the system's real-time updates on company listings ensure that students have access to the most current information, which is crucial in a competitive internship market. By providing detailed descriptions of each internship opportunity, including location, industry sector, and specific requirements, the system enables students to make more informed decisions about which positions to pursue. This feature is particularly important in ensuring that students can align their academic and career goals with the internships they choose.

Another critical aspect of the system is its role in enhancing connectivity between students and industry professionals. By facilitating direct communication through the platform, the system bridges the gap between academia and industry, allowing students to interact with potential employers more easily. This interaction not only aids in securing internships but also helps students build professional networks that are essential for their future careers. The ability to communicate directly with companies through the system reduces barriers to entry for students, particularly those who may not have access to traditional networking opportunities. Moreover, the system's support for personalized profiles allows students to showcase their skills, achievements, and career aspirations directly to potential employers. This feature increases the visibility of students to recruiters and enhances their chances of being selected for competitive internship positions. By streamlining the application process and improving communication channels, the system effectively supports students in taking proactive steps toward their career development.

For educational institutions, the system provides a robust tool for managing the internship process, from student registration to the final placement. The ability to track student progress and generate reports on internship outcomes offers institutions valuable insights into the effectiveness of their internship programs. This data can be used to refine academic curricula and better align educational offerings with industry needs. Furthermore, the system's documentation and user guidance ensure that students and faculty alike can navigate the platform with ease, reducing the administrative burden on academic staff. Companies also benefit from the system by gaining access to a centralized pool of qualified candidates. The streamlined process for posting internships and reviewing applications makes it easier for companies to identify and recruit talent. This efficiency is particularly beneficial for small to medium-sized enterprises (SMEs) that may not have extensive human resources departments. By participating in the platform, companies can enhance their recruitment strategies and ensure they are attracting the best candidates from a diverse range of academic backgrounds.

While the system has demonstrated significant benefits, there are areas for potential improvement. One such area is the integration of more advanced search algorithms and machine learning techniques to further personalize the internship search experience. By analyzing student data, the system could provide even more tailored recommendations, increasing the likelihood of successful matches between students and internships. Another area for future research involves exploring the long-term impact of the system on student career outcomes. Tracking the success of students who have used the platform to secure internships and subsequently transition into full-time employment would provide valuable data on the system's effectiveness. Additionally, expanding the system's capabilities to include features such as internship reviews and peer feedback could further enhance the decision-making process for future users. Finally, as the system continues to evolve, it will be important to ensure that it remains accessible to all students, regardless of their technical proficiency. Ongoing user testing and feedback will be crucial in maintaining the system's user-friendliness and ensuring that it meets the diverse needs of its user base. The development of a web-based information system to facilitate student internships represents a meaningful advancement in the way educational institutions support their students' career development. By addressing key challenges in the internship search process and enhancing connectivity between students and industry, the system contributes to a more efficient and effective transition from education to employment. As the system continues to evolve, there is significant potential for further innovation that will enhance its impact on students, educational institutions, and companies alike.

4. Related Work

Research into the factors that influence the success of internship programs has been conducted from various perspectives, including those of students, educational institutions, and companies. This review aims to provide an enhanced understanding of the design and implementation of effective internship programs and their implications for different stakeholders. Maertz *et al.* (2014) discuss key criteria that determine the success of internship program design [9]. They emphasize the importance of meaningful work, project relevance, and

exposure to diverse functions within a company as critical factors that enhance the effectiveness of internship programs. Their findings indicate that relevant and meaningful work experiences not only impact students' performance during internships but also contribute significantly to their transition into professional careers. Additionally, Pan *et al.* (2018) explore the role of proactive personality and internship quality in the job search success of university graduates in China. The study identifies career adaptability as a crucial factor that mediates the relationship between proactive personality, internship quality, and job search outcomes. It is highlighted that students who can adapt to changes in the work environment and demonstrate a high level of initiative are more likely to succeed in securing employment post-graduation. From an educational standpoint, Chand & Deshmukh (2019) examine the challenges faced by students in developing countries during their internships. They identify several barriers, including limited access to quality internship programs and insufficient support from educational institutions [10]. Crowell (2016) contributes further by emphasizing the importance of effective supervision in internship programs, particularly within psychology departments, to ensure that students gain experiences that align with their educational goals [11]. This research underscores that adequate supervision can enrich internship experiences and enhance experiential learning outcomes. In addressing the imbalance between internship demand and supply, Drummond *et al.* (1981) provide an overview of internship programs approved by the American Psychological Association (APA) and non-APA organizations [12]. Their study reveals a disparity between the number of graduates seeking internships and the availability of positions, which may impact the quality of internships that students receive.

The quality of information search and internship selection processes has also been a significant focus of research. Stremersch & Hoyer (2019) discuss the differences between intensive and intelligent information search strategies in the context of internships [13]. They highlight the importance of effective information search strategies in improving students' chances of securing internships that match their interests and skills. Soffi *et al.* (2020) also address the challenges faced by universities in Malaysia in designing successful internship programs, stressing the need for structured and evidence-based approaches in the development of internship programs [14]. The development of web-based internship information systems has been identified as a solution that can positively impact students across various fields. Tan & Umemoto (2021) present a case study on international industrial internships from the perspective of a Japanese engineering university, demonstrating how such systems can facilitate coordination among students, universities, and companies in international internship programs [15]. Gamboa *et al.* (2020) investigate the relationship between career goals and internship quality for vocational education and training (VET) students, underscoring the importance of internship quality in achieving desired career outcomes [16].

Furthermore, Paulins (2008) identifies characteristics of retail internships that contribute to student satisfaction in career development. The study finds that aspects such as supervisor support, task relevance, and opportunities to participate in real projects are highly valued by students. A more recent study, "Improving The Internships Quality In Supporting Vocational College Students' Job Search Success" (2024), emphasizes the need to enhance internship quality to support the job search success of vocational college students [17], particularly in an increasingly competitive environment [18]. Through a review of various relevant aspects, it can be concluded that the development of web-based information systems to facilitate students in finding internship opportunities is a crucial step in enhancing the quality of education and career preparation. These systems serve not only as technical tools but also as platforms that support interaction among students, educational institutions, and industry, ultimately contributing to better career outcomes for students.

5. Conclusion

The development and implementation of web-based information systems designed to facilitate students in securing internship opportunities represents a significant advancement in educational and career preparation processes. Research has demonstrated that successful internship programs hinge on factors such as meaningful work experiences, project relevance, and effective supervision, all of which contribute to students' professional growth and job search success. Additionally, the challenges faced by students, particularly in developing regions, underscore the necessity for structured, accessible, and high-quality internship opportunities. By integrating technological solutions, educational institutions can enhance the efficiency of internship searches, improve student satisfaction, and foster stronger connections between students and industry. Ultimately, these systems not only support the educational objectives of students but also contribute to their long-term career success, making them an essential component of modern educational strategies.

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